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Vol. XCVI—No. 1

THE PACIFIC RURAL PRESS

Forty-eighth Year

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Organization of California's Dairy Industry

Written for Pacific Rural Press by R. H. Whitten, Los Angeles

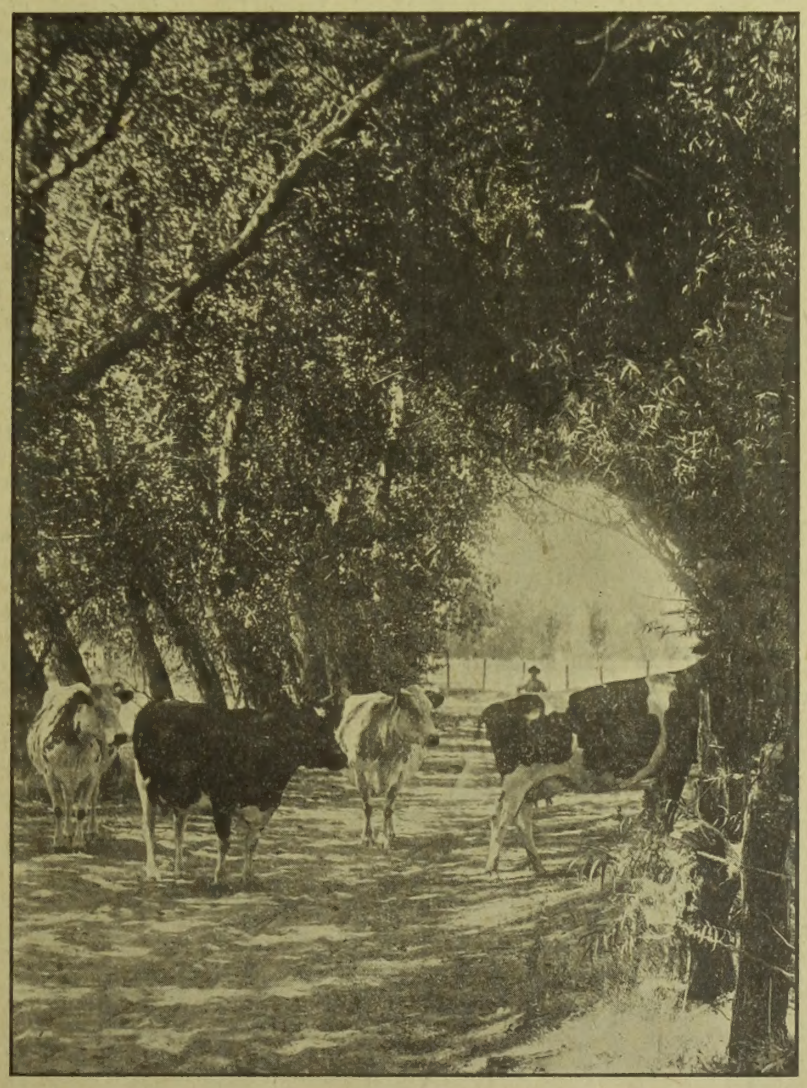
ELBERT HUBBARD once visited an insane asylum, and in walking over the grounds he came upon an attendant in charge of twenty-five patients. This attendant was a little chap, not more than half as large as some of the patients. The comparison aroused Hubbard's curiosity, so he asked the attendant: "What's to hinder a half dozen of those big fellows from mobbing you and fleeing to the woods? If they should get at you together, you wouldn't stand a ghost of a show. There is no help within a half mile, and you are not armed." The attendant smiled and replied: "You belong right with this bunch of nuts, old man. What is to hinder them from getting together and putting up a job on me? Why, the fact is, if they had enough brains to get together they wouldn't be here. That's just their trouble."

Organization a Chart and Compass.

Commenting on the incident, Hubbard said: "The badge of sanity is the ability to organize and that organization is a modern policy. The organized man is a power; he moves shoulder to shoulder with his brother. The unorganized man is merely a part of a mob, with no chart or compass to guide him. Organization is the spirit of progress, and the spirit of progress is the greatest asset a business or an individual can have." The business of the world today is done largely through organized interests. The individual can no longer expect to accomplish the results that can be obtained by united efforts. No matter what the line of business may be, where there is co-operation you will find that the greatest advancement is being made and the greatest success achieved.

Farming as Susceptible of Organization as Other Industries.

This applies to farming as well as to commercial industries. As long as we work individually and independently of each other, just so long will we be at the mercy of others in the conduct of our business. The long accepted theory that farmers cannot successfully organize and work together is disproved by the accomplishments of the many co-operative associations right in this State. However, it is a lamentable fact that many of the so-called co-operative creameries are not in any sense co-operative. They are incorporated under the joint-stock company law instead of the co-operative-organization law.



A sylvan scene suggesting poetry to the beholder and needed shade for bossy.

What a Real Co-operative Organization Means.

A joint-stock company is organized with the interests of the stockholders in view, and each stockholder gets profits according to the amount of stock he buys, instead of the amount of butterfat he produces. But a real co-operative organization is incorporated without capital stock and is not conducted for profit. All of the receipts above the operating expenses go to the members in the form of increased prices for their products.

However, there are real co-operative creameries in this State, and they have done an immense amount of good. They have been properly organized and through wise management they have enabled the dairymen to secure a higher price for their butterfat. But their aim has been mostly in reducing the cost of production, with practically no thought of developing wider and more profitable markets. True, some of the creameries maintain selling organizations in the marketing centers, but this is done on a comparatively small scale, and the old cow—the cornerstone of agriculture—has no real sales department for her products.

Dairymen Today Are Facing Serious Problems.

Land, feed, labor, cows—all are higher and contribute to the increased cost of producing milk or butterfat. Legislatures have enacted laws designated as public health measures, and in complying with them the dairymen again find production costs mounting, for it takes real money and lots of it to build new barns, buy new equipment, pasteurize milk, test cattle and do other things necessary to produce milk and butter that will meet the requirements of the law.

Probably these things are all right—for the consumers. But how about the producer? If the public must have a better quality of dairy products, produced under more costly conditions, who is going to pay the bill? The poor dairyman certainly can't, for he is only one lap ahead of the sheriff as it is. It is no more than reasonable that the consuming public, whose interests are now guarded by law in the matter of dairy products, should pay for the labor that is done in its behalf. It is no more than right that the dairyman should be paid a price for his products that will leave him a fair margin of profit.

A Prey to Changing Conditions.

But how can this be brought about with the dairy industry unorganized, and prey to whatever market conditions may be imposed upon it? The answer to the question stands out clear and well defined—more co-operation. Just as the dairymen need to bind themselves together in co-operative creameries and milk producers' associations to handle dairy products up to the time they are ready to be marketed, so these creameries and associations need to join together in one State-wide association to handle the marketing end and stabilize the industry. Stabilize the industry! That is what we need. It should be put upon the same stabilized basis on which the citrus, raisin, peach, walnut and other California industries have been placed by organized effort.

A Splendid Example of Co-operation.

Take the California Fruit Growers' Exchange as an example. It acts as a clearing house through which 6500 growers distribute and market their fruit. The exchange embraces 115 local associations, all of which, as well as the central exchange, are conducted on a non-profit, co-operative basis. We all know what has been accomplished, and most of us know that Federal investigation of these marketing methods has resulted in encouragement of co-operative marketing.

Do you say that we ought to have the same thing in the dairy industry? Why, bless you, we already have it. Not operating so extensively

(Continued on page 17.)

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EDITORIALS

A POEM ON PINK BEANS.

IT IS gratifying to note that Food Commissioner Merritt is doing all that he can to clear up hold-over staples and open the way for smoother and more reasonable trade for this year's production. He is urging upon consumers the desirability of eating up the beans which are now on hand and is assuring the public that pink beans are greater luxuries than pink ice cream and pink lemonade and are as handsome on the table as a cherry pie pinked circumferentially with the finger-tips of rosy-fingered dawn and much more fit to make a man fight for his country. And this causes us to be very happy, for we helped to educate Mr. Merritt for an imaginative poet and he is coming through with both feet (metrically speaking) on pink beans, and that will help to sell a lot of them. Besides, Mr. Merritt says he will be doing business again for the allies this fall and expects to pay as much as last year for a great many beans, and that ought to encourage growers whose fields are not yellowing from drouth or pink spider, as we fear too many unirrigated fields will be doing.

BARLEY TO REGULATE ITSELF.

IN THE matter of barley there is another promise of rational dealing in this year's crop because the Food Administration has definitely announced that the new barley crop will not be handled by the Government, nor will prices to the producers be fixed or stabilized by the Government. And this is related to the other announcement made some time since that all purchases for the allies in this State will be made by Mr. Merritt, therefore the fictitious value placed last year on barley because of indiscriminate purchasing by buyers for the allies, which sent prices sky high will not be possible this year. Of course, these two things may reduce the gambling points for barley growers who may wish to hold their crops on the chance of skyrocketing, as the law allows them to do if they desire, but it is a safeguard for barley feeders that as dealers' gambling is ruled out the price of barley will be determined by the demand for it, and the cards will all be on the table for as close a calculation as anyone can make at any time, and a feeder can buy from hand to mouth or to the limit of his storage capacity, according to his best judgment. This fact ought to help to sustain values and, taken in connection with what Mr. Merritt will need to buy to help load the outgoing new ships, which we are beating the whole United States in building, barley ought to be worth good prices and the profits will go to the growers, as they did not last year.

MORE FREEDOM FOR WHEAT.

THE LOCAL sale of what wheat we have this year will also be less troublesome than last year, for the millers will be free to grind all they can get by buying from sample direct from growers and need not observe the Grain Corporation's grades, and can pay as much as they like—providing it is not less than $2 per bushel f. o. b. shipping point. On this point the Food Administration's Grain Corporation says:

This being a minimum price, dealers and millers are permitted to exceed it, if they so desire, and as the Grain Corporation guarantees to pay only the minimum price at terminals it is expected that mills located at interior points will be able to pay more than this minimum figure in order to retain wheat grown tributary to the mills, rather than have it moved to tidewater.

In the case of wheat sales to the Grain Corporation, this institution is prepared to purchase wheat reaching terminals in San Francisco bay and Los Angeles at $2.20 per bushel based on No. 1 hard wheat, Federal grades and standards. It will not buy wheat this season which grades lower than No. 3. It will assume all terminal charges, making settlement as to grade, and will allow 9c per bushel on wheat arriving in new sacks. The rate of $2.20 per bushel for first grade is 10c higher than last year. As No. 1 hard wheat is not much in California's line and as we need the utmost activity of our local mills not only for flour but for feedstuffs, the greater freedom of operation granted to millers in this district ought to work to the advantage of our producers in several ways.

PROHIBITORY TARIFF DEPLORED!

THE HEARING on the problems of California production of semi-tropical fruits, raisins, prunes and other cured fruits and eggs, as related to importation of competing supplies from foreign production, made a contribution to the wisdom of the United States Tariff Commission which will doubtless have an influence toward legislative enlightenment of Congress in due time. Leading producers attended the meetings in Los Angeles, Fresno and San Francisco, which were duly held according to schedule in the Pacific Rural Press of June 8, and set forth in detail the facts which limit the profitability and safety of their enterprises. Their statements, so far as we have seen outlines of them, correctly cover the considerations which will affect the post-war development of the unique and characteristic industries of California, and we hope they will have much weight in determining the attitude and policy of the Government toward American products which have practically no competition from within our own national boundaries. Such facts will command more respect when set forth in the reports of the Tariff Commission than they do in our local publications, which are naturally held to be ex-parte, but such setting forth makes them neither more true nor essential.

What will the outcome be? No one can tell until the war is closed and another national election is held, perhaps. But conditions are now more favorable for rational protection to promote home production than formerly. The nation will need more money to pay its obligations and it will have a keener realization that that money will come faster from prosperous home production than from paying bills abroad for imports. The reporters say that W. S. Culberson of the United States Tariff Commission, who held the hearings in this State, indulged in prophecy to this extent:

Commissioner Culberson said a revision of American tariff laws would take place as the war draws to a close and that the revision probably would be upward, especially as to manufactured articles. He said he believed a competitive tariff should replace the prohibitive tariff.

We rejoice in the truth of Mr. Culberson's statement. What we need is a tariff which will not prohibit our own producers from competition on an equality of vantage with foreign producers. The school of economists which came into power in 1913 were so upright against prohibition against foreign producers that they leaned backward into prohibition against our own! We agree with Mr. Culberson that such a prohibitive tariff as that should be done away with. We cannot afford to get up another war to demonstrate a proper American attitude and we should learn all we can from this one!

ANOTHER BANK SCRAP IN BERKELEY.

IT HAS been observed that many people who are nice and companionable while plain become cantankerous when fortune smiles upon them. We are thinking that it is also that-a-way with towns. When we began to follow the footpaths across the Berkeley fields, seeking the postoffice with the aid of a lantern, two people meeting each other were so polite that both tramped in the wet grass and their dogs saluted each other on the path between them. That was forty years ago. But Berkeley has grown populous and rich—especially rich in banks—and you can have a scrap any time by trying to move on the wrong side of the pavement, either on foot or in an auto or in a bank. Therefore, we are not surprised that another ruction has broken out in the Berkeley Federal Land Bank: it seems to be the normal penalty of getting rich and sassy, and constitutes Berkeley another exemplification of the truth of the old hymn—"Where every prospect pleases and only man is vile." And that is just as true of the social and financial as of the natural landscape. For instance, we believe it is perfectly true that, as President Joyce recently said:

The Berkeley Land Bank is in fine condition and its business record is exceptionally good: $6,700,000 had been loaned to farmers in California, Utah, Nevada and Idaho since the bank was organized a little more than a year ago. A total of 2203 loans is represented in the amount. As another evidence of the bank's condition the institution's income now exceeds its expenses.

And we desire to have these things clearly understood as an offset to the impression which may be produced by gossip-mongers among those who are participating in the affairs of the bank as borrowers or who contemplate such connection—because the borrowers in this bank are the managers of it. They vote for directors and they have responsibility for its standing. It is, therefore, essential that they should not be misled by any camouflage as to the standing of the bank. It is our conviction, then, that the trouble is not in the bank as such but among the people in the bank. The occasion for the outbreak seems to be the firing of John J. Fox, formerly Horticultural Commissioner of Napa county, who was appointed one of the appraisers when the Land Bank was first organized. Of Mr. Fox, President Joyce is reported to have said in a recent interview:

Mr. Fox is a fine man, a good worker, conscientious, capable and hard-working, but he is not amenable to suggestion. For the good of the bank it was found necessary to ask that he be removed.

Thus the issue seems to be personal and not related to the soundness of the bank, though it may be directly related to its method of operation—particularly in the attitude of the higher-ups toward the experts who must be employed as valuers of lands on which loans are to be made. We know from experience that agricultural specialists and experts are as scrappy as musicians and as touchy as a magnet. We have handled as many as fifty of them at a time. We lost every hair but saved our scalp in getting through it. We know that they must be treated reasonably and not arbitrarily and when they disagree in their work they must not be stood apart for a fight, but their heads must be knocked together until they see stars—the stars of authority in the firmament above them. They should not be fired for anything but incapacity, but they must sometimes be overruled until it gets on their professional conscience and they say "good-bye" in good will. Our experience is that real experts can be held to team work in spite of personal animosities by two spiritual forces: one is the spirit of the institution or enterprise and the other is the personal spirit of the authority above them. When the spirit of the institution sheds the clear light of its beneficence upon their souls they will make sacrifices to serve it, and when they see devotion and ability in vested authority and feel the warmth of the spirit of personal interest and kindliness which should imbue such authority, descending in a flood upon their rebellious hearts, there will be few experts indeed too cantankerous to carry on.

Thus we have drifted into a homily to explain the ground for our conviction that, in the case of Mr. Fox, as in most other cases, unamenability to suggestion has resulted in some measure from the spirit and manner of authority over him, and that the treatment of his recalcitrance was unwise and should be re-cast in more considerate form. It is best to be reasonable ahead of trouble because it generally averts it—but if not then, it is better to be reasonable afterwards than not at all.

HOMOLOGIZATION.

WE ARE driving along in our issue of this week toward our previously declared objective, viz.: to accomplish wide and influential organization of California farmers for all purposes by federating those already organized for particular purposes. Mr. Whitten takes a full, steady gaze at the all-purpose organization for dairy production and we take a half-look, on another page, at the developing organization of alfalfa growers—intending to sight the other half at another time. We choose these two phases of special organization at this time because they are related to each other in their kind of agriculture and because their kind is not that which has made California famous in the line of co-operative organization. Our fame for progressive good sense in organization certainly rests on the achievements of the fruit growers. Citrus, walnut, almond, raisin, peach, prune, apricot and pear growers have risen historically to co-operative mastery of their selling and supply problems in about the order we have named them, and that mastery has been practically achieved in all of them, though they may vary from 60 to 90 per cent in signed-up membership of producers. And these are not all, for we have the fig, the olive and other groups coming along. But all these are the fruit lines and if the man on the street is held up with the question, "Are California farmers organized?" he will say, "Of course they are: have you not heard what our fruit growers have done in getting on their feet and staying on their feet—with one leg free to kick the old trade autocrats who formerly robbed and oppressed them?" And this answer is right and reasonable, for the fruit growers started first and came through first. We recognize and rejoice in their leadership and the demonstration of feasibility which it furnishes. We have, in a way, almost a parental affection for it, for we have worked for thirty-three years this very summer to bring about special-product organization, which we conceive to be the only enduring foundation for all general organization.

But fruit associations are not the only shining pebbles on the California co-operative beach against which non-producing greed and gambling can roll their breakers vainly! And that is the reason why we are this week directing Mr. Whitten's flashing pen and our own stub pencil to the elucidation of the fact that there are others. And the undertakings of the dairymen and the alfalfa growers are not the only others. We only yank them out into our spotlight at this time because they happen to be handy for the hook. Away from fruit lines there are also poultry associations, which have passed within the federation circle, bean associations which should be near to it, and many other local co-operative movements which should become general, each of its kind, and thus fitted to take places in federation of State-wide producing activities!

But some reader asks: "Why are you trying so hard to get in your barrage of federation?" It is rather a hard question and we were not at all sure about the answer until we looked in a big dictionary to see where we were at and found there that our purpose was homologization and that our function was that of homolographer, because to homologize is to determine correspondence in a homologous manner and a homologue is that which is identical in nature, make-up and relation, and the party who points it out is a homolographer! Therefore, all these separate organizations being identical in nature, make-up and relation, as indicated by their mutuality of methods and purposes, must, for the wide attainment of these purposes, be homologized—and the Pacific Rural Press is the agency that can help them do it!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Did Bluestone Kill the Barley?

To the Editor: Is a five-to-one solution of bluestone too strong for barley? Some have had failure in their barley sprouting and it is said it was bluestoned too strong.—Grower, Paso Robles.

It may have been too strong or the grain may have been soaked too long. There is more danger of it with barley because the adherent chaff holds the bluestone up to its killing longer than with a bare grain which more quickly dries off. The safety of the seed is insured by a subsequent treatment with lime, which makes more trouble, but is much more effective and safer. The following is the formula adopted by W. W. Mackie of the University Experiment Station after much experimentation:

The smut balls in wheat and smut masses in barley may be cleaned out in fanning mills or floated out in water and skimmed. Place the cleaned seed in half-filled sacks tied at the end. Immerse these sacks from three to four minutes in a bluestone solution made by dissolving one pound of bluestone in four gallons of water. Drain the sacks until dripping no longer occurs, then dip them for three minutes in milk of lime made by slaking one pound of quicklime in ten gallons of water. The lime prevents injury to the germ from the bluestone. If quicklike cannot be secured, air-slaked lime, one pound to eight gallons of water, may be used. After this treating, the grain should be laid out to dry, after which it may be planted or stored.

Cause of Fruit Dropping.

To the Editor: What makes oranges drop in June? My six-year-old trees have dropped all their oranges. The prunes on some of my trees are drying and falling off. The trees have been watered twice this year.—W. A. B., Orland.

The tremendous drop of oranges during June, 1917, caused such a deficit in the crop that systematic investigation into causes thereof was made by Dr. Coit and Mr. Hodgson of the University Experiment Station, and their preliminary report can be had by sending to the station at Berkeley for Bulletin 290. Briefly it may be said that the chief drop, from the setting of the fruit to a diameter of about an inch, is caused by conditions which exhaust moisture from the attachment of the fruit faster than the roots can supply it. That attachment is a weak point and it parts when robbed of enough moisture. High heat, dry wind, lack of soil moisture and lack of protection from excessively arid aerial environment are all causes of deficient moisture at the weak point of the fruit; the attachment breaks and gravity does the rest. The remedy is apparently more regular and adequate irrigation; soil cooling by summer cover-crops; exclusion of hot winds by windbreaks, etc. It may be the same way with your prunes. It is not the number of times you water a tree which satisfies it: it is the maintenance of a soil reasonably and regularly moist enough for the good of the plant.

Growth of a Tree Malva.

To the Editor: I am enclosing the seed of a tree. I planted it the first of April, 1917. It was then three inches tall, the stem was as thin as a straw and there were two leaves on it. By July it was five feet high and now it is over ten feet high and about ten feet in circumference. The children gather the seed and say they are good to eat. Is there any food value in them? If not, could I graft the tree to some fruit, and what kind?—W., Redondo.

Your plant is a tree malva (lavatera) which we have several times mentioned as especially desirable for quick shade in a chicken yard or for a screen-row for unsightly objects in a garden. Your record of the growth of it is interesting. The seed pods of the tree malva, and of the herbaceous malva also, are what the children call "cheeses" and they find them attractive for the mucilagenous material they contain before ripening. They are undoubtedly nutritious, but we are not aware that their food value has ever been determined. The tree will probably not be long lived. It is not available for grafting to any fruit.

Feeding a Few Beets.

To the Editor: I came from Georgia last September. This spring I planted different things to see what will grow best. I planted a half acre of sugar beets. The largest is about the size of a quart measure. They came up in February and now the tops are drying up. Please tell me what to do now to keep and feed them.—Subscriber, Dixon.

If you do not wish to use the ground to grow a midsummer crop with irrigation, the beets can be left as they grew—to be plowed or dug out from time to time, thus feeding the land out by the time of the early rains. The roots will hold plumper in the ground than in storage and will not change much, unless the gophers and ground squirrels get after them, until the first rain starts a second growth. If the land must be cleared up now, store the beets in a rat-proof crib or shed. Feed the beets just as they grow, in connection with hay or dry pasturage. Do not over-feed and if any derangement appears lessen the daily ration. The sugar beet you describe is of fair size. Sugar beets are not much grown for stock, because large stock beets can be got out of the ground with so much less labor.

HAS YOUR SUBSCRIPTION EXPIRED?

(7-6-18)

The yellow label explains. Keep the channel clear.

ALIENIST NOT REQUIRED.

"It is a relief to read the **Pacific Rural Press**, whose editor seems to be sane enough to give the farmers credit for having sense and patriotism." C. R. Watson, Hanford.

"Those editorials, contributions to literature and brave championings of the farmers, are above price." Jean Blair Barber, Livermore.

"I consider it (the Press) part of my business. It is a true friend of the farmer." Frank G. Desmond, Madera.

* * * * * *

The channel through which flows this stream of sanity, sense, patriotism, literature, championings and good business should be kept clear.

A check, a money order, a dollar bill or postage stamps will keep the channel clear.

DO IT WHEN YOU GO TO THE POSTOFFICE FOR YOUR WAR STAMPS.

Elizabeth McHugh, Subscription Clerk

Lead Arsenate for Cutworms.

To the Editor: Is an arsenate of lead spray protection against cutworms, and what strength should be used on melons, tomatoes and such tender plants.—M. J., Paso Robles.

Why, yes: in a way. That is, one pound of neutral lead arsenate to 25 gallons of water will hurt no plant and will kill any bug that has jaws to bite it. But having it on a plant near the place the bug bites but not right on the spot does not get him. Cutworms choose to bite on the vertical and not on the horizontal; that is, they bite the side of the stem and not on the top of the leaf and it is hard to get the poison on the side of the stem. It is simply a question of serving such as might arise if you had a dinner guest who insisted on eating his soup off the wall of the dining room instead of from the table. Therefore, it is better to poison cutworms before they get to the plant, by spreading the poisoned bran described for grasshoppers on page 806 of June 29 issue on the ground around the plant and not try to kill cutworms with an arsenate spray.

Teparies Not Pole Beans.

To the Editor: Kindly tell me the average height that tepary beans grow and also the best method of trailing them.—B. S., Calistoga.

Although the tepary is something of a runner where there is soil moisture enough to encourage it, it is not grown as a pole or trained bean. It is grown in bush form and allowed to flatten out if it desires to do so. There is, therefore, no recognized method of training. Teparies are especially adapted to hot interior valleys rather than to coast valleys, but perhaps your place may be hot enough to suit it. Still we imagine you will not indulge largely in teparies. You can grow many better beans.

Sex in Blackberries.

To the Editor: Are there a male and female wild blackberry? I have three vines; two bear and one does not.—C. B., Durham.

Yes: there are wild blackberries which have only pistillate flowers. Whether there are plants only staminate we do not know. Go at the flowers of your barren plant with a magnifying glass and they will tell you.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 2, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	T	T	.01	68	48
Red Bluff	...	....	....	112	74
Sacramento	...	....	....	104	56
San Francisco	...	....	....	66	50
San Jose	...	....	....	88	54
Fresno	...	....	....	104	70
San Luis Obispo	T	T	....	78	52
Los Angeles	.08	.08	....	78	58
San Diego	T	T	....	72	62

Co-operation in California Alfalfa Growing

Written for Pacific Rural Press

IT HAS BEEN previously maintained in these columns that of all the kinds of plants grown in California, including kinds of fruits and everything else which has achieved greatness under our favoring natural conditions, no single kind of plant has attained such aggregate value of product as has alfalfa. Nor is this fact really as unique and startling as it may at first appear to a people whose thought and talk was anciently of wheat and wool and both anciently and continuously of fruits and most recently of barley and beans. The greatest single crop of the world is grass and the world's greatest single cured product is hay. It is only reasonable then that California's greatest product should be forage, and that California's greatest forage plant, by virtue of its satisfaction with our exceptional conditions for its growth and by virtue also of its nutritive content, should be alfalfa.

But great as has been the service of alfalfa in the development of California agriculture during its more than sixty years' growth in this State, its importance is still but scantly recognized and the employment of its potentiality of product-value has been thus far only entered upon. And yet alfalfa is great as indicated, not only in its direct production of commercial value but through its entrance into the fabrication of nearly all other agricultural products. Even those who realize that our cows squeeze from alfalfa the greater part of their milk products, our sheep their wool, our hogs their pork products, our cattle a part of their juiciest steaks and roasts, and even our hens their eggs, do not realize that our fruits has been mostly driven to perfection by alfalfa power and, no matter how much we propel them by gas motors in the future, they will still be always pushed to a large extent by burning alfalfa hay in the automobiles which Adam named in Eden.

And then, in addition to the products of which alfalfa is the first cause there is the opportunity to produce much more alfalfa for export to the outside world, which is always short of hay, and alfalfa, baled or ground, will be ere long a much larger item in the export trade of California. Though it is true that any country will do better for itself and its soils by shipping hay products rather than raw hay, the world needs hay and is willing to pay well for it, and it is our good fortune that we can ship hay with the least possible draft upon soil fertility because alfalfa is of all plants in the hay trade the best aviator and its aerial activity is the best of all in the warfare of soil maintenance against exhaustion by cropping.

PROBLEMS IN ALFALFA PRODUCTION.

It is, of course, to be expected that in pursuit of such a great industry problems should arise. There are problems in production for the college experts in soils, cultures and farm management. There are problems in implements and appliances for production in which our designers and manufacturers of farm machinery are most efficiently meeting. There are problems in cost of production and in trade in the product which the growers are themselves best qualified to solve, and on the proper solution of which the future of alfalfa growing rests. All these problems have become more pressing through the exigencies of war, but the dawn of peace will not end them. It is practically assured that the re-awakening of a spent world to recuperative industry will not only open opportunity for greatly increased forage production but will multiply the problems which progressive producers must meet and solve by their own insight, energy and power.

IS IT POSSIBLE TO REGULATE ALFALFA TRADE?

It surely is. The State of California says so and the State of California knows! The Legislature of 1917 passed a new law defining the duties and functions of the State Market Director, which empowers him "to promote, assist and encourage the organization and operation of co-operative and other associations and organizations for improving the relations and services among producers, distributors and consumers and to protect and conserve the interests of the producers of such products."

And in accordance with this law there strides into the alfalfa field a tall man of military figure, as befits the times, who grows no alfalfa on his chin and does not over-crop his scalp with it either, but whose brain box is stuffed with alfalfa, from which come a vision of the future of the plant in the development and population of California and a faith that the vision will come true if the alfalfa growers will come together and strive for it as the State provides. For Colonel Weinstock tells this writer that as he has gone out into the wide valleys of the State during the last few weeks to make their opportunities for securing their rights in production known to alfalfa growers, he has looked from their green expanses upon adjacent vacant areas and has seen those great oceans of scantly-producing land made more productive and more valuable and he is assured that when such land is improved, stocked and populated with prosperous people through their productions and requirements in connection with related industries one-third of the present population of the continental United States could find honorable activity and prosperity in California—if alfalfa, the great basic plant of California agriculture, is given opportunity to do its perfect work and to properly reward the growers of it.

ORGANIZATION WILL DO IT.

To lay a firm foundation, upon which such a structure may in time arise, it is necessary that present growers of alfalfa should sweep away the troubles which now beset them and get their production into shape to properly reward them for their producing effort and investments. To this end local organization began in Southern California some weeks ago and is now being promoted throughout the State, which has been divided into five districts to facilitate proceedings and in the final form of organization all districts will be fairly represented. The purpose of this writing is to call general attention to the movement and to urge all our readers who are growing alfalfa to look into it. Detailed information concerning the plan of organization and the expected operation of it can be by application to the State Market Director, 525 Market street, San Francisco, or to any member of the committee which has been appointed to undertake the preliminaries of organization, as follows: Arbor Barth, Escalon; W. E. Cole, St. Helena; A. S. Bomberger, Lathrop; J. M. Bomberger, Modesto; J. L. Farrar, Riverside; H. R. Moses, Perris; A. W. Haley, Newark; Hulett C. Merritt, Tagus; Roy Seiple, Fresno; Ralph Crowther, Brentwood; Edward P. Haupt, Pasadena; and George I. Lytle, Perris. This organization committee may elect new members, elect its own chairman and secretary and take such steps as it may deem advisable in order to secure members and to organization the association.

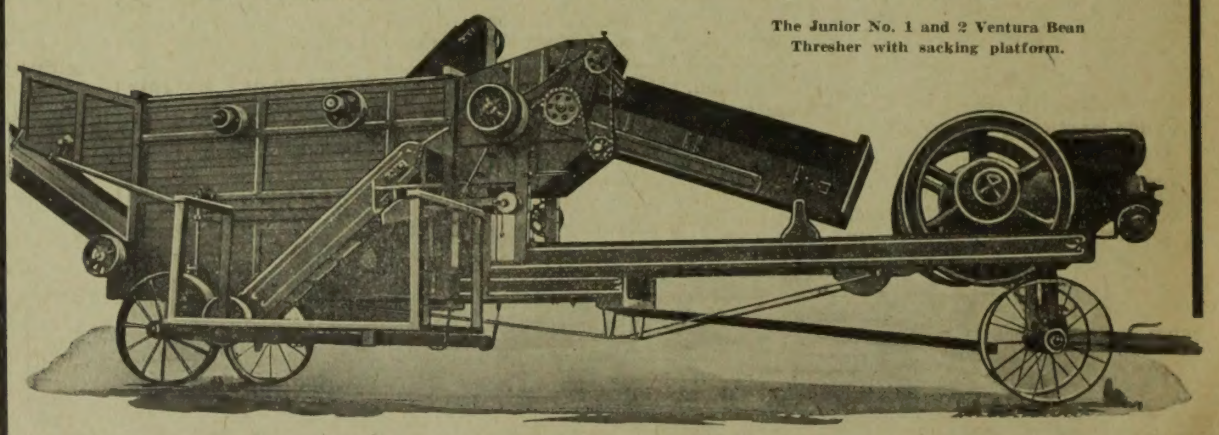
We expect to make another cutting in this field before long!

Labor Saving Bean Threshers

FOR EVERY GROWER'S NEED

The new Junior No. 1 and 2 are especially built for stationary work, and also with sacking platform for traveling over the field.

An economical seven man outfit for threshing from windrows.



The Junior No. 1 and 2 Ventura Bean Thresher with sacking platform.

To meet the threatened shortage of labor, the New Junior No. 1 and 2 **VENTURA BEAN THRESHERS** have been developed each with a sacking platform and extra long bagger. Mounted and with portable power and long drop feeder, four horses or a small tractor will pull this light machine between windrows operating with only 7 men. It is sold with or without engine.

The No. 1 is equipped with 22x32 inch cylinders. The No. 2 with 26x38 inch. No. 1 requires a 10 horse power engine, No. 2 requires a 12 horse power. Each machine is constructed on the same scientific practical lines as the large machines that we have been building and that have given satisfaction everywhere for the past 22 years. The same high grade material, workmanship and construction goes into each machine and each will thresh **EVERY VARIETY OF BEAN**, including horse beans.

Our factory, located at Ventura, assures purchasers that parts and extras are always close at hand, which means a great deal in our short bean threshing season with large crews. **VENTURA BEAN THRESHERS** are made to do a maximum amount of work properly with a minimum of help and power.

Write us for information about **BEAN THRESHING MACHINERY**, telling us your acreage, how many sacks per day you would like to turn out, the kind of beans you have, what horse power engine or tractor power you have, the make of engine or tractor, and we will furnish you free, information as to your most economical and satisfactory requirements. We make six sizes, from the Junior No. O, which can be operated by two or three men, to the Ventura Senior No. 2, which has a record of threshing 3000 sacks per day.

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are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

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Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

SNAPDRAGON RUST.

To the Editor: What makes my snapdragons go to the bad as the specimen shows? And what can I do for them?—G. A. F., Concord.

[Answer by Prof. W. T. Horne.]

The snapdragons are affected with a snapdragon rust which attacks, so far as I know, all varieties of snapdragons. It is one of the most destructive and fatal rusts we have. It does not, however, attack any other plant so far as my information goes. I think the only way that you can manage to save your plants is to clean up and destroy all of the affected plants as soon as they get rusted so as to be unsatisfactory, then do not grow any more snapdragons for some months in the neighborhood. After this, young plants may be started in a seed bed and can probably be grown for some time without getting rusted. I do not know how long the spores of the rust will live in the ground, but I think that by this procedure you will be able to have some nice flowers before the plants become infected and are lost.

I have seen snapdragons come through to maturity without getting rusted in green houses where the plants were affected the year before, and very often they will come on nicely in the garden and will not get diseased until rather late in the season, so that they have time to develop and give considerable pleasure before they have to go. I have at various times recommended people to try spraying repeatedly with some of the standard fungicides, such as Bordeaux mixture, diluted lime sulphur or ammonia copper carbonate, but have not had time to carry out the experiment myself, nor has anyone else done so so far as I know. It would probably help somewhat when the first infections are seen if the diseased leaves were picked off and the plants thoroughly sprayed.

University of California, Berkeley.

[In our garden in Berkeley we have a great deal of joy with snapdragons in spite of the rust. As Prof. Horne says, it comes on rather late and in the early part of the season the blooms are fine, and we let them grow along year after year, getting the early bloom and let the rust take the hindmost.—Ed.]

SUBIRRIGATED TREES UNPRODUCTIVE.

A block of ten-year French prunes on subirrigated ground bore an immense first crop for E. C. Spear of Napa county, but did not do well since then. He figured that the trouble was in the ground-water preventing the roots from going downward. The summer cultivation cut off surface roots. What was left to support the fruit? Trees about the house that had not been plowed in fifteen years had borne regular heavy crops. Lime, heavy pruning, etc., had been tried on the unproductive block and the trees had simply bloomed without setting or dropped what they did set. This season Mr. Spear is not cultivating this block, but is letting it grow up to alfalfa, rye grass, barley, and alsike clover.

A permit has been granted by the State Water Commission to the Chicago-California Development Co. of Sacramento for 410 second feet of the Sacramento river in Sutter county, for the irrigation of 32,545 acres, of which approximately 10,000 acres are for rice culture. Cost of the project is given at $530,000.

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If you are paying more than 35c per ton for stacking your hay, you are losing money. You can stack it for less than that if you use the

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Stacks hay baled or loose, Saves Labor, Saves Time, Saves Money.
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WE SELL MARTIN DITCHERS.

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Authoritative tests have proved that as high as **50 per cent increase in crop production** may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent produce to the limit. **Fertilize your land**—the increase in **yield** and **price** of crops will more than pay all the fertilizer expense—it will enable you to **farm with profit.** Don't spend your time working worn out land. **Make it pay—Fertilize with Hauser's Organic Fertilizer.**

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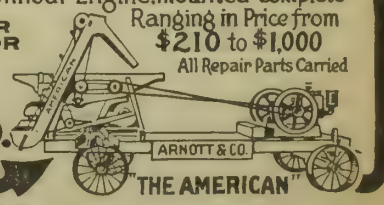

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Causes of Wasted Grain.

If a threshing machine fails to separate all the grain from the straw it usually is because the machine is not being run at its proper speed, is being crowded beyond its capacity, the cylinder fails to thresh all the kernels out of the heads, the separating mechanism is not level, or the blast is not adjusted properly.

Methods of preventing these and other causes of waste are given in Farmers' Bulletin 991, "The Efficient Operation of Threshing Machines", just issued by the United States Department of Agriculture.

Cracked grain is another source of waste which may become serious. Cracked grain may be due to excessive speed of the cylinder, to the cylinder being too close to the concave teeth or to grain being returned in the tailings elevator and run through the cylinder repeatedly. Loss both from poor separation and cracked grain can be largely prevented by proper adjustment of the machine and attention to it while in operation.

Rust-Resitant Asparagus.

Asparagus rust is a fungous disease which weakens the summer-growing bushy tops and prevents their storing food in the roots for next season's crop of shoots. Prof. R. E. Smith advises selection of seed from rust resistant plants. This is what J. B. Norton, a plant breeder of the U. S. Dept. Agr. has done for ten years, introducing, testing, and hybridizing asparagus from all parts of the world. Now Mr. Norton has a highly rust-resistant strain, more uniform and more productive under his conditions; and it recently sold in commercial quantities in Washington for more than double the price of other asparagus.

Pure Seed Law to Be Framed.

A bill for inspection and certification of truck crops grown for seed and another bill to provide adequate inspection for purity, germinating power, and adulteration of truck crop seeds on the market are to be framed at a meeting soon to be called by the State Horticultural Commissioner G. H. Hecke at San Luis Obispo where lives Senator Rigdon who attempted to introduce a pure seed bill in the last Legislature. This is a move much needed in the interests of greater production per acre and deserves the boosting of every seed user.

Seed Potato Selection.

Every potato in a hill has the same inherent possibilities because it has the same heredity. But in selecting seed potatoes from a bin, perfect specimens may have such poor heredity that the acre yield may be reduced a great many sacks. The only way to select seed potatoes to prevent their running out is to select hills that produce plenty of uniform typey potatoes. Prospective good hills are staked and the potatoes from them kept separate from the field run.

Plant for Fall Vegetables Now.

July is the month to plant vegetables for late fall and winter use. Do not water the seed after planting until they are well up. This means that the ground must be wet deep and worked fine before planting. If watered after planting it will bake in the July sun and the seed cannot come up properly.

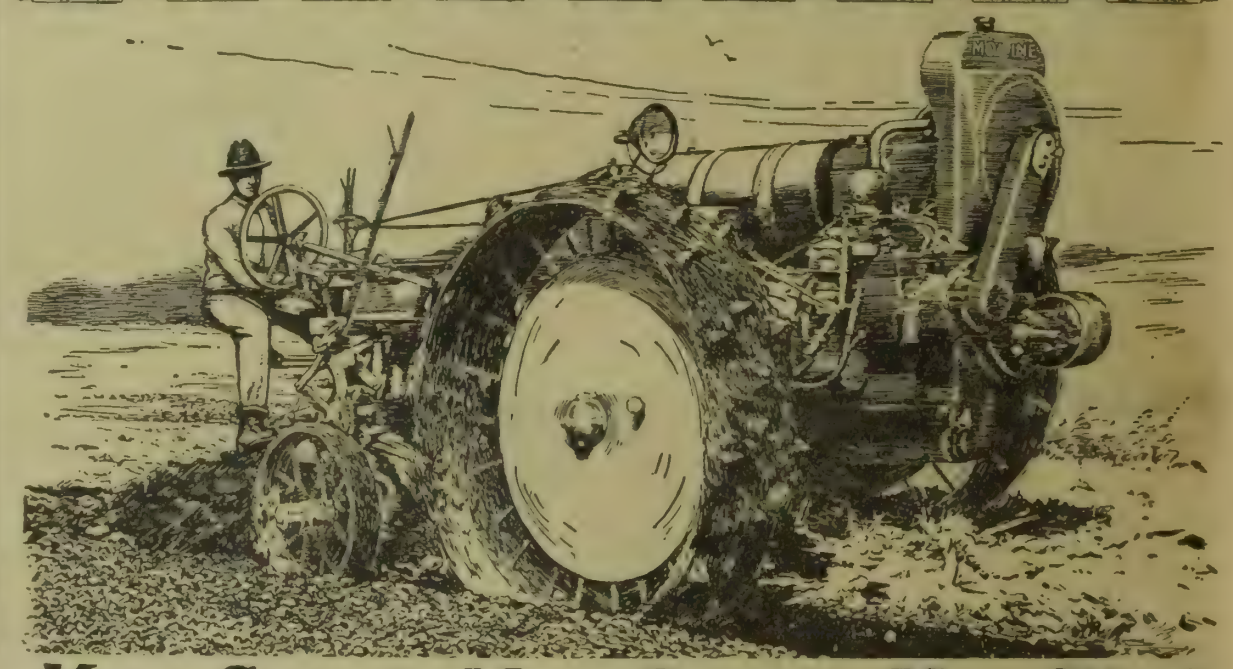
ALFALFA WEEVIL CONFERENCE.

Alfalfa weevil, the chief enemy of the alfalfa industry and therefore of the livestock industry, may at any time be introduced into California. On June 20 and 21 representatives of the Western States interested in the alfalfa industry and in the prevention of the introduction of the weevil, met in Salt Lake City to discuss the many phases of the problem as presented in their respective States. One of the questions which has troubled the officials of a number of States is that of the importation of salt grass. Since the United States entered the war the scarcity and increased price of excelsior has caused a greatly increased demand for salt grass for packing purposes. Utah, in the immediate vicinity of Salt Lake, produces ample quantities of this grass and naturally desires to fill all orders for it if possible. The alfalfa fields of Utah are known to contain the alfalfa weevil. To prevent its introduction into California the State Commissioner of Horticulture has, since 1912, maintained a quarantine against all products, including hay and straw, liable to carry the weevil from Utah and parts of Idaho and Wyoming. As a result, during the past few months very determined efforts have been made to cause the modification of the California alfalfa weevil quarantine to the extent of permitting the entry of salt grass.

Finally, at the suggestion of State Commissioner of Horticulture G. H. Hecke, invitations were sent to all the States interested to send their representatives to Salt Lake City for the purpose of arriving at some mutually satisfactory solution of this question, and the recent conference is the result. Colorado, Montana, Idaho, California, and Utah officials responded to this invitation. Chief Deputy George P. Weldon represented California. The conference took a field trip to obtain first-hand knowledge regarding the territory where the salt grass is grown and how it is handled. Mr. Hecke will later make known the provisions adopted.

Kills Prairie Dogs and Gophers of all kinds. Endorsed by State Experimental Stations. 1000 tablets prepaid for $1.25 Warranted. Raticide Tablets 25c. Ask druggist or send direct. Booklet Free. F. D. Chemical Co., Ft. Dodge, Ia.

ONE MAN OPERATES BOTH TRACTOR AND IMPLEMENT



More Speed-More Power-More Work

EVERY farmer who sees the new Moline-Universal Model D plowing is astonished at its speed, the splendid quality of work and the ease at which it operates. After seeing the Moline-Universal work, you will realize that the number of plows pulled is less important than the amount of work accomplished.

Great Capacity for Work

Speed, power and light weight are combined in the new Moline-Universal tractor to a remarkable degree. As a result, under any ordinary plowing conditions, the Moline-Universal pulling 2 plows at 3½ m.p.h. will plow 9 acres in a 10-hour day—equal to a 3-plow tractor traveling 2¼ m.p.h., the usual tractor speed. Thus the Moline-Universal gives you large capacity for heavy work, ample power for all belt work on the average farm, with these distinct advantages over other tractors—light weight; greater economy and ease of operation; ability to do all farm work, including cultivating, and ONE-MAN control of both tractor and implement from the seat of the implement, where he must sit in order to do good work.

Does Better Plowing

An advantage of speed plowing is the better quality of the work. With properly shaped moldboards and the Moline-Universal tractor plowing at 3½ m.p.h. the soil is more thoroughly pulverized and compacted than at slower speeds. It is left in such a level and fine condition that furrow marks are hard to distinguish.

Positive Reliability

And keep this in mind always—the Moline-Universal is built for positive reliability. The powerful 4-cylinder, overhead-valve, vibrationless engine delivers full 9 h.p. at drawbar and 18 h.p. on belt; unusually large bearings lubricated under 35 lbs. pressure; Remy electric starting, lighting and ignition system with governor generator; all moving parts completely enclosed; 15 Hyatt roller bearings; 5 adjustable ball thrust bearings; 7 splined shafts; differential lock; heat treated and steel cut gears—these give "positive reliability," and make the new Moline-Universal the best tractor money can buy.

Self Starter and Electric Lights

Self starter relieves the back breaking strain of cranking, makes tractor operation easy for non-robust help. In fact, many women and boys are successfully running Moline-Universal tractors. The self starter is a feature every operator will appreciate. Electric lights increase the working capacity of the Moline-Universal so that you can use the tractor night and day in the busy season. It gives you an emergency power always available to make up for any unavoidable delays.

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Your copy of our new tractor catalog which completely describes the Moline-Universal Model D is now ready. A postal will bring it to you, also the name of your nearest dealer. Address Dept. 97.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Fruit Shipping News.

This has been the best cherry season in the history of California, according to Manager J. L. Nagle of the California Fruit Exchange. The crops have been heavier than last year and the prices fine. Apricots are small but clean and have carried well until about two weeks ago. The Exchange secured $4,200 for a car of mixed fruit last week.

Total shipments of all fruits all spring have totaled less than on corresponding dates of last year, but the total on June 29 of about 1000 carloads had overtaken the record of last year on that date.

The shook situation is good. The market on pine has been very active and box shook has been made from the odd sizes. The car situation has been satisfactory; but the recent advance of 15 per cent in freight rates means, according to Mr. Nagle, an additional annual tax on California fruit producers of about $10,000,000, as based on last year's tonnage. As the intention of the Government in increasing rates was not to discourage food production but to make consumers pay the freight, it is considered inequitable on the fresh fruit industry. About 70 per cent of California fresh fruit is sold to the highest bidders on eleven big Eastern auction markets. The bidders will not be influenced by the freight rates until the freight rates reduce production, which is not the object of the Government. Perishable products like deciduous fruits cannot be priced from the California end under present conditions. Fancy buyers generally buy in large lots. A habit of some growers of breaking up their shipments into small lots each of which had to be sold separately on the auction has caused great loss of time in selling and congestion on the floors. It has been arranged that, beginning July 1, certain kinds of fruit, including cherries, peaches, and plums, shall be sold in lots of not less than 60 packages, averaging the price to all producers in such lots. Other fruits, including pears, will be sold in minimum lots of 40 packages.

Liquid Cyanide Still Making Good.

Liquid cyanide for fumigation of citrus trees as described in previous issues of the Pacific Rural Press is available, according to former State Horticultural Commissioner J. W. Jeffrey at a cost of about $5 per gallon of the liquid, of which one ounce is required per 100 cubic feet of space inside the tents. The crystal cyanide costs 34 cents per pound in 200-pound cases and can be liquified at a cost of $4 per case. This makes 14 gallons of liquid cyanide. Prof. H. J. Quayle of the Citrus Experiment Station is demonstrating the liquid.

French and Imperials Together.

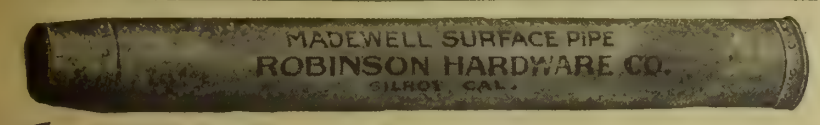
Imperial and French prunes work well together on the ranch of E. C. Spear in Napa county. While the Imperials are slower to dry, they start to ripen earlier than the French and more of the trays are available at that time. Most of them are off before the French prunes need the trays. Better help can be obtained for the longer season's work. It is well to bear this in mind when ordering trees for next winter's planting.

The Farm Labor Situation in California

[By J. P. Dargitz, Field Representative of the State Council of Defense Farm Labor Committee.]

Up to the present moment all crops are being harvested with but little loss as far as we can learn, excepting some large acreages of asparagus for lack of labor. Many thousands of acres of crops were not planted because no labor was in sight to make and harvest the same, which otherwise might have contributed to help win the war. The women have responded well for the orchard and fruit work. They are proving effective and show a fine spirit. The grain harvest is progressing well. We do not know of any machines standing idle for lack of men to run them. However the very light crop in many sections of the State, many fields not being cut at all, must not be lost sight of.

If any fruit farmer is in need of labor the Woman's Land Army stands ready to furnish the same. If all farmers would call on the free public employment bureaus when in need of laborers they would find the State and the U. S. Employment Service both ready to aid them in every possible way.



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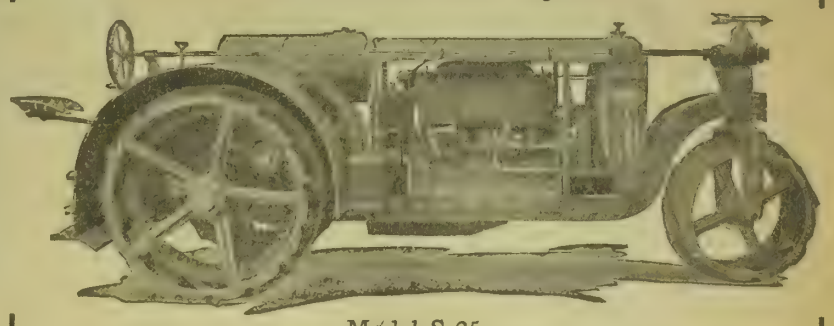

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10 HP ON THE DRAW BAR—25 HP ON THE PULLEY

The Samson Sieve-Grip Tractor embodies all the features which years of painstaking effort and experience have approved. It is not an experiment. It is a demonstrated success of years' standing. Its enthusiastic owners are numbered among nearly all civilized nations on the globe.

In construction, it is very simple. In strength, all that its name implies. Built to meet the most exacting demands, day in and day out.

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Its Nodust-Moisto-Rizer cleanses all air entering carbureter and crank case vent. All working parts of the motor are protected from dust and grit.

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Dust in the Eyes of Walnut Foe

[Written for Pacific Rural Press.]

In the Pacific Rural Press of June 15 we gave an outline of Prof. R. E. Smith's [illegible] experiments in dust-spraying for aphis or leaf blight and perhaps for other pests affecting walnut trees. Although we are interested in any progress that has been had of the efficacy of dust treatments of the walnut blight, the method is very expensive and not only for cleaning the foliage of the walnut but of fighting the same pests on other fruit trees. For these reasons we compile from Prof. Smith's latest statements many details of preparation and application of dust-mixtures which will be helpful to many readers who have provided themselves with dusting machinery of good force and compass.

METHOD OF WORK.

With some dusting machines the operator is supposed to stand on the wagonbed and direct the dust onto the tree. As the walnut aphids are entirely on the under side of the leaves, however, it was found difficult actually to hit them with the dust by this method of application. Slight, changing wind currents also made the work slow and rendered it difficult to cover all sides of the trees thoroughly without too much driving around and loss of time. For these reasons it seemed very desirable that the operator should be able to stand on the ground under the trees and walk about to some extent while dusting, and hit the under side of all the leaves with the dust in less than one minute per tree. Two men only are required, one to drive and run the machine and the other to dust. One horse can easily pull the outfit, although a team would be better for steady work all day. It is advisable for the operators to wear eye goggles and nose guards (aspirators) to avoid discomfort

LIMITATIONS OF STRAIGHT SULPHUR.

As to blight, the sulphur did no good and no positive results were obtained in the control of the disease; furthermore, during a sudden spell of extremely hot weather, trees which had recently been sulphured were badly burned, so that for either the control of blight or for diluting tobacco dust sulphur appears to have no use on walnut trees. We do not believe, however, that the burning mentioned would occur during ordinary seasons, and for the control of red spider on walnuts would still suggest trial of dusting sulphur diluted with some other material, 30 per cent sulphur in kaolin might be tried. Straight sulphur is commonly applied to grapes, almonds, beans and other crops even in the hot interior valleys of California without serious injury.

MIXTURES OF TOBACCO DUST.

It has been shown that in making mixtures of tobacco dust a power-driven mixing machine must be used. Simply shoveling over or hand mixing is not sufficient.

When tobacco dust was thoroughly applied to the under side of the leaves the walnut aphis was controlled. The tobacco dust which was used analyzed about one per cent nicotine and was effective when diluted with 50 per cent or even 60 per cent sulphur or lime. Furthermore, the mechanical advantages of this method are so great, on large trees at least, that it seems worth while to continue the search for an effective germicide or fungicide and to attempt to perfect the method in other respects.

NEW METHOD OF GETTING TOBACCO INTO DUST.

There is a wide choice of materials for making insecticides, germicides or fungicides if they could only be gotten into a satisfactory dry condition. Previous attempts to combine them with lime by grinding and mixing have been most crude and unsatisfactory. The method now being developed by Prof. Smith consists in dissolving the material in water, mixing this water with kaolin, evaporating off the water and repulverizing the kaolin. The nature of this material is such that after wetting and drying no grinding is required, but it pulverizes again into an impalpable dust with very slight pressure. Somewhat less water than kaolin by weight makes a very easily handled mixture. To make a dust containing one per cent bluestone, for instance, the old method would have been to grind the material as finely as possible and mix it with lime. With the finest possible grinding many of the particles of bluestone would have been comparatively large and the number of particles of lime would have been enormously greater than those of bluestone. By the present method one pound of bluestone would be dissolved in about ten gallons of water and this mixed with 99 pounds of kaolin. The material would then be allowed to dry until the water is evaporated off, after which the kaolin is readily pulverized into the original powder, with a certain number of molecules of bluestone contained in each particle of kaolin. A dry Bordeaux mixture can be made by putting in as much lime as bluestone or by using the proper amount of soda instead of lime. The material called kaolin is an extremely fine, white, earthy powder. It blows well, sticks tightly to foliage and has other advantages.

REINFORCING TOBACCO IN DUST MIXTURES.

For the control of aphis the use of tobacco has certain serious limitations. Among these are the more or less uncertainty of supply, the unknown and often very small percentage of nicotine, the necessity of grinding, the comparatively high cost and, above all, the fact that even the pure dust is not strong enough to kill many kinds of aphis. The walnut aphis seems to be especially susceptible to nicotine. The rose aphis is one of the most resistant. For these reasons a nicotine-kaolin dust has been developed by the method above described which seems to avoid all these objections. Using "Blackleaf 40" as a source of nicotine, a dust of any desired strength can be made by diluting the blackleaf in water, mixing with kaolin, drying and repulverizing. This is

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considerably cheaper than tobacco dust of the same nicotine content and can be made in any desired strength up to a very high concentration. We have made a 20 per cent blackleaf dust, although at this strength the mixture begins to become rather sticky.

COMBINED INSECTICIDES AND FUNGICIDES.

The possibilities of making combined insecticides and fungicides by this method will naturally suggest themselves. Various chemical reactions will take place, intentional or unintentional, desirable or otherwise. One thing the writer has found is a well-marked increase of the aphis-killing effect of blackleaf 40 when combined with certain substances. This happens, for instance, with potassium permanganate and with sodium carbonate (soda ash), but seemingly not with sodium hydrate or bicarbonate.

A MIXTURE FOR APHIS KILLING.

Black Leaf 40	2 lbs
Soda Ash	½ lb
Water	10 gal
Kaolin	100 lbs.

Dissolve the soda in the water, add the blackleaf, mix thoroughly with the kaolin in a shallow tray, dry off the water with gentle heat (the nicotine compound is not especially volatile) and repulverize the kaolin cake. It is believed that this will kill any species of aphis very promptly so long as a small quantity of the dust actually comes into contact with the insect. A less amount of blackleaf, even five-tenths per cent, is effective with some aphids when soda ash is used in the mixture. For an extremely deadly mixture 5 per cent may be used. Where large amounts of materials are necessary, as in dusting walnut trees, it is very desirable to use the least effective strength of nicotine, as this is by far the most expensive ingredient. This strength can be determined by experiments with the particular species of aphis under consideration. At present prices each per cent of blackleaf in the mixture represents a cost of about one cent per pound. The exact amount of soda necessary is not based upon any exact determination or principal.

Dusting sulphur may be used in place of kaolin in the above mixture, making an excellent combination for mildew and aphis on roses, beans, peas and other plants.

A NICOTINE-BORDEAUX DUST.

(a)	Bluestone	3 lbs
	Water	5 gal.
(b)	Soda Ash	3 lbs
	Water	5 gal
	Black Leaf 40	2 lbs
	Kaolin	100 lbs

Dissolve a and b separately, then mix with each other and with the kaolin, dry and pulverize. This is really the so-called Burgundy mixture and makes a very smooth dust. The strength and proportions given have not been thoroughly tested as to possible injury to delicate foliage.

PRESENT COST OF SPRAY DUST.

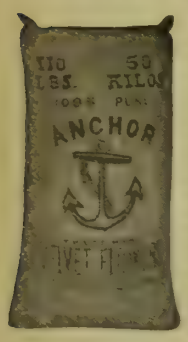
For dusting the largest walnut trees about five pounds of material per tree is required; small trees take less, down to about two pounds. At present prices the mixture of tobacco and kaolin recommended for walnuts should cost about five cents per pound. It is believed that by the new method of using tobacco extract, mixtures can be made considerably cheaper than this. Labor and other expenses of application should not amount to more than five cents per tree. This saving of labor and time is the most essential part. The material should not be too strictly economized, although it must at all times be well distributed and put where it will do good. To simply fill the wind with a great cloud of dust or even to cover the upper side of the leaves has no effect upon the aphids tucked away underneath.

KEROSENE EMULSION FOR INSECTS.

To control aphis and other garden insects, a kerosene stock emulsion may be made in the following proportions and kept indefinitely, to be diluted with eight to ten parts of water when used. The weaker spray is for the more tender plants. Stock solution: Dissolve ½ pound hard soap in a gallon of hot water. For safety, take it away from the fire and mix in two gallons of kerosene while the water is still hot. Mix it vigorously until it becomes a thick creamy mass.

From returns received by the Bureau of Crop Estimates to date from 1246 firms and individuals engaged in canning or otherwise manufacturing tomatoes, or about 74 per cent of the total number reporting in 1917, it appears that 186,348 acres of tomatoes have been contracted for thus far this season. California reports 13,731 acres.

SULPHUR



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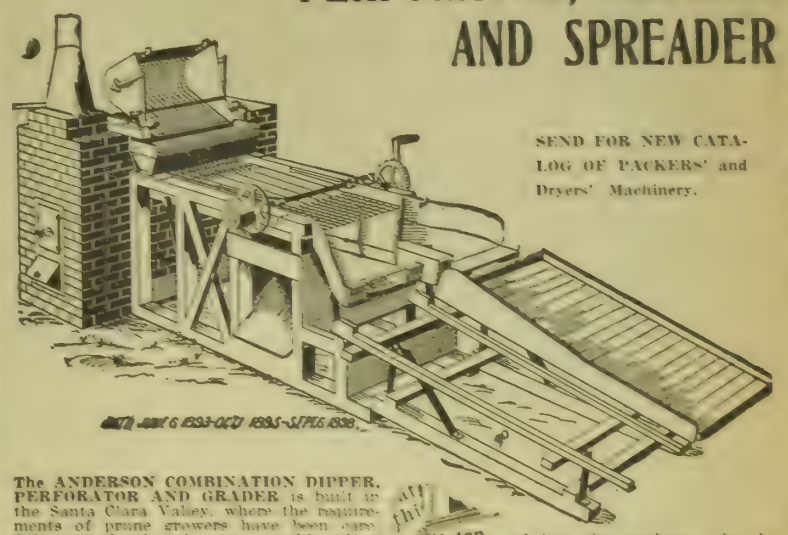

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General Agricultural Review

Field Crops.

Good hay and grain crops are reported in the vicinty of Paso Robles.

The annual report of the California Packing Corporation places the value of the California rice crop at $8,343,750.

Growers and shippers of cantaloupes in the Imperial Valley estimate the value of the crop this season at $3,500,000.

The Siemer Bros., who farm several hundred acres about Sebastopol and Santa Rosa, will cut about 50 acres of their oats for grain. They are well pleased with the crop.

The Dodge Land Co. at Butte City reports splendid progress on its 300 acres of cotton. A great deal of interest is being taken in this cotton experiment by the whole valley.

About 750,000 sacks of grain, two-thirds of which will be wh..., is estimated to be the harvest dus season that will be had off ...ut aphi... borders Tulare Lake.

The Sutter, Butte an... side of t... Canal Companies have be... found di...n by the State Railroad ... with ...on to furnish water from La... application for irrigation to 65,00... rrents a... of contiguous land. ...rendered

Harvesting is on in full ... of ...n the whole Sacramento Valle... ...n most places the barley crop is ...st about half what it was last year, the grain being pretty badly pinched. Wheat is about the same.

In the Indian Wells Valley, Kern county, there has been a large acreage of cotton planted, all of the Durango variety. This is the first year that cotton of any commercial sense has been raised in the county.

The conference of rice growers held in Sacramento last week decided that the cost of production for 1918 could not be determined at this time and therefore it was impossible to set a price for the new crop.

William D. Jones of Bloomfield, who usually cuts most of his hay for grain, will make hay of it this year, because of the difficulty and uncertainty of getting help to harvest it for grain. He has 245 acres of very fine oats.

Every available acre in the Lompoc and Santa Ynez Valley is under cultivation and 95 per cent are planted to beans. From Los Olivos to Lompoc thousands of acres are planted to small whites and all are in good condition.

Rice has been making rapid growth since the extreme heat has struck the Sacramento Valley, and where water can be secured promises a bumper crop. A large acreage that was graded and seeded has had to be abandoned on account of water shortage.

General plans for the protection of the hop industry in California were taken up by growers representing 20,000 bales of hops, who met in Sacramento last Saturday. They decided to ask the support and cooperation of California's representatives at Washington.

Fifty thousand acres of Sacramento Valley bottom lands above the confluence of the Sacramento and Feather rivers have been planted to beans this year, according to Manager George F. Maddux of the Sutter Basin Company. White beans were the kind planted.

For the present no more licenses will be issued for the exportation of beans to Cuba owing to congestion of supplies in the island, which has led to a large number of rejections of shipments recently, it was announced by the United States Food Administration for California today.

There is very little trouble in getting harvest hands in the Sacramento Valley. One correspondent says that in all his travels he only saw one harvester held up on account of help shortage and that was temporary on account of a breakdown and the men got impatient and quit.

A crop report showing the condition of alfalfa and other hay for the State as a whole and perhaps by counties was proposed by E. E. Kauffman of the U. S. Department of Agriculture, to be published through the California Cattlemen's Association. The offer was received with great favor.

Recent statements to the effect that the army and navy would not be in the market for any further supplies of pink beans this year gave a wrong impression to producers and the trade. While the requirements of these two branches of the service have been filled for the present, further supplies may be necessary.

Deciduous Fruits.

Carlot shipments of apples are now going out from Yuba City.

The canning of peaches in the Visalia district will begin about the middle of July.

The growth of the fruit industry in Merced county, as more acreage is brought into bearing, has necessitated the erection of several new packing-houses.

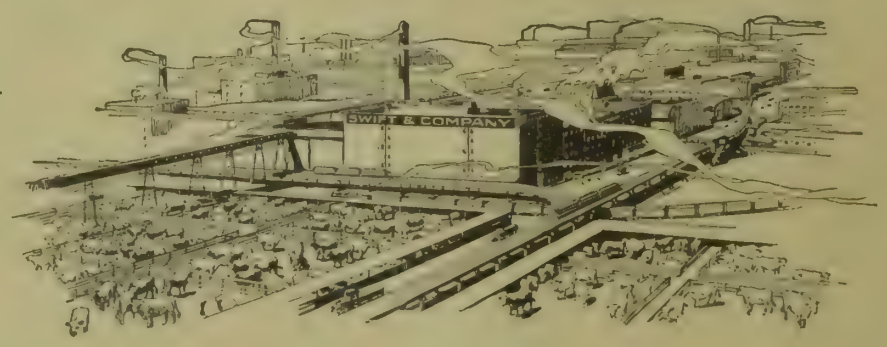
Peach growers of the state were to receive between $750,000 and $1,000,000 this week as the final settlement money for the 1917 crop, it was announced.

Apricots from the Porterville district, are being shipped to San Francisco for canning. Because the Porterville Canning Company was organized after the sugar orders went into effect, no requisitions could be honored for sugar sufficient for the pack.

The Geo. H. Hooks Cannery at Watsonville has opened for the season. The first fruit to be put up are loganberries and mammoth blackberries, this company having contracted for the larger portion of Pajaro Valley crops of these two varieties.

Yolo county peaches and apricots, because of the heavy demand and the comparatively small yield, are bringing good prices this season. Many contracts were made at top figures of $65 a ton for Tuscan and Phillip clings, and $40 a ton for freestones.

It has been recommended by the executive committee of the Canners' League of California that canners generally adopt a scale of rental and sales charges on their lug boxes to growers. A rental charge of 1 cent per box is suggested to be made to growers for the use of standard



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Today American meat and meat products are the recognized standard of the world.

And the economy with which these products are produced is indicated by the fact that today the meat of a steer, dressed, is sold for less than the cost of the steer on the hoof! The proceeds of by-products, made out of what once was waste, have made this possible.

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lug boxes, and a charge of 25 cents for each standard lug box to growers who retain boxes at the close of the season.

The Placer County Farm Labor Committee has arranged a schedule of wages in fruit work considered just and equitable to employers and employees. They are as follows: General farm work, 30c per hour; Picking cherries, 2c per pound; Packing cherries, 15c for 12 rows or less; Packing cherries, 18c for over 12 rows; Packing plums, 6c per box; Packing peaches, 3c per box; Packing pears, 7c per box.

Citrus and Semi-Tropical.

Butte County Horticultural Commissioner Earle Mills estimates the orange crop of the Oroville district at not to exceed fifty per cent of normal on account of continued hot weather.

This year the production of the citrus orchards near Porterville which have received consistent care apparently will be fair. Trees that have received little water show a small setting of fruit.

The movement in Australia to place a ban upon the importation of California citrus fruits has been averted, and there will be no further effort made to change the agreement reached in 1916, it is reported.

The same unusually hot weather which came on very suddenly early in June in the Porterville district killed practically all the citricola scale on the trees. As a result of this, not more than 200 acres of orange groves of the entire district have been listed for fumigation this fall.

At the late hearing before the members of the U. S. Tariff Commission in Los Angeles it was stated that this country has a practical monopoly on the ripe olive pickling industry, as olive growers along the Mediterranean borders were ignorant of the American process of pickling the ripe olive.

Orange growers in the Lindsay district are preparing a protest against the proposed increase in citrus fruit freight rates, which according to the Citrus Protective League will cost the orchard owners of the State more than $8,000,000 annually. The general increase of 25 per cent of tariffs applies to oranges, lemons and grapefruit.

Grapes.

At the grape institute held at Merced last week action was taken to raise the standard of packed grapes by the elimination of fruit affected by the mealy bug and of grape varieties showing stem mildew. The question of uniform method of fruit inspection was earnestly discussed.

Miscellaneous.

The gentle sex is answering the call for help in the cotton fields near Bakersfield, where they will take the place of men. The girls were recruited from the high school and have had considerable experience in farming.

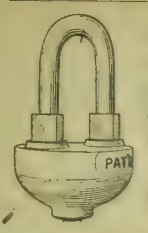
It is reported that the U. S. Shipping Board finds that the rate of $3.50 per ton upon wheat from Pacific coast ports to the Atlantic has proved to work out at a loss, and that the board will find it necessary to advance the rate.

By agreement between Food Administrator Merritt, and representatives of the canning industry and employees of canneries, the minimum wage scale for male adult employees for 1918 will be 35 cents an hour for a ten-hour day, and 42 cents an hour for overtime and on holidays and Sundays.

Articles of incorporation of the Western Bee Farms Corporation, capitalized at $100,000, were filed in San Francisco last week. The corporation expects to establish a string of bee farms from Santa Cruz to San Diego. More than 15,000 stands of bees will be maintained, and the estimated yearly production of honey will be 1,500,000 pounds.

The following scale of wages is set for this season in Merced county, as reported in Merced county Farm Bulletin: Per day—Haying, $3.00; Corn and bean harvest, $3.00; Irrigation, $3.00; General farm work, $2.50; Header bed driver, $4.00; Loader, $5.00; Header driver, $6.00; Derrick man, $4.00; Derrick boy, $3.00; Sack sewer, $5.00; Hoedown man, $4.00; Fork man, $5.00; Sack jig, $4.00; Tractor engineer, $6.00; Separator man, $5.00—$7.00; Engine swamper, $3.50; Milker (per month) $70.00.

The following application for a permit to appropriate water has been filed with the State Water Commission: The U. S. of America (U. S. Reclamation Project at Orland, California), 250 cubic feet per second of the waters of Stony Creek in Glenn County, Colusa and Tehama Counties, tributary to the Sacramento River, for the irrigation of 30,000 acres. This is the south diversion of the Orland Project, and it is proposed to enlarge the old canal 5.8 miles and build 17.44 miles of new canal. The amount of water to be stored is 104,000 acre feet, and the estimated cost of the proposed work, including purchase of right of way, is $2,200,000.



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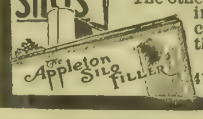

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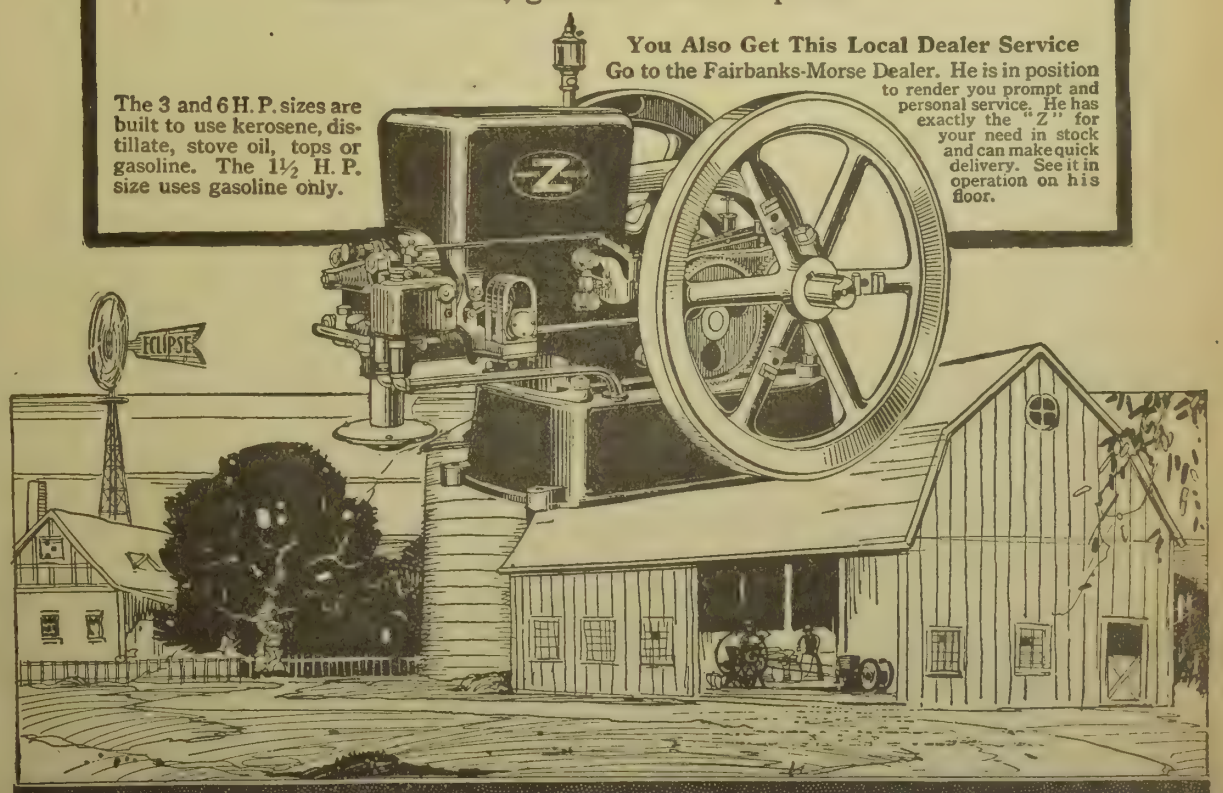

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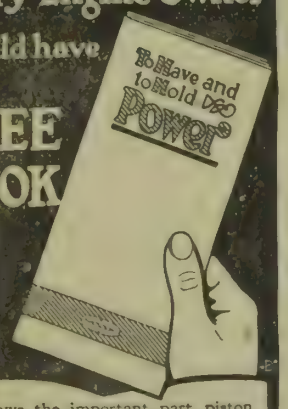

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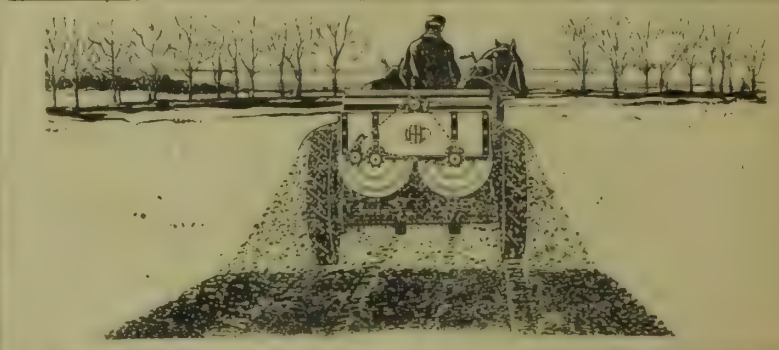
"We must motorize our orchards. Hay will be short and will cost a lot. I used to handle my 26 acres of apricots and prunes with horses, but I found I couldn't do the work. Hot weather, flies, and work put the horses in bad condition before the end of the season. Both of my sons enlisted and I got a Bean tractor." Thus Dr. Guy Huntley of San Benito county explained the fine tilth of his orchard at a time of labor scarcity. He used to pay $40 for additional horses besides the four-horse team to plow the 26 acres. Last spring the tractor plowed it with 100 gallons of distillate at 11c and eight gallons of oil at 61c. Among young trees he plows eight inches deep within two feet of the rows, but not so deep among older trees, whose roots were not thus trained to go deep. The Huntley orchard had just been double-disked by the tractor, a much finer job than one done nearby with horses. The tractor works the soil into a mulch as much as six or eight inches deep. Neighbors have similar tractors and all were satisfactory. Danger of tipping over is nothing to a reasonably careful driver, as Dr. Huntley's machine had never tipped over, though crossing a multitude of dead furrows.

TRACTORS FOR ORCHARD AND BEANS.

"When I saw that tractor coming, it was to laugh," said W. G. Smith of Sacramento county regarding a Wallis tractor which had come to his river ranch to show its ability on freshly irrigated soft black land which had to be turned quickly after the grain was off in order to plant beans. "The long angle-iron extensions on the wheels looked like nothing so much as two windmills coming up the road. When we saw the machine closer we all wondered if it could get across the field alone, say nothing about pulling the plows. But there she is, humming right along with four 14-inch moldboards, going four or five inches deep and the ground so wet that water seeps into the furrows. If she can keep up that pace, I must have her, because I have 150 acres yet to plow for beans. The other tractor I have is a small Holt. It is a little slower, but it keeps going all the time. I plowed about 500 acres of orchard with it this spring. Plowed most of it twice, disked all of it twice and part three times, and rolled it. Couldn't keep the place going without the tractors."

SPREADS MANURE EIGHT FEET WIDE.

The manure spreaders we used to operate threw the fertilizer directly back of the wagon and we had to do a lot of driving over more or less soft ground to get it covered. Now comes the International Harvester Co. with a manure spreader only three feet wide which breaks up the manure and spreads it in a strip



eight feet wide, as illustrated above. The toothed cylinder throws manure against two disks set so they revolve in a direction cross-wise of the wagon and throw the manure beyond the sides. Curved metal wings over the disks regulate the distance manure can be thrown sidewise.

CHEAP REFRIGERATION.

A $375 installation run by a ½-horsepower electric motor freezes small pans of ice for E. C. Rand of Sonoma county and keeps a large refrigerator so cold that drinking water left in it cannot be swallowed hurriedly. It may be installed on any refrigerator. The motor is used to compress ammonia repeatedly and force it through pipes, where its evaporation and expansion produce the freezing. The vapor is compressed and evaporated repeatedly. Mr. and Mrs. Rand are enthusiastic about it.

COMBINE DID NOT THRESH GYP.

An effort to thresh gyp corn with a combined harvester did not work for the Liberty Farms Corporation of Kings county last year, though perhaps the trouble was only a matter of adjustment. They headed the corn and threw the heads into windrows. A combine was then driven through and two men pitched the heads onto the draper. Whole heads went through the machine; so hauling to a stationary thresher was deemed necessary.

POWER NOTES.

Blue smoke in the exhaust does not necessarily mean too rich a mixture. Black smoke or a red flame does. A snappy exhaust means too lean a mixture and prolonged burning.

The F. H. Poss Co. of San Francisco has eight carloads of Avery tractors of all sizes in stock, ready for quick delivery when fall business shall begin. The company has sold sixteen of its 5-10 horsepower motor cultivators.

Miller & Lux has installed 19 Smalley alfalfa cutters in 1917 and 1918. These include one 26-inch machine, four 20s, and fourteen 36-inch machines. The Globe Mill Co. of Los Angeles is equipping its ranches with 40-inch Smalleys.

A 10-horsepower electric motor on skids can be moved from one job to another on the Maplewoode Ranch, near Calistoga. Among other work, it pumps water from a concrete sump in the creek through a six-inch centrifugal pump for the alfalfa.

Hamilton & Nickell of Sacramento report the fall demand for their Trundaar tractors already picking up strongly. They have only recently become able to make immediate deliveries. The general manager of the Buckeye Mfg. Co. of Indiana, who make the Trundaar tractor, has just returned from a visit to the Pacific Coast.

E. B. and W. M. Symons of Illinois have bought 320 acres near Bakersfield, where they expect to go into the sorghum business. They are developing water on the place, having put down a 24-inch well to a depth of 160 feet, with 12 inches below, and have installed a 50-horsepower motor direct connected to a 100-foot 24-inch Layne & Bowler pump. They will irrigate the entire tract from the one plant, which is developing approximately 1300 gallons of water per minute.

Cleveland Tractor

NEW MODEL
$1,600.00
F.O.B. BERKELEY

Distributors Northern California and Western Nevada
F. H. STOW 2076 Center St. BERKELEY, CAL.

F. T. BRILES, So. California Distributor
CLEVELAND TRACTORS
214-16 North Los Angeles Street Los Angeles, Cal.
BRANCH HOUSE, 110 MAIN STREET, PORTERVILLE, CAL.

The Answer to the Farm Labor Shortage

THE farm labor situation is serious. And little relief is in sight. The new draft will take more men. More horses and mules must go. But, in the face of these handicaps *production must be increased*—and it can be if you adopt the right means.

The Cleveland Tractor has shown the way on thousands of farms. It has successfully replaced muscle with machinery. It has proved itself the modern "Man-of-all-Work."

The Cleveland Tractor plows as much ground as *three* good 3-horse teams and three men—eight to ten acres a day.

It actually does the work *better*. And it harrows. It plants. It reaps. It cuts ensilage, fills silos, turns saws, hauls manure spreaders and road machinery, drags logs, and does the hundred and one chores that mechanical power can do about the farm. It delivers 12 horsepower at the drawbar and 20 horsepower at the pulley. But it weighs less than 3200 pounds. The

Cleveland Tractor

travels on its own tracks, like the giant "tanks" on the battlefields of Europe, and will go practically anywhere. With 600 square inches of traction surface constantly on the ground, it goes through mud, sand, clay and gumbo without miring, floundering or packing the soil.

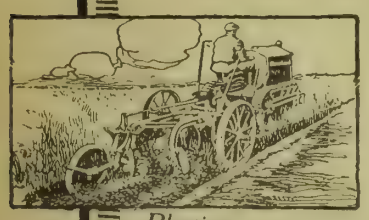
It steers easily—by the power of its own engine,—and will turn in a twelve-foot circle. It is so small that it can readily be operated under and among small fruit trees. It requires less housing space than a horse.

Rollin H. White, the well-known engineer, designed the Cleveland Tractor. It is built under his supervision—from the best materials. Gears and tracks are protected from dirt and mud, and are specially built for long service.

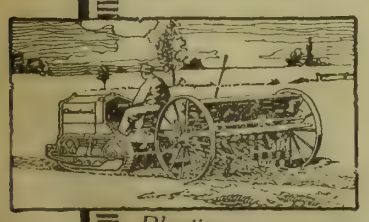
Let this modern "Man-of-all-Work" fill the gaps on *your* farm. Let it help you produce larger crops, with less help—and incidentally make greater profits for you. Write us now for detailed information and the name of the nearest Cleveland dealer.

THE CLEVELAND TRACTOR COMPANY
19079 Euclid Ave., Cleveland, O., U. S. A.

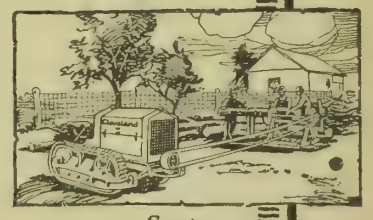
The largest producer of crawler type tractors in the world.


Plowing

Harrowing

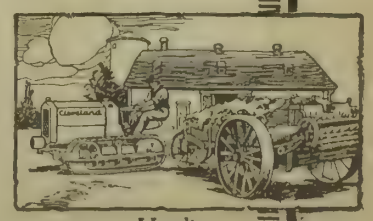

Planting

Reaping


Sawing

Grading

Orchard Work


Hauling

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Henderson Camp Ranch of Lockeford is preparing now for official tests this fall. It has 250 purebred Holsteins.

The Bonita Stock Farm of Lodi has 145 head of registered Holsteins and is preparing to make some good records this fall.

Last year 15 acres of rather poor land not on the river bottom yielded 181 tons of milo silage on the Hopland Stock Farm in Mendocino county.

The branch house of Petaluma of the California Central Creamery handles about 3000 gallons of cream per week and about 70 cases per day of eggs.

Dairy Inspector C. A. Peairs of Tulare county declares most of the dairymen in the county are making money and able to proceed nicely with development work.

Sunshine Farm, Merced, has purchased a new herd bull, a great grandson of Sophie 19th of Hood Farm. They expect to line-breed with him and their present herd bull, Lorna's Exile King.

Gotshall & Magruder of Ripon received by express lately Mabel Haskins, a two-year-old heifer, from J. H. Harlan Co. of Woodland. She is a daugtter of a 32-pound cow and has a 33- and 32-pound sister.

H. E. Cornwell of Modesto thinks he found a bargain at the last Sacramento sale in the heifer, Ester Hengerveld of Lenwood. He is very proud of the first calves from the bull, Johana De Kol Ragapple. They will show at Modesto.

J. H. Harlan Co. of Woodland has four daughters of King Mead that averaged 22.75 pounds of butter in seven days, one being a junior two-year-old with a record of 23.9 pounds of butter in seven days and 279.47 in ninety days.

Of the 45 daughters of Ragapple Imperial Korndyke which are owned by the Palo Alto Stock Farm, the first to be tested made 23 pounds as a three-year-old. The bull is now owned by Brown & Daniels of the Baden Stock Farm, Colma.

The wholesale price of certified milk from the Sleepy Hollow Ranch at San Rafael is forced to go up five cents per gallon to meet increased costs of production, according to P. H. Davis. Baled alfalfa is costing $16 to $19 per ton plus freight to San Rafael. Suremilk costs $46 per ton plus freight from Stockton, men to put up the grain hay on the ranch cost $4 per day, and milkers in proportion more.

E. Fiaccadon, manager of the Parmesan Cheese Co., Valley Ford, says they made more cheese in the three months while there was green feed than in the other nine months of the year. In May they handled 40,000 pounds milk, but in June they would not handle more than half that amount. This company has just shipped out three carloads valued at about $30,000. They keep this cheese in storage for one to two years before shipping.

The Register of Merit certificate for the Jersey cow, Interested Jap's Santa 296928, owned by the University of California, has just been received from the American Jersey Cattle Club, showing that she produced during the lactation period ending January 3, 1918, 13,308.5 pounds milk and 805.72 pounds butterfat, average per cent 6.05, at four years two months at beginning of test. But for a setback owing to throat trouble, her record would doubtless have been much larger.

The chances are favorable for T. S. Glide of Davis to show some of his fancy young Shorthorns at all of the fall fairs. The splendid new two-year-old bull, Count Amaranth, will not be on exhibition except at home, where he is being used on the foundation stock, but some of his sons and daughters are fine specimens for the purpose. A red bull calf by Knight's Perfection and a white heifer, two years old, by the same sire, are slated for show. Some yearling heifers and young bulls already indicate winning type and condition.

Swine and Swinemen.

J. W. Wakefield of Acampo will show about fifteen head of Poland-Chinas at the State Fair.

W. H. Browning of Woodland, breeder of big type Poland-Chinas, shipped on the steamer City of Para, going to Peru, one gilt and one young boar.

H. L. & E. H. Murphy of Perkins are fitting two Berkshire boars for the State Fair. They have a white Shorthorn bull calf that will make a real show bull if handled properly.

Young & Clark of Lodi have recently received a fine boar from Audubon, Iowa. This boar's name is Golden State King and is sired by the famous Golden Gate King. He will be shown along with twenty more at the State Fair.

A. L. Tubbs of Calistoga hopes to show at the fall fairs 25 or 30 Yorkshire hogs and pigs, including a couple of junior yearlings, some senior pigs, get of sire and produce of dam, but no senior yearlings.

The only daughter of the Duroc boar, Defender, in California is owned by F. M. Johnson of Napa, who has a litter of pigs from her sired by his boar, Johnson's Defender, the 1917 State Fair junior champion. Defender blood has become very popular in California.

Thirty-three head of weanling gilts were recently sold to the Sutter County Farm Bureau for the Pig Club. Anchorage Farm is offering a prize of a grandson of Star Leader to the one who makes the best record with their pig. A Star Leader gilt was sold to A. N. Blackmer of Utah.

F. M. Johnson of Napa says he will take a dozen Duroc pigs to the State Fair, but practically no sows, as he is breeding them to increase the herd as rapidly as possible. He now has six sows, five of them winners at last year's State Fair. He expects to get three more and to raise for his own herd three of his best gilts.

The Highland Stock Farm of Fair Oaks has recently sold a Chester White boar to Ren Featheston of Lompoc, also two gilts to the Misses Joeger of Clarksville, a gilt to E. C. Phoenix of Fair Oaks, two gilts to George Knoth of Susanville, two gilts to Frank Maderas of Fair Oaks and two boars to G. L. Stock, Napa.

Purebred Durocs of high breeding and fine type were recently observed eating barley from the ground in a dust that was stifling. The feeder wasn't a German, but he was helping Germany by wasting good barley possibilities and weakening good hogs. Grain hay and alfalfa made beds of ease for the hogs over a considerable part of the yard.

George V. Bukman & Sons have 350 medium type Poland-China hogs on their ranch near Lodi. They recently sold a boar to J. B. Bare of Lodi for a very good figure. They also shipped two cars of fat hogs to market which dressed 81 per cent, bringing them a premium of a little over $3 per head, which goes to show that purebred stock pays even for butcher purposes. They expect to have a nice show herd at the State Fair.

Beef Cattle.

A. H. Clough of Los Molinos reports plenty of feed for his 750 head of beef cattle.

Dr. H. S. Elberg of Woodland has 100 registered Shorthorns and expects to show at San Francisco.

Seven hundred and fifty head of Shorthorns are owned by J. J. Kennedy of Red Bluff. Mr. Kennedy is satisfied with feed conditions.

D. M. Horn of Hornbrook has 500 head of Herefords. He uses registered Hereford bulls and reports plenty of feed to run them this year.

H. D. Ogden of Alpine has 300 head of registered Herefords and reports the sale of 30 registered Hereford cows to Foster Bros. of Ramona, Cal.

Hearst Estate of San Luis Obispo county has 3000 head of Shorthorns and Herefords. They are in very good condition. The Hearst Estate always uses purebred bulls.

B. W. Smith of Mrs. E. H. Ewards' herd of Lone Pine reports good feed for their 500 head of Herefords. They received recently 12 registered bulls from Kansas.

W. E. Miller of Sierraville, Cal., informs us that in Sierra Valley there are about 20,000 head of cattle and feed conditions are the worst in thirty years. Hay crop 33 1-3 per cent of normal.

White & Tarry of the Glenwood Ranch, Sacramento, have sold 16 registered Shorthorn yearling bulls which averaged $225, some going to Nevada and Oregon, others to other parts of the State. They have about 60 head of purebred Shorthorns. Their head sire was imported from Rapp Bros. of St. Edward, Neb., and won first as junior yearling the only time he was ever shown.

Sheep.

E. C. Spear of St. Helena cuts one crop of hay from his unirrigated alfalfa and then lets sheep run on it. They do well on the stubble.

JERSEY BREEDERS

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited.

A. A. JENKINS, R.D. 1, Tulare, Cal.

VENADERA HERD
REGISTERED JERSEYS

Young bulls from dams and granddams in Register of Merit.

GUY H. MILLER, Modesto, Cal.

YOUNG BULL CALVES

Fine individuals, with Register of Merit backing.

T. B. PURVINE, Petaluma.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit cows. Write for information.

W. J. HACKETT, Ceres, Cal

A. W. MORRIS & SONS'

SALE

POSTPONED

WATCH FOR ANNOUNCEMENT OF THIS SALE WHICH WILL BE HELD THIS FALL

California Breeders Sales and Pedigree Co.
SACRAMENTO, CAL.

A Marvelous Double-duty Silo Filler

Fills Silos Quickest! Cheapest! Easiest!
Makes TEMPTING, High Grade MEAL

Write at Once—Wonderful New Smalley Book Free

This book shows how thousands of shrewd farmers are fattening hogs, cattle, sheep and poultry with meal made quicker, cheaper, easier, better than ever before—how they're selling their A-1 hay, milling off grades—how they're making clover, corn stalks, snapped corn, straw, bean straw, pea vines, oats, rye into corking good combination feeds—how they're cutting down their feed costs 1/5 to 1/3—with the famous Smalley and the patented Recutter Attachment—two machines in one!

Astonishing capacity! 600 to 900 lbs. per hour with Junior Mill and 6 to 8 h. p. engine. Cracks peas, corn or velvet beans. 1080 to 2340 lbs. of meal per hour on sizes 12 to 26.

SMALLEY SILO FILLER

Chain Drive—Force Feed Grip Hooks

Powerful grip hooks save man-labor. They catch the corn—shove it automatically under the paddle roller and the swift revolving, lawn-mower-like, bevel-edged knives do the rest! No grinding—no pounding—no waste. Turns out fine, uniformly-cut ensilage of unbeatable richness. Increases tonnage! Four sizes of alfalfa cutters with top apron.

Chain Drive Blower, a big power saver! Does away with belt wear and belt slippage. Blower operates independently of knives. Speed up fan or slow it down—speed of knives remains the same. That means more power saved. 1-5 to 1-4 saved in power alone—and with a machine that operates easiest, gives best results, is the most economical buyable!

If you're ever going to SAVE on Ensilage and feed, NOW is the time! So write for free book at once—now—before you close up for the night! Free sample of meal with book!

PACIFIC IMPLEMENT CO., Gen. Agts., San Francisco, Cal.

SMALLEY MFG. COMPANY, Dept. 63, Manitowoc, Wis.

The C. H. & O. B. Fuller Co. has bought the Jalama ranch in Santa Barbara county, which they had previously leased five years from the Dibblee people.

LIVESTOCK DIRECTORY.

SWINE.

Poland-Chinas.

HAVING RECEIVED SHIPMENT of several fine gilts from the East, will offer three fine gilts and one sow bred for late farrow. Good ones at fair prices. Booking orders now for spring farrow from the finest bunch of sows we ever owned, and the Great Big Bone Bob. Young & Clark, Lodi, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money -makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings county, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES — The Easy Feeding Mellow Type. All bred sows and gilts are sold. I have 15 gilts that were farrowed in May, 1917. These will be bred for September farrow. All are sired by Billiken. One young service boar that is just 13 months old. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

BERKSHIRE GILT FOR SALE—An outstanding pig, just old enough to breed; guaranteed to please. Glenwood Acres Stock Farm, Paso Robles, Cal.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRE PIGS—A grand lot now ready for shipment; very best of breeding; $15 to $25 each. Twin Oaks Ranch, Linne, Cal., near Paso Robles.

BERKSHIRES—Only a few choice young boars and gilts offered for sale at present. R. J. Merrill & Son, Morgan Hill, Cal.

FOR LACK OF TIME we are closing out our stock. Brood sows, gilts and young pigs. Alfred Rasmussen, R. 1, B. 501, San Jose.

MODEL HERD BERKSHIRES — Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, Box 724, W. Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California

Duroc-Jerseys.

FOR SALE—Two King Colonel yearling boars sired by King Colonel, dam Crimson Wonder. Good enough to head any breeder's herd Price $200. Two very typey fall boars and several fall gilts. H. P. Slocum & Son, Willows, Cal

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

RANCHO DEL SUR DUROCS—An exceptionally good December boar. Also few spring boars and gilts. Donald Graham, Lancaster, Cal.

BOUDIER DUROCS sold out excepting some choice boars ready for service. Breeding and satisfaction guaranteed. H. E. Boudier, Napa.

HERD HEADED by Mandy 13's Taxpayer. I am now booking orders for weaned pigs for June delivery. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY weanling sow pigs from champion stock. River Bend Farm, St. Helena, Cal.

DUROCS—Defender, Clinton B. and Golden Model strain; the big type. Allen Thompson, Tulare.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DOS HERMANOS DUROCS—Boars, gilts and weanlings. Hans Duveneck, Ukiah, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

BREEDER OF REGISTERED HOLSTEINS—Choice young bulls and heifers by Prince Lunde Korndyke. E. R. Putz, Kingsburg, Cal

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

YOUNG HOLSTEINS—Hengerveld De Kol blood. T. B. King, Visalia.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

Jerseys.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production our aim. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

Guernseys.

FOUNDATION HERD A. R. GUERNSEYS—Two head A. R. cows and young bull; dam 654 b. f. and three-year-old sister 684 lbs. Address "Inquiries," 511 First National Bank Bldg., Berkeley, Cal.

HIDDEN VALLEY FARM GUERNSEYS—Herd headed by Argies Prince, first prize at Sacramento, 1917. Bull calves for sale. A. J. Welch, Redwood City, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

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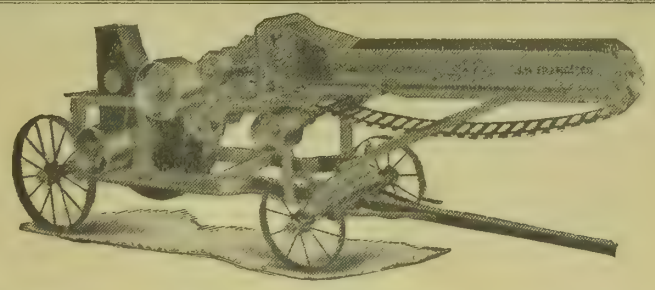

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BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers, and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Mayfield, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

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SUCTION-FEED CREAM SEPARATOR

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The Sharples Separator Co. West Chester Pennsylvania

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REDWOOD TANKS.

35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.

R. F. WILSON, Stockton, Cal.

HORSES AND MARES for sale. Address Thos. C. Still, La Panza, San Luis Obispo county, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glen county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

ELDERSLEY FARM—Grand champion Angus cattle—Poland-Chinas. Fall boars and weaned pigs, big type, breeding of the best; excellent individuals; prices reasonable. B. B. Ware, Live Oak.

FEED FOR STOCK may be had on 640-acre homestead and adjoining land or Indian land. For free particulars write Joseph Clark, Sacramento.

Red-Hot Cattlemen's Convention

[Written for Pacific Rural Press.]

For a real convention where real producers really discuss their problems and really accomplish what they went for, the California Cattlemen's Convention at Davis, June 27 and 28, stands out as one of the most successful farmers' conventions held in California. Permanent organization was accomplished, with Acting President L. A. Nares and Secretary D. J. Stollery to continue in office until the first election next fall. The State is divided into five districts, each of which is to have a vice-president and a manager. The meetings were red hot. The discussions came spontaneously from men who knew what they were talking about. The rest of the delegates paid strict attention to the speakers and voiced their approval or disapproval with perfect democracy.

RESOLUTIONS WITH TEETH.

The resolutions as finally adopted have real teeth in them and they fairly represented the great majority of the delegates present from the various local cattlemen's associations from Siskiyou to Imperial counties. These resolutions will surprise many people and we print them in the brief space allowed for this report. Other reports of the papers and discussions will follow in later issues.

The dominant and frequently recurring note throughout the convention was that the first purpose of the cattlemen is to win the war; that to do this, as well said by former President D. B. Heard of the National Livestock Association and now a member of the Livestock Committee of Five in the National Food Administration, to win the war we must keep all essential industries in a prosperous and profitable but not profiteering condition, and each industry must consider its relation to the others.

Resolutions were as follows:

In favor of arranging the price of cottonseed cake and meal on the basis of so much per each percentage of protein it contains.

In favor of dehorning cattle because on those shipped East the value per hundred pounds is reduced 50 cents to $1.50 on account of horns.

In favor of charging condemnations of tubercular cattle to their owners rather than to the industry at large, as is done at present.

In favor of requiring that all bulls sold within the State be tested and free from tuberculosis.

Against planting so many cantaloupes in Imperial Valley and in favor of using the land for alfalfa or grain. Over three times as much labor is required for cantaloupes as for grain.

In favor of putting all the public domain under control of the U. S. Forest Service to handle by similar rules to those now applying to the forests.

Against the importation of Chinese labor.

Against turning any bulls except purebreds onto the open range. (Definition of purebred bulls to be covered in separate article.)

Against burning or using as fertilizer the straw from grain, beans, or rice this season and next, and for use of such straw as feed.

For hearty co-operation with the State Cattle Protection Board in early full enforcement of the Hide and Brand law.

For the return of Yosemite and Sequoia National Parks to park uses only, after the war emergency has passed. Over 15,000 head are now grazing these parks.

Against the auctioning of carloads of fat cattle, as recently attempted.

American Guernseys 22 Generations

To the Editor: Although the present popularity of Guernseys in America is a matter of comparatively recent growth, so that our animals shortly trace back to Island stock, still there were Guernseys in this country as early as 1840, and it may be interesting to note that some of our present day animals can be traced back twenty-two generations to them, as is evidenced by the following from the American Guernsey Record Books:

Name—	Born
Nellie Tostevin of Hidden Valley	1918
Sired by Argie's Prince (41398)	1916
Sired by Dairymaid's Prince (26353)	1913
Sired by Dairymaid's Pride of Iowa (14941)	1909
Out of Dairymaid of Pinehurst (24656)	1906
Out of Dairymaid of Elm Place (14197)	1898
Sired by Penwyn (4500)	1895
Out of Viotress (5626)	1889
Out of Victorine 4th (2547)	1885
Sired by Tabasco (451)	1881
Out of Fustic (481)	1880
Sired by Jeweller (117)	1877
Out of Worthy Beauty (295)	1868
Out of Pert (294)	1865
Sired by Coal (111)	1863
Out of Daisy B. (35)	1861
Out of Fanny B. (19)	1854
Out of Winny (18)	1852
Sired by General Taylor (3)	1849
Sired by Gibson's Bull (2)	1844
Sired by St. Patrick (1)	1841
Out of Imp. Fenella (2)	Imported Sept. 26, 1840 in the schooner Pilot to N. Y. with Jeanne Deans (1), dam of Gibson's Bull.

How very far back this goes can be brought to our minds when we consider that if one were willing and able to write a complete pedigree of Nellie Tostevin of Hidden Valley back to and including the generation of Imp. Fenella, he would have the rather arduous task of writing 4,195,303 names. If a human generation were counted as twenty years, an equal number of generations would date back before Columbus' discovery of America.—A. J. Welch, Hidden Valley Farm, Redwood City.

K P TOLA JOE RECORD.

K P Tola Joe is now the second highest record three-year-old daughter of The King of the Pontiacs for 30 days and fourth highest of all of the King's daughters. This has come from her record recently finished by Gotshall & Magruder of Ripon of 123 pounds butter in 30 days and 31.92 in seven days. K P Tola Joe made 27.15 as a two-year-old, which is still the State record. She is now being bred to W. J. Higdon's bull, King Korndyke Pontiac 20th, for a $500 service fee, as Gotshall & Magruder offered at the sale when Higdon got the bull. Her daughter was sold as a seven-months calf for $1,450 to John Benoit of Modesto. Her recent calf is also a heifer.

JUDGE RAMS BY LAMBS.

Judge a ram by his lambs, is the philosophy of Robert Gibbons of Mendocino county. He was much dissatisfied with a Rambouillet buck lamb obtained from a Napa breeder, until the lambs developed. In shearing them the effect of this ram was so noticeably good that he and his neighbor also went back to the Napa breeder for more.

Humboldt county, even, is feeling the effects of the drouth to some extent. Last month 47½c was paid for butterfat.

MORE GRAND CHAMPION
SHORTHORNS
have been bred by myself and used on my range herds than any other breeder on the Coast has used on his foundation herds. That is strong language. Here are the names:

Hillcrest Hero	Grand Champion, State Fair, 1904
King Edward	Grand Champion, State Fair, 1905
King Edward	Grand Champion, State Fair, 1906
King Lancaster	Grand Champion, State Fair, 1909
King Lancaster	Grand Champion, State Fair, 1910
King Lancaster	Grand Champion, State Fair, 1911
Greenwood Knight 2nd	Grand Champion, State Fair, 1912
Greenwood Knight	Grand Champion, State Fair, 1913
Greenwood King	Grand Champion, State Fair, 1914

All of these except Hillcrest Hero and King Edward were of my own breeding and all except King Edward have been used on my range herds, all of which have always been purebred since the foundation of registered stock was obtained by my father in 1872. Service bulls from these grand champions and other bulls of almost equal merit are for sale now.
HILLCREST STOCK FARM THORNTON S. GLIDE, Prop. DAVIS, CAL.

CARRUTHERS FARMS
MAYFIELD, CAL.
City Address: HEARST BUILDING, SAN FRANCISCO
Shorthorns and Berkshires
At this time we are having a great demand for Berkshires, and while we are pretty well sold down, yet we can supply your wants. Write for prices.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

FOR SALE
75 Highgrade Yearling Shorthorn Bulls 75
10 REGISTERED BULL CALVES 10
Imported from Missouri last spring. For particulars address
MILLER & LUX Dos Palos, Cal.

HOPLAND STOCK FARM
HOPLAND, CAL.
Shorthorns and Berkshires
WRITE FOR FULL PARTICULARS
San Francisco Office: 226 Southern Pacific Building

Shorthorn Bulls
Four Head—Two to three years old.
Six Head—Ten to twelve months old.
BRIGHTON FARM HERDS.
H. L. & E. H. MURPHY PERKINS, CAL.

Fine Typey Young Milking Shorthorns.
Selected from my fathers herd, which was founded with Lewis & Clark exposition stock, including three bulls from Ladd of Portland, Oregon, and was increased with stock from Goethe of St. Helena.
A FEW YOUNG BULLS FOR SALE
W. T. ROBERTS, Prop. Willow Brook Farm PENN GROVE, CAL.

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING COMPANY LOS ANGELES

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Clean and Clear as Water
For Contagious Abortion

Awarded Gold Medal Pan.-Pac. Expo.
Thorough use of B-K as outlined in our Bulletin 52, "Contagious Abortion," is the surest means known of controlling Contagious Abortion, preventing Barrenness, and removing Retained Afterbirth.
Complete irrigation of the uterus and vaginal tract is easy with B-K. B-K kills the infecting germs and foul odors—heals the uterus—removes the slime and acid—no irritation—no straining. B-K is much more effective and safer to use than lysol, carbolic acid, Lugol's solution or coal-tar disinfectants, which do not cleanse the uterus, but make it more acid.
If your dealer does not have B-K, send us his name.
FREE BULLETINS: Send for complete information—"Special trial offer" and bulletins No. 52, "Contagious Abortion," and No. 136, "Calf Scours."
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Organization of California's Dairy Industry

(Continued from first page.)

yet, but making the right start and destined to become just as powerful a factor in its field.

The Associated Dairymen of California—that's the official name. But this name is rather misleading, for it is not an association of individual dairymen. It is an association of creameries and milk producers' associations—the central organization for the State, with headquarters at Sacramento.

LOCAL MILK PRODUCERS' ASSOCIATIONS.

But let us first consider the local associations. The State is divided into districts according to geographical lines and the bovine population, and in each district a milk producers' association is organized. The purebred breeders and dairymen are appealed to and almost without an exception they become the incorporators of the association, which is formed on a non-profit, co-operative basis. Solicitors are then sent out in the field to explain the movement to dairymen and give them an opportunity to join. Each one who joins pays a membership fee of $5 for each cow owned by him, provided he has at least ten cows, as the minimum fee is $50. If his herd is afterwards increased he pays on the increase at the rate of $5 per cow, but not until after the herd contains ten cows.

Very liberal terms are allowed for the payment of the membership fee. Only 10 per cent is required at the start, and of the remaining 90 per cent one-half is payable in one year and the other half in two years, with interest at 6 per cent, payable semi-annually. Provision is made, however, for paying these amounts off at the rate of five cents per 100 pounds of milk or one cent per pound of butterfat sold by the member; also for refunding the membership fee if the dairyman goes out of business.

MISUSE OF FUNDS CAREFULLY GUARDED AGAINST.

To prevent the misuse of funds, the by-laws stipulate that only the 10 per cent of the membership fee paid by a member when he joins may be used for organization, promotion and general expenses. The entire remaining 90 per cent must be used only for the purchase of property or equipment or investments of a similar nature.

The property rights of each member are in the same proportion as the amount of the membership fee actually paid by him bears to the total of all membership fees paid by all members of the association. But the voting powers of all members are equal, so that the small producer has just as much voice in the management of the association as the large one.

The general affairs of the association are in the hands of a board of directors consisting of eleven members, one of whom is the State Market Director or someone named by him. A manager is appointed by the directors.

The expenses of maintaining the association, such as rent, salaries, taxes, insurance, office and inspection expense, advertising, etc., are distributed over the entire volume of business done, and charged to each member according to the amount done for him. The association decides where plants are necessary, and if one is already in operation at a point decided upon an effort is made to buy it out. A fair price is offered, but if it is not accepted a new plant is built.

EXPANSION OF ACTIVITIES.

However, the new plants erected are more than mere creameries and milk depots, and the creameries purchased will be enlarged so as to turn out a variety of dairy products. For instance, the Northern California Milk Producers' Association, which covers the Sacramento Valley, has announced that it will build a large plant at Sacramento at a cost of $150,000, and each of the seven other associations in the State will soon follow suit. The Sacramento plant, and probably each of the others, will have a capacity of 20,000 pounds of butter daily and will be able to handle from 50,000 to 100,000 pounds of milk. Also it will put out cheese, sugar of milk, canned skim milk, powdered skim milk, condensed buttermilk, albumen, casein and other products that may be made from milk.

It is natural to suppose that with such plants the associations will be able to control the dairy industry of the State; in fact, it is claimed that in every district so far covered from 75 to 90 per cent of the dairymen have joined the movement.

BENEFITS OF MEMBERSHIP INNUMERABLE.

And why shouldn't they? For the benefits to be derived from a membership are almost innumerable. Each association will help its members in the proper breeding, feeding, housing, and handling of their herds; the best methods of milking and caring for milk and cream so that a proper standard of quality may be maintained and the consumer can be assured clean, wholesome, pure milk, cream, butter, cheese and other dairy products.

With the aid of the central organization—the wheel within the wheels—the association will make a careful study of the dairy industry in all its phases; carry on an educational campaign which will cause the consuming public to have a better appreciation of the food value of dairy products, and increase the demand for them; standardize the products and market them upon a more uniform plan, which will reduce the selling expense and return a better profit to the producers.

A FORCEFUL, HELPFUL PERSONALITY.

It is said that every institution is but the lengthened shadow of one man, and it is unfair to close this article without paying a tribute to Mr. J. M. Henderson, Jr., of Sacramento, whose foresight, judgment, skillful planning and tireless energy have been largely responsible for the success of the movement. Although he is president of several banks and a man of large interests, Mr. Henderson has found time, not only to sit at directors' meetings, but to get right out into the field, address gatherings of dairymen, show those present by carefully prepared figures that they were not making enough money, and convince them that he had the right plan to bring them a greater measure of Prosperity.

The name of Mr. Henderson as president of the Associated Dairymen of California is a guarantee of the success of the movement, but aside from this it is founded upon such sound business principles that it is bound to sweep the State like a tidal wave, revolutionizing the dairy industry and put it upon a stable, highly profitable basis.

This is a 750-pound latest style

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CREAM SEPARATOR

Acknowledged by cow owners the world over to be the closest skimming, the easiest running and the longest wearing separator

360 pounds of butter would have been needed to buy this machine in 1914.

255 pounds of butter will buy it now.

96 bushels of wheat would have been needed to buy this machine in 1914.

55 bushels of wheat will buy it now.

139 bushels of corn would have been needed to buy this machine in 1914.

87 bushels of corn will buy it now.

There never has been a time when you needed a De Laval so much. There never was a time when you could so well afford to buy it. Don't waste food and money and time trying to get along without a cream separator, or with a half-worn-out or inferior machine. Order your De Laval NOW when you need it most.

Why not see the nearest De Laval agent at once? If you do not know him write to the nearest office for new catalog or any desired information.

DE LAVAL DAIRY SUPPLY CO.

LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST. Alpha Gasoline and Distillate Engines, Ideal Green Feed Silos, Acme Ensilage Cutters and Blowers, Irrigation Equipment, Centrifugal and Deep Well Pumps and Alpha Spraying Outfits. Catalogs of any of our lines mailed upon request.

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B-K keeps rubber tubes and teat cups sweet and clean. It penetrates milk solids and makes milker parts easier to clean—kills the bacteria that spoil the milk.

B-K leaves no taint or taste of itself—makes rubber parts last longer—does not injure metal—is the cheapest in actual use. Sold under absolute guarantee.

Recommended by all Milking Machine Manufacturers

B-K has been used by thousands of milking machine owners, including certified milk producers, with complete satisfaction for over six years. It is the original purifier.

Get B-K today—end cleaning troubles and sour milk losses. If your dealer does not have B-K, send us his name with your order. We have a dealer near you.

Send for information — "trial offer"—and dairy farm bulletins.

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COWS WANTED

Would like to rent for few months a number of first-class Holstein or Durham cows. Have fine ranch and plenty of feed. Write to

OAKWOOD STOCK FARM Lathrop, California

Green Feed and Housings for Hogs

[Written for Pacific Rural Press.]

Succulent feed the year around is provided by F. M. Johnson of Napa for his Duroc sows and pigs. Golden Tankard beets fill the gap when grain and alfalfa fail. From one acre last year Mr. Johnson took 30 tons of the Tankards. The alfalfa and grain are provided in enclosures into which the pigs are moved from the farrowing house at the age of two or three weeks—not sooner because some of them would get lost. The feed alley runs along one edge of an alfalfa field at the base of a hillside. This is disked and sowed to oats for winter pasture. The hillside is planted to grain and fenced off in lots about 50x150. Two of these will open onto each alfalfa lot 100 feet wide.

An A-type house is located in each grain patch. The idea for the houses was obtained from Guilford's California Hog Book. They are about square, with roofs sloping from the floor to the peak. Redwood lumber was used, being tongue-and-grooved for the roof. Four men can pick up a house and carry it off. The bill of lumber for each is given us by Mr. Johnson as follows: 15 pieces 2x4, 8 feet long; 3 pieces 4x4, 8 feet long (for skids); 64 feet 1x12, 16 feet long; 300 feet 1x6, tongue-and-groove.

The skids keep the house off the ground and permit easy moving to fresh locations. The front is half open. The floors are solid. The lumber cost $26 for each house. Six more are to be built.

Soft Corn for Hogs

[Written for Pacific Rural Press.]

We used to mix old Indian corn with the new crop when commencing to feed the latter to hogs, because we thought digestive disturbances would follow a sudden change. But R. F. Guerin of Tulare county and C. T. Brooks of Kings county are among those who have had no ill results from feeding soft corn without a gradual change. Mr. Brooks has only a few, but to these he has fed roasting ears in September without injury and has fed soft corn through the fall until it ripened. During the past three years Mr. Guerin has fed milk and barley to hogs until silage cutting, when he picked ears from the stalks, threw them in a pile and fed pigs nothing else all through silage cutting and for a week after. The pigs did fine, though there was no gradual change. M. Bassett of Kings county turns registered hogs into his corn field when it is a little too mature to cut for silage, but when it would be cut to shock for fodder in the East. R. H. Frazer of Stanislaus county took two-thirds of the ears from corn cut for silage and fed them to hogs.

COLT HAS BLADDER TROUBLE.

To the Editor: Am mailing you in a small container under separate cover a sample of a formation found in a yearling colt's bladder. We have lost one or two every year with the same thing. They are all right, apparently, when turned out on grass and in a short time, usually about a month, begin to get poor and stay alone and just keep going down until they die.—J. V. C., Canby.

This condition is known as cystitis, or catarrh of the bladder, but we believe this to be secondary in nature. The primary condition is most likely to be found in the intestine of the abdomen. The tissue you found in the bladder is a fibrous membrane of the bladder that has formed due to irritation, and is later sloughed off. The treatment is absolute rest, non-stimulating food, and plenty of fresh water. Sixty grains of urotropin should be given in 24 hours, divided in two doses and continued until improvement takes place, when the dose may be cut down to 15 grains morning and night. Give at all times large quantities of thick flaxseed tea.

RED CROSS BULL CALF BROUGHT $3,900.

The typey young red Shorthorn grandson of Whitehall Sultan, donated by the Butte City Ranch to be auctioned for the benefit of the Red Cross at the California Cattlemen's Convention, Davis, June 28, was first sold to the Inyo County Cattlemen's Association for $2,200. The Inyo people donated him back at once and the Trinity Cattlemen's Association bought him for $1,700. The new owners have asked that he be kept at University Farm to be auctioned at the State Fair for the Red Cross. If he is donated back there, he will be auctioned at Oakland, Los Angeles, and San Francisco shows so long as the buyers redonate him.

VETERINARIANS,
Anti-Hog Cholera Serum
GREEN-LEAF
THE GREEN-LEAF SERUM CO.,
401 Bryson Bldg. Los Angeles, Cal.
has no superiors, from results obtained, out of thirty millions cc of serum made a year.
If you are a user of serum, drop us a line and we will tell you something privately on hog cholera, worth your time and postage.
Listen: Do this to-day. It's for you!

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DUROC-JERSEYS
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Popular sizes: Length 40 inches, diameter 10¼ inches, depth 5⅞ inches, price $3.25; and length 120 inches, diameter 14 inches, depth 7⅞ inches, price $8.30. Other lengths 24, 30 and 60 inches in either depth and diameter.
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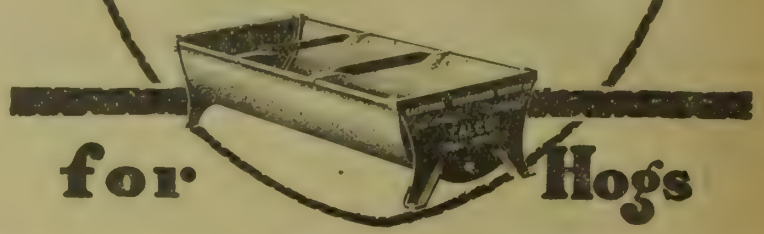
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By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:
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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

PREPARING FOR FALL HATCHING.

I am wondering how many are acting on the advice given about fall hatching. With eggs now at 38c case count in Los Angeles the story of shortage is read between the lines. There have been several reports this season tending to show that as soon as storage eggs were all in prices would slump, but such has not been the case. Prices have held in spite of everything. So it would seem as though we should take all the reports we hear with a grain of salt. This war is educating people in food values and just about everything but eggs and poultry, and it seems that someone with voice enough to be heard should speak up for the poultry and egg business. With careful feeding and strict culling it is possible to make money with poultry at present prices, even though they go no higher; but at fifty cents, which eggs ought surely to bring during the late fall and winter months, a man cannot only live but make enough to pay him to stay in the poultry business.

GIVE PLENTY OF SUCCULENT FEED.

Plenty of green feed, not too watery but just succulent and tender enough to be relished, is the one great aid in the production of cheap eggs, and this cannot be repeated too often, because new readers are all the time looking for some way to help out the high cost of feed. A good stand of alfalfa will feed a good many hens, especially when it can be cut into small lengths in a feed cutter. Mix it with the mash and moisten slightly, and every bit of it will be cleaned up.

The next best green feed is kale or rape. These are rapid growers when supplied with water, and can be cut in the feed cutter and served the same way as alfalfa. Anything that grows quickly is always better than a slow-growing green feed. The latter is nearly always tough and contains so much fibre that it is hard to digest. Hens cannot use fibre; it merely taxes the system to get rid of it. A small patch, well irrigated and kept in good shape, will go much farther in food value than a larger patch that is dry and tough.

SUGAR BEETS OR MANGELS FOR FALL FEEDING.

For fall feeding a good patch of sugar beets or mangels are the best thing for molting hens; and it is not too late to plant yet if you have water. Soak the seeds and sow in moist soil, lightly covered, and they will be up in a few days and grow very rapid these warm days. Mangels are superior to other vegetables for molting hens. Last year somebody complained that mangels caused sickness in their chickens. If they did it was probably because they had been stored and had become dry and indigestible.

WRY-NECK OR LIMBER-NECK.

To the Editor: Several of my chickens died lately with wry-neck or limber-neck. It would take more than a day before they would finally die. They were two and three-year-olds and appeared perfectly healthy before the attack. I was feeding freely of corn and they also got some smutty corn. Do you think the corn could have caused it?—E. J. A., St. Helena.

Smutty corn and hot weather are a combination that will do almost anything. One man in this locality lost a number of chickens and ducks both with moldy corn; and smut is about on a par with mold. There have been quite a number of complaints this season of smutty feed killing chickens of all ages and sizes. In cases of wry-neck or limber-neck I know of only two things that cause it, though the wry-neck is of itself only a symptom or sign of putrid animal food, generally maggots; and ergot, the poison from smutty or moldy grain. Unless you can stop the feeding of these things, remedies are of very little use. You might try giving a tablespoonful of castor oil to each sick bird, then keep warm and feed nourishing feed for a few days. Wry-neck is more directly a symptom of nerve or brain irritation than limber-neck, hence it is more difficult to treat. Limber-neck irritates the whole intestinal tract. Neither are contagious, and prevention is the best cure.

DISAPPROVES INTENSIVE POULTRY FARMING.

Edward Brown, president of the International Poultry Association and a resident of London, England, evidently does not believe in intensive poultry farming. Mr. Brown emphasizes the poultry-farm idea upon which to maintain a balance between plant and animal life. He would recommend a flock of 180 birds on a 60-acre farm. The growing stock to forage for much feed, and the breeders to be given wide range on new soil yearly. He stated that his investigations in the Vineland district of New Jersey showed the average life of the strictly intensive commercial poultryman to date to have been three years. He believes this condition will change only when breeding stock is farm grown, with wide range.

Mr. Brown believes in breeding from the high average producer, and not from the phenomenal layer. He places emphasis upon both the female and male strain in breeding for eggs, and recommends generally out crossing.

A PUZZLING CASE.

To the Editor: I have trouble with my three-months-old chicks. Some get sick over night and die in a day or two. They have a soft crop. Their comb gets almost black. When I hold their heads down water runs out their crop. Their gall-bladder is three times the normal size. Why is it that the young chicks eat so much of their own droppings?—P. S., Oakley.

Your description is not very clear, but the chicks evidently have some form of indigestion. Give the flock ten drops of tincture of nux vomica to one quart of water. You can give all the water they need, but use this proportion of nux vomica, and keep that up for a week, feeding as much green alfalfa or other tender greens as possible, and see that the chickens have a good feed of solid grain at night. Poverty of blood sometimes is to blame for this trouble. The chickens may have worms or be hungry when they scratch and eat their own droppings.

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue.

MISSION HATCHERY chicks all July; also booking orders full delivery; large or small lots; our specialties R. I. Reds, White Plymouth Rocks, Black Minorcas; also choice strains White, Brown Leghorns. Large capacity, modern plant, means high quality, low prices, promptness. Send for circular. Mission Hatchery, Campbell, Cal.

FOR SALE.—Day-old chicks. Order now for fall hatch. Delivered early in September. Rhode Island Reds, Plymouth Rocks, and Buff Leghorns. A limited amount of day-old ducklings on hand. Mrs. A. W. Archer, Stockton, Cal. R. F. D. No. 4, Box 110.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

INCUBATORS—BROODERS—All the highest awards at the P.-P. I. E. Free catalogue. Victor Incubator Co., 1378 Market street, San Francisco.

EASTMAN'S BRED-TO-LAY, Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS. The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W Park St., Stockton, Cal. Stamps.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

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"A FORTUNE IN RABBITS"—Have raised the price; we will pay to $8 per pair; want you to raise them for us; send stamp for particulars. H. E. Gibson Co., Arcadia, Cal.

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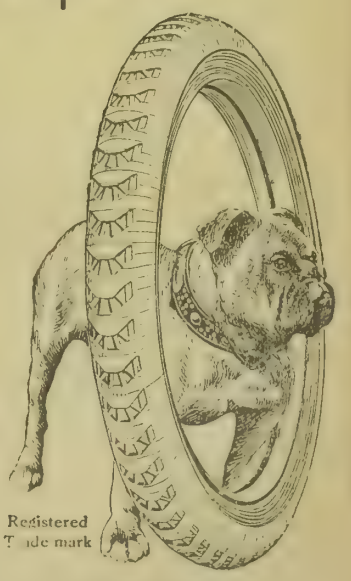

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Mrs. Best's Letter.

BIRTHDAY ANNIVERSARIES.

My Dear Friends: In these abnormal times it seems to rest largely with the mother of the household to keep the home life normal. The observance of all the holidays in which a family have a special interest is a duty and a privilege no mother should overlook. This is especially true of birthdays. We never grow so old that it doesn't bring a glow of feeling to be remembered on that natal day by pleasant wishes and something in the nature of a little celebration. It may be nothiug more than a favorite dish or a simple cake, but it can carry with it a message of affection.

THE CAKE.

In our own household a birthday would hardly be worthy of the name if there were not a birthday cake for the dinner. These cakes can be made quite festive in appearance by a little ingenuity and patience. Plain white frosting can be decorated with either pink or chocolate, or a chocolate frosting could have the name or date in white frosting with a delicate tracery of pink. This decorative frosting must be put on through a pastry tube and stiff white paper, rolled cornucopia shape makes a very good article to work with. If you want only a straight roll of frosting to ooze out, cut the end to make a small round opening, but if you want it to have it flow in a lined design, cut the end upward in four short slits. Then after you fill the tube and exert gentle pressure the design may be worked out to suit the individual. The cake frosting should be set before you begin with your decorations, or the whole thing may run and upset your well-laid plans. If you use a boiled icing, it needs to be a little stiffer than ordinary and personally I think the safest kind to use for that kind of work is the unboiled icing made from the white of egg and powdered sugar. You can buy all kinds of vegetable pastes for coloring so that your frosting may match your candles or the flowers used.

CANDLES FOR THE CAKE.

The small paraffine candles come in all colors—36 in a box—for 15c, and they may be pushed through the frosting if you do not own the little flower-like holders that are sold for that purpose. There are also large decorated cake boards on the market where the receptacle for the candles extends around the edge surrounding the cake. If the cake is for a grown-up, many times only one large candle is used—placing it in the center of the cake in a hole cut for that purpose.

If cake decorations seem too arduous, you can buy candy roses in various colors at two dozen for 15c that will make a very pretty cake.

ROSABELLA BEST.

THE AMERICAN LARDER.

WHEAT.

Home consumption of wheat flour must be cut to one-third of normal; and those who can do so are urged to give up wheat entirely.

MEAT.

The demand for beef for our army and the armies of the allies is beyond our present supply.

THE HOME CIRCLE

PERISHABLES.

Every meal in rural communities might well be made a garden party, using the home grown garden products to release the staple and concentrated foods for shipment.

CANNED GOODS.

It is not patriotic now to use canned goods when fresh products are available. Commercially-canned goods must be reserved for our soldiers. Every home can help by eating fresh goods and canning all they need for themselves.

DAIRY PRODUCTS.

Milk, cream and butter, with cheese, should be used freely to make up for the shortage of beef and supply the necessary protein and fat to balance a diet of fresh vegetables.

FRUIT SYRUPS.

Syrups made from grapes, apples and other fruits can be used in cooking or on the table to replace sugar to a great extent.

To clarify the fruit juice, heat to boiling and filter through a jelly bag until clear. Divide into two lots, representing one-fourth and three-fourths of the juice. To three-fourths of the juice add two ounces (three level tablespoons) of precipitated chalk per gallon. Heat to boiling and allow to stand over night. Filter through a jelly bag to remove the chalk. To the filtered juice add the one-fourth of the untreated juice. Boil the juice down to a syrup and seal boiling hot in bottles or jars. This syrup is low in acid and is suitable for use on griddle cakes, making gingerbread, etc.

Precipitated chalk can be bought from any drug store. If chalk is not used, the syrup will be very sour.

Visitor—My good man, you keep your pigs much too near the house.

Cottager—That's just what the doctor said, mum. But I don't see how it's a-goin' to hurt 'em.—Punch.

To the People of California:

★ ★ ★

TO CLEAR up any confusion that may exist in the minds of housewives concerning food conservation, the following definite program of food saving is issued with the explanation that frequent changes are made necessary according to the needs of the Allies and our own people:

1. All kinds of staple foods, especially wheat, meats, fats and sugar should be most economically used. Use substitutes for these four commodities.

2. No food should be hoarded. Hoarding is the holding, contracting or arranging for food by any person in excess of his reasonable requirements for use or consumption by himself and dependents for a reasonable time. This does not refer to stocks of home-grown vegetables and home-canned or preserved fruits.

3. All householders who can entirely eliminate the use of wheat until the next harvest, about September 1st, should do so.

4. Householders who are obliged to use wheat should not use more than a total of 1½ pounds of wheat flour or prepared wheat, in any form, per person per week, including the wheat flour in Victory Bread, and including the wheat flour or prepared wheat in crackers, pastry, macaroni, breakfast and other foods.

5. Victory Bread is bread manufactured by bakers under the rules of the United States Food Administration. In estimating flour consumption, 1¾ pounds of Victory Bread may be considered equal to 1 pound of wheat flour.

6. In buying wheat flour an equal weight of other cereals as substitutes for wheat flour must be bought pound for pound. This is the 50-50 Rule. In buying mixed flours, the substitutes in them may be counted so that a smaller proportion of substitutes may be bought with these flours than with white flour. In buying graham and whole wheat flours (containing not less than 95% of the entire wheat) 6/10 pounds of substitutes shall be purchased with every pound of such flours.

7. Wheat flour substitutes are hominy, corn grits, cornmeal, corn flour, edible cornstarch, barley flour, rolled oats, oatmeal, rice, rice flour, buckwheat flour, potato flour, sweet potato flour, soya bean flour and feterita flour and meals.

8. Householders in towns and cities may not buy more than ⅛ of a barrel of flour or 2 pounds of sugar at any one time. Householders in rural districts may not buy more than ¼ of a barrel of flour or 5 pounds of sugar at any one time. In no event shall any purchaser have more than 30 days' supply of either on hand.

9. Householders should not use more than ¾ pounds of sugar per person per week.

10. In addition to the above, however, sugar may be used for home canning, and will be available to the householder for that purpose upon signing a certificate that such sugar is desired and will be used only for that purpose.

11. No wheat flour, or prepared wheat in any form, should be used for any purpose other than human consumption.

12. Meats of all kinds, particularly beef, should be most economically used, eliminating all waste.

13. Fresh milk and milk in evaporated and condensed form and cheese may be liberally used.

14. Butter may be used for normal consumption.

15. To save transportation local supplies should be grown and used.

U. S. FOOD ADMINISTRATION
FOR CALIFORNIA

June 26, 1918

This space is contributed to the winning of the war by
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Manufacturers of Schilling's
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The Little Red Flag with its One Blue Star

A million flags are flying all o'er this mighty land,
The stars and stripes of freedom are seen on every hand.
But there's another emblem, with its meaning deep and true:
Those service flags of crimson, with their stars of heaven's own blue.

Each star means a hero, a boy of yours or mine,
Fighting, suffering, dying, somewhere along the line;
And the flags that mean the most, no matter where they are,
Are those little flags of crimson, with a single bright blue star.

I saw a little farm house out on a Western plain,
Surrounded there on every side by fields of waving grain;
And shining in its window, like a beacon light afar,
Hung this little flag of crimson, with its one blue star.

I saw a city tenement, dirty, bleak and drear,
Drenched and drowned with gases from the factories near;
But from an upper window, like a golden gate ajar,
Flew this same dear flag of crimson, with its one blue star.

I saw a city mansion, a home of wealth and ease,
Surrounded by green hedges, flower beds and trees;
But just beside the portal, hanging from a golden bar,
Hung this flag of crimson, with its one blue star.

So when the bands are crashing, and the flags are waving high,
And you're laughing, waving, cheering, as the troops are marching by,
Don't forget the dads, and mothers, and these homes, where'er they are,
Where these service flags are flying, with their one blue star.

—Will Creasey.

A Pernicious Habit.

Whoever makes a habit of depending on drugs to cure constipation—and there are myriads of such—is confirming rather than curing a diseased condition.

The STEPHENSON Patent Cooler
No Ice Required

Perfect Ventilation Absolutely Sanitary

Awarded first prize wherever exhibited. If not for sale at your dealer's, write for particulars and prices.

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MAKES ANTS DISAPPEAR
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25¢ AT ALL DRUGGISTS

Good Health

What Is a "Calorie"?

The word "calorie" is frequently seen in popular medical literature and has been in common use now for several years past. We tried to give a brief explanation of the term not long since in these columns. Among the numerous attempts at making the meaning of the word clear to the lay mind we have seen nothing quite so elucidating as the following: "When fuel is thrown on a fire under a boiler, heat is produced. This heat is required in order that the engine may perform its work. To do work of any kind requires energy. Food used or burned in the human machine produces energy to maintain the normal heat of the body and to do its work. Work done by the body comprises not only that which requires muscular or mental exertion, but also involuntary exertion such as the beating of the heart, the expansion of the lungs, etc. The chemical process within the body which transforms our food into energy is similar in nature to the process which takes place when fuel is burned over fire—though, in the body, the burning takes place very slowly and in every tissue, instead of in one central place. The value of food is determined by the amount of energy it yields to the body; and it also has a building and regulating function. It was necessary that a unit be established for measuring the amount of heat produced when food was completely burned. The unit chosen or universally adopted as the unit for measuring fuel value or energy value for any kind of food is called the calorie. It represents the same principle in measuring as the inch or foot, the unit of measuring length; the pint or gallon, the unit of volume; and the ounce or pound, that of weight. The calorie is the amount of heat required to raise the temperature of one kilogram of water 1 degree C., or one pound of water approximately 4 degrees F. Our requirements of food, so far as the amount is concerned, can therefore be expressed in the number of calories needed for each person per day. It must not be forgotten that the calories must be derived from the proper kinds of food."

Cinnamon as a Household Remedy.

We lately made mention of the oil of cinnamon as a remedy for warts. Since then we have seen a reference to this aromatic remedy in a medical publication, which would indicate its wider therapeutic use. One correspondent, pointing out its value as a preventive in certain cases, says it is efficacious in warding off colds and as a remedy for colds when contracted. The oil, dissolved in spirits, is a very popular remedy in some districts in the East and in England in the winter time. Cinnamon in powdered form is said to safeguard children against measles. Where in one case a certain number of children had been exposed to the contagion of measles and had been afterwards given about a quarter of a teaspoonful of powdered cinnamon morning and evening, no outbreak developed. Cinnamon is a strong antagonist of the germs of influenza and measles.

Remedial Powers of Citrus Fruits.

The antiscorbutic properties of all varieties of citrus fruits are not as widely known and appreciated as they should be. Orange juice is almost indispensable to young children who are, through force of circumstances, restricted to a dietary of sterilized milk. Even for adults citrus fruits in some form are an important article of diet. As a "blood purifier" dilute lemon juice, in the form of lemonade, has no peer. It keeps the bowels sweet and aseptic, clarifies the blood current and clears the complexion.

Some people still seem innocent of what adenoids are. They are soft, fleshy lumps or nodules (really swellings of the lymph glands) growing between the back of the nose and the upper part of the throat. They interfere with the breathing and should be removed.

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Agricultural Summary

What Will Barley Bring?

Barley growers are not exactly satisfied with the result of their conference with Food Administrator Merritt last Friday at Davis. They asked a $3 per 100 pounds minimum guarantee, which Mr. Merritt informed them would not be given, as there was a sufficiency of wheat in sight for the requirements of the army and navy and for the governments of England and France, and that wheat, when obtainable, is preferred to barley. He intimated that $2.25 would be a fair price. It is said that some of this season's barley is already being contracted for at a $2.30 rate. A large barley grower said this week that at $2.25 the farmer would lose no money. Another man, a large grain broker, stated that he had sold a quantity of barley to a customer at $2.25, deliverable at any time between now and January 1, 1919, at the option of the seller. Per contra, another San Francisco man intimately familiar with the barley situation, predicted a higher price for the coming crop than the current quotation of $2.50, San Francisco delivery. He based his optimism on the steady advance of barley prices as revealed by statistics for the past seventeen years. In 1900 No. 1 feed barley on the San Francisco market was worth 74c per hundred. On June 20, 1917, this grade of barley (December, 1917 delivery) was worth $1.93. The average price of barley for these seventeen years was $1.25, or exactly half of the San Francisco price today.

If, as is claimed, there will be but a small outlet for California's barley crop, growers must depend in large measure upon cattle, horse, poultry and hog men and other local users for its sale. In the last three years the home consumption has not been much over one-half of the crop grown, the balance being exported East and to foreign countries. If export movement is curtailed, as seems likely, and growers are restricted to the demands of the local market largely, that fact may exert a depressing influence on the selling price. We are not advised at this writing what the barley production of Minnesota, Wisconsin and the Dakotas (the leading barley States, after California) is; but inasmuch as the crop there was a very profitable one last season, it is probable that a large acreage has been sown this year, which will come into competition in the Eastern markets with California's crop. It can be seen, therefore, that the immediate future of barley is anybody's guess and nobody's hard and fast secret. It is reasonably certain, however, that no grower will go broke on barley this year.

Foothill-Grown vs. Valley Peaches.

Peach growers of the foothill section at a recent meeting held at Oroville recommended that a price of 16c a pound for dried peaches be asked this season. There was some dissatisfaction expressed over the failure of the State Peach Growers' Association to give the foothill growers a higher price than paid for the valley peach. Under the competitive system of selling, the foothill peach, it is contended, always brought a higher price than was received for valley-grown peaches, which served to offset the advantage that the valley growers enjoy because of the larger tonnage per acre.

Bulk of the Fig Crop Contracted.

The Fig Growers' Association issues the statement that the larger part of the White Adriatic figs are under contract for 7@8c and Smyrnas 10@12c a pound, leaving a very small remainder in growers' hands that may become subject to action taken by the Food Administration.

Wool Nearly All Commandeered.

The National Sheep and Wool Bureau announces that a large part of the present raw wool stock in this country, and all of it to be produced or imported to about June 20, 1920, will be required for military use.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, July 3, 1918.

WHEAT.

At a meeting of the Food Administration Grain Corporation, held in New York, the new base price for wheat was fixed and it was announced that the Pacific Coast terminal price for 1918 wheat crop will be $2.20 per bushel at terminal markets—which are San Francisco, Los Angeles, Portland, Seattle and Tacoma. The Grain Corporation will support these prices by purchase of wheat offered within its jurisdiction, which includes California, Nevada and Arizona. The prices are subject to dockage deduction, so that farmers would probably receive slightly higher prices by selling in their own territory. Prices are so adjusted, however, that all farmers shall receive a net of at least $2 per bushel of 60 pounds. Wheat sent to the Grain Corporation in San Francisco will receive an additional allowance of 9c per bushel when arriving in new sacks. Flour millers are not compelled to buy from the Corporation and may pay a higher price.

Following are the prices for different grades which the Grain Corporation has fixed:

Hard White—	
No. 1	$2.20
No. 2	2.17
No. 3	2.13
Soft White—	
No. 1	2.18
No. 2	2.15
No. 3	2.11
Club and Sonora—	
No. 1	2.16
No. 2	2.13
No. 3	2.09

BARLEY.

The State Food Administrator has announced that the Government will not fix prices on barley. Little barley has been shipped to this market and no sales of any considerable amount of new barley are reported. The local dealers say that the new crop should open at about $2.45 or $2.50.

Choice feed, per ctl	$2.45@2.50

OATS.

There are practicaly no new oats on the market and quotations are nominal.

White feed, per ctl	Nominal
Red feed, per ctl	Nominal
Red seed, per ctl	None

CORN.

Corn is nominally unchanged. There is very little supply on hand and practically no demand.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$3.85@3.90
Milo maize	3.85@3.90
Egyptian	3.95@4.00

HAY.

Receipts of hay for the past week were 1457 tons, compared with 2116 for the previous week. This falling off in receipts is undoubtedly due to the inability of the farmers to get their hay baled as well as difficulty in getting cars for shipment. Practically all receipts have been of the new crop. The farmers are still holding their crops at unusually high figures. Considerable hay in the bay sections that is usually shipped by water will soon be coming forward, as they are now baling in these districts.

Wheat No. 1	$21.00@23.00
do. No. 2	18.00@19.00
Choice tame oat	23.00@24.00
Wild oat, new	17.00@20.00
Barley, new	17.00@20.00
Alfalfa, new cutting	15.00@20.00
Stock	14.00@16.00
Barley straw	50@80c

FEEDSTUFFS.

The market for feedstuffs is very quiet. The only change in quotations noted this week is the advance of $1 a ton on coconut meal.

Beet pulp, per ton	None offering
New alfalfa meal, per ton	$28.00@30.00
Coconut cake or meal	$43.50
Cracked corn	$86.00@88.00
Middlings	Nominal
Oilcake	$75.00@76.00
Rolled barley	54.00@56.00
Rolled oats	57.00@58.00

POTATOES, ONIONS, ETC.

The potato and onion market was stronger, with better demand for both. Tomatoes are stronger. The demand for vegetables has been good throughout the week, with most prices steady. Corn is coming in in greater quantity and is somewhat lower in price.

Peas	7@9c
String beans, per lb.	8@10c
Wax beans, per lb.	8@10c
Asparagus, per lb.	4@8c
Carrots, per sack	50c@$1.00
Rhubarb, San Jose, per box	$1.00@1.50
do, Strawberry, per box	85c@$1.00
Summer squash	75c@$1.25
Cucumbers (hothouse), per box	$1.25@1.50
do, Los Angeles, lugs	1.50@1.75
Eggplant	5@6c
Lettuce, Sacramento, crate	$1.25@1.50
do, Los Angeles, per crate	1.75
Tomatoes, per crate—	
Merced	$1.00@1.75
Los Angeles	1.00@1.75
Potatoes—	
Garnet Chile	1.75@2.00
Whites	1.50@1.90
Onions, Australian browns	Nominal
River Reds	85c@$1.00
do, Yellows	$1.25@1.35
Garlic	3@4c
Green corn, Alameda, per sack	$2.25@2.75

BEANS.

Acting on the advice of Food Administrator Merritt, the city of San Francisco is now buying its beans by the month instead of by the year. This action did not have a tendency to strengthen the market, which was already weak. Blackeyes, cranberries, pinks and Mexican reds were quoted at lower prices and the entire list was weak.

Bayos, per ctl.	$ 8.25@ 8.50
Blackeyes	7.25@ 7.50
Cranberry beans	11.50@12.00
Limas (south, recleaned)	11.00@11.25
Pinks	6.90@ 7.00
Red kidneys	11.50@12.00
Mexican reds	7.75@ 8.00
Tepary beans	8.50@ 9.00
Garbanzos	7.50@ 7.75

POULTRY.

The poultry market shows some advance on broilers, all sizes selling readily at 36c, with the small sizes under 1¼ pounds bringing a slight premium. Hens are in good demand and good, large colored stock has been sold above the market quotations. Ducks and geese are firm. The weak spot in the market is Belgian hares.

Turkeys, live, per lb., young	28@30c
do, dressed	32@34c
Broilers, 1½ to 2 lbs	36c
do, 1¼ lbs	33c
do, ¾ to 1¼ lbs	36@37c
Fryers	36@45c
Hens, extra, per lb., colored	30@31c
do, Leghorn	26@28c
Smooth young roosters, per lb. (3 lbs. and over)	45@48c
Old roosters, colored, per lb	20@21c
Geese, young, per lb	25@27c
do, old, per lb	22c
Squabs, per lb	38@40c
Ducks	25@27c
do, old	23@24c
Belgian hares (live)	14@15c
do, dressed	17@18c

BUTTER.

Butter has been strong throughout the week. Shipments are showing a falling off and the reports are received on the exchange that the long, dry hot spell is affecting the production of milk. If the price continues to advance, it is expected that storage butter will be withdrawn earlier this year than usual.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	47	47	49	48½	48½	48½
Prime 1st	46	46	47	47	47	47
Firsts	46	46	46	46½	46½	46½

EGGS.

Eggs are coming in in smaller quantities than usual at this season and the market is strong. The egg market is affected by the same weather conditions which have advanced the price of butter. Pullets closed very strong on account of the trade turning to them after the advance in extras.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	44½	44½	45	45½	46½
Extra 1sts			Nominal			
Firsts	40½	40½	40½	40½	40½	41
Extra pullets	39	40	40½	40½	40½	44
do, Firsts	38½	38½	38½	38½	38½	38½

CHEESE.

While there was a slight recession in the price of Oregon triplets, fancy, the cheese market as a whole is strong. The falling off in the milk supply is affecting cheese in the same manner as butter. While the demand for cheese is not so great as a year ago, when the price was lower, the supply is less, and this keeps prices firm.

Y. A.'s	25c
do, Firsts	24½c
Fancy California Flats, per lb	25½c
Firsts, California Flats	23c
Oregon triplets, fancy	25½c
Oregon Y. A. fancy	26c
C. S. Oregon triplets, fancy	26c
do, Oregon Y. A. fancy	25c
Monterey cheese	21@23c

FRESH FRUITS.

Strawberries were lower this week, a number of chests selling at the minimum. Cantaloupes showed decided advances on lower receipts. Apricots remained firm. Peaches are unchanged in price, but show great improvement in quantity.

Apples	$3.00@3.50
New Green apples	1.00@1.25
Apricots, per crate	1.00@1.25
Peaches, 4-box crate	.75@1.00
Figs, black, per box	.60@ .75
do, white, per box	.75
Strawberries, per chest	7.00@ 8.00
Blackberries, per chest	7.00@ 8.00
Raspberries, per chest	9.00@11.00
Loganberries, per chest	6.00@ 7.00
Currants, per drawer	60@75c
Gooseberries	5@8c
Cherries, black, flats	75c@$1.00
do, do, bulk	6@12c
do, white bulk	4@7c
Royal Anne	7@12c
Plums	$1.00@1.25
Cantaloupes, flats	75c@$1.00
do, ponies	$2.00@2.25
do, standard	2.25@3.00
Watermelons, per lb	2½@3c

CITRUS FRUITS.

The demand for citrus fruits continues steady. No change in price is noted this week.

Oranges:	
Valencias, fancy	5.00@7.00
Valencias, choice	4.50@5.50
Lemons:	
Fancy, per box	$8.00@9.00
Choice	5.50@7.00
Standard	3.50@4.00
Lemonettes	5.50@6.50
Grapefruit, fancy, new	2.00@3.00

DRIED FRUITS.

A base price of 11c, average grades, has been suggested by the peach growers to the Food Administration as a fair price for this season's crop of peaches.

HONEY.

The California Honey Producers' Exchange was organized at a meeting held this week in the office of the State Market Commissioner. Twenty delegates from the ten local exchanges of California beekeepers were present. It is expected that the new exchange will stabilize prices of honey. Over 75,000 colonies are said to have been signed with the new association.

RICE.

Prices for the 1918 crop as agreed upon with the Food Administration range from 5¼c per pound for screenings to 8¾c for fancy stock.

LOS ANGELES

BUTTER.

Los Angeles, July 2, 1918.

There was a sharp upward turn in this market the past week. The production is running lighter than a year ago and the consumption is holding up fairly well. The receipts the past week were 264,500 pounds against 342,900 pounds the same week last year, a falling off of 78,490 pounds compared with a year ago. To make up this shortage there was withdrawn from cold storage during the week 42,088 pounds, while the same week last year there was taken into cold storage 17,642 pounds. Extras advanced under this showing 4c during the week.

We quote:

California extra creamery	47c
do, prime first	46c
do, first	45c

Daily quotations—

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	45	45	45	47	47	47
1917						
Extra	36	37	37	37	37	37

EGGS.

There was a further falling off in receipts the past week, being lightest for a long time; hence higher prices and good demand. Receipts by rail for the week were 1,759 cases against 3,174 cases the same week last year, a falling off of 1,415 cases. The arrivals by truck were about double the railroad receipts, making the supply for the week about 5,200 cases

Daily quotations:

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	40½	41	42	42	42	43
Case count	38	40	40	41	41	41
Pullets	38	36½	36½	36½	36½	39

POULTRY.

Not so much coming in and the tone of the market the past week was a little better. Broilers were up 1c and in fair demand and fryers and heavy hens sold fairly well at old prices. Light hens hard to move. Turkeys and ducks steady but slow sale.

We quote from growers:

Broilers, 1¼ to 2 lbs	30c
Broilers, under 1¼ lbs.	26c
Fryers, 2¼ to 3 lbs	29c
Hens, over 4 lbs.	24c
Hens, under 4 lbs	18c
Ducks	24@25c
Geese	18c
Roosters, 3 lbs. up (soft bone)	29c
Old roosters, per lb	15c
Turkeys, heavy, 12 lbs. and up	30c
Turkeys, light	27@28c
Squabs, live, per lb	30c
do, dressed, per lb.	35c

FRUITS.

The market was very well supplied the past week and demand good for most offerings. Cherries coming in less freely, firm and in good demand. Plums are coming in more freely, steady and in fair demand. Apricots dull and lower. Peaches steady but slow sale.

Cherries, Tartarians, per lb	10@15c
do, Soft White, per lb.	7@8c
do, Royal Ann, per lb	13@15c
Apricots, per lb.	2@?e

Special Citrus Market Report

Los Angeles, July 2, 1918.

On California Valencias at the principal distributing points in the East there is noted little change, though a wider spread between good and poor stock developed. Valencias are now about the only orange that figures on the markets, as the Florida season is nearly closed up, which amounted to only about half of last year's crop. Fancy grade of Valencias sold at from $5.75@7.50, other lower grades from $4.00@5.50.

The crest of the price wave on lemons seems to have been reached in the Eastern markets the past week, as they have become prohibitive to some, and others are deterred from buying as freely as they did when more moderate prices were asked for the fruit. The new sugar regulation curtailing sugar consumption is also a depressing factor, and the result is a material falling off in demand and an easing off of prices. High prices, however, are still obtained, prices ranging from $7.50 to nearly $10 a box, according to grade.

The total carload shipments at the close of last week were: Southern California: Oranges, 11,537; lemons, 3889. Central California: Oranges, 2534; lemons, 115. Northern California: Oranges, 203.

The prevailing high prices on all varieties of citrus fruits in the California markets is an index of the keen demand. Oranges are firm at from $6 to $7.50 per box and lemons are soaring beyond even the record figures of recent weeks. There is an embarrassing scarcity of fancy fruit, and inferior grades are not plentiful.

Figs, Black Spanish, per lb. .....10@12c
Peaches, per lb. .....5@6c
Gooseberries, per lb. .....10@12c
Beauty plums, per lb. .....8@9c
Prunes, Sonoma, per lb. .....5@6c
Climax, per lb. .....5@6c
Tragedy, per lb. .....7@8c

BERRIES.

There was a better movement the past week, but strawberries were a little lower. Blackberries, raspberries and loganberries were a little higher and in good demand.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate....$1.65@1.75
Poor to choice, per 30-basket crate ..... 1.45@1.55
Blackberries, per 30-basket crate 2.00@2.10
Raspberries, per 30-basket crate 2.15@2.25
Loganberries, per 30-basket crate 1.50@2.00

MELONS.

Not so many cantaloupes in the past week. The heavy run of Imperial Valley melons, it is thought, is now over, and as home-grown have not yet come on the market prices were advanced a little and demand good. Watermelons were in fair supply, slow sale and weak.

We quote from growers:

Cantaloupes—
Standard crates .....$2.00@2.25
Pony crates ..... 1.75@2.00
Watermelons, per 100 lbs..... 1.65@1.75
Honey Dew melons—special 2.00
do, do, flats..... 1.25

VEGETABLES.

There was a better tone to this market the past week than for some time. Receipts were not so heavy and most prices showed an upward tendency. Potatoes were offering less freely and brought a little more money. Tomatoes are higher and in good demand.

Potatoes, new, per lug.....40@50c
New potatoes, per cwt. .....$1.25@1.35
Onions, Imperial Valley Bermuda, yellow, 50 to 60 per crate....90c@$1.00
do, white, per crate.....$1.25@1.50
Garlic, per lb. .....5@6c
Cabbage, per 100 lbs.....$1.00@1.25
Bell peppers, per lb. .....8@12c
Chile peppers, per lb. .....6@8c
Peas, Northern, per lb.....10@12c
Asparagus, per lb. .....7@10c
Summer squash, local, per lug.....50@60c
String beans, per lb.....1@4½c
Tomatoes—Imperial Valley—
per 4-basket crate, good stock..$1.25@1.50
Tomatoes, home-grown, per lug..75c@$1.00
Eggplant, Imperial Valley, per lb....5@6c
Cucumbers, home-grown, per lug....$1.00
Corn, per lug of 3 doz.....75c@$1.00

BEANS.

Little or nothing doing in beans the past week and in sympathy with lower markets north of us prices were lower during the week on everything save whites.

We quote from growers—
Limas, per cwt. $10.00
Large white, per cwt. 12.50
Small white, per cwt. 12.50
Pink, per cwt. 7.50
Blackeyes, per cwt. 7.00
Tepary, per cwt. 8.50

HAY.

More in the past week and the market was less active. Under the influence of the increased supply buyers were disposed to hold back. Prices show no quotable change. Grain hay was both dull and weak, while alfalfa was steady and in fair demand. We quote f. o. b. Los Angeles—
Barley hay, per ton .....$24.00@26.00
Oat hay, per ton ..... 25.00@27.00
Alfalfa, northern, per ton .... 21.00@22.00
Alfalfa, local, per ton ..... 22.00@24.00
Straw, per ton ..... 9.00@10.00

COTTON.

There was more speculative life in the New York market the past week than for some time. Monday, July 1st, started the new week bullish under continued reports of hot weather in Texas and Oklahoma, and there was fair buying in New York of July at 28.15c the early part of the day and October 25.30c. Later the market broke under the influence of a lower Liverpool market and a number of selling orders, and July closed at 27.62c and October 24.97c. Spot quiet. In New Orleans middling closed Monday at 31c, the same as a week ago.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, July 1, 1918.

Though the offerings of cherries a week ago were the heaviest of the season, this past week shows a noticeable increase, the result being that the market ruled considerably lower. The demand for good quality and condition stock was active, but the market receded on poor offerings from 35c to 50c under the average.

Apricots arrived wasty from some sections and on account of the fruit being small it is not attractive. Good stock is meeting with ready demand and averaging the forepart of the season. The bulk of the offerings of cots have ruled decidedly lower than the week previous on account of the condition.

California peaches are not meeting with favor in the far Eastern markets on account of the heavy supplies of Georgias and other Southern stock. Shipments from Georgia are increasing daily and Georgia shippers find it necessary to extend their distribution to points farther West than they have been doing in the past.

Despite the increased shipment of plums from this State, the demand is in keeping with the supply and the prices ruling high, with practically little fluctuation.

Average for the week:

New York: Tartarian cherries $1.02, Bing $1.76, Royal Anne $1.28, Republican $1.43, Bigarreau $1.23, Oregon $1.17; Royal apricots $1.58, Newcastle 75c; Beauty plums $2.61, Formosa $2.84, Clyman $2.13, Climax $2.75, Apex $2.60; Triumph peaches 60c, Alexander 77c.

Boston: Tartarian cherries $1.30, Bigarreau $1.34, Bing $2.23, Oregon $1.69, Royal Anne $1.49, Republican $1.51; Beauty plums $2.44, Climax $2.22, Clyman $1.83, Formosa $2.45; Royal apricots $1.35.

Chicago: Bing cherries $1.95, Royal Anne $1.58; Tartarian $1.23, Bigarreau $1.58, Oregon $1.22, Republican $1.60; Royal apricots $1.52; Moorpark $1.30; Clyman plums $1.99, Beauty $2.33, Burbank $1.61, Santa Rosa $2.46, Shiro $2.05. Formosa $2.70; Alexander peaches 81c, Triumph 95c.

Shipments by cars from June 22 to 27, inclusive: 18 cherries, 143 cots, 89 peaches, 160 plums, 2 pears. Total to date, 1918, 884 cars; same date, 1917, 910 cars.

Special Livestock Market Report

San Francisco, July 3, 1918.

CATTLE—Good cattle are getting scarce in California. There has been a heavy shipment of the best stock East and many trainloads of feeders have gone to the Central West to be finished for the Eastern markets. Feed is so scarce that many more must go. There is little demand in California for feeders, as most cattlemen are scraping hard to locate enough feed to carry their breeding stock and young stuff. The fact that it is a crime to burn grain straw or bean straw or to use them for fertilizer may relieve the situation considerably. Meanwhile cattle arriving on California markets are not well finished.

Grass Steers—
No. 1, weighing 1000 to 1200 lbs.....12c
No. 1, weighing 1200 to 1400 lbs.12@12½c
Second quality .....10@11c
Thin .....8@9c
Cows and heifers—
No. 1 .....8½@8¾c
Second quality .....7½@8c
Common to thin .....4½@6c
Bulls and stags—
Good .....6@6½c
Fair .....5@5½c
Thin .....4@4½c
Calves—
Lightweight .....10@10¼c
Medium .....9@9¼c
Heavy .....7@8c

SHEEP—Good fat sheep are somewhat scarce. The heavy arrival of lambs has ceased and the supply will be short until Nevada and mountain lambs come.

Lambs—
Yearlings .....11½@12c
Milk .....14@14½c
Sheep—
Wethers .....11@11½c
Ewes .....9½@10c

HOGS—Hogs are not very plentiful and will not be for four to six weeks until stubble hogs come. The quality is not generally good, due to the desire of feeders to cut down on the quantity of high-priced feed required for a full finish. Condemnations for tuberculosis have been heavy.

Hogs—
Hard, grain-fed, 100@140.....16c
do, do, 140@300.....15½c
do, do, 300@400.....15½c

Los Angeles, July 2, 1918.

CATTLE—The past week was dull and uninteresting in this market. But few choice fed steers arriving and they were steady and in fair demand. Most of the offerings, however, were of the poor and medium class and they sold very slowly and prices weak.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs..$10.00@12.00
Prime cows and heifers..... 8.50@ 9.50
Good cows and heifers..... 8.00@ 8.50
Canners, per cwt..... 5.50@ 6.00
Calves, per cwt..... 8.50@ 9.50

SHEEP—Receipts continue light, yet enough coming in to supply the limited demand. Killers the past week paid steady prices for what few wethers and ewes were wanted, but lowered their bids on lambs a dollar a cwt. and were not anxious buyers at this decline.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$9.00@10.00
Prime ewes ..... 8.50@ 9.50
Yearlings ..... 9.50@10.50
Lambs .....12.50@13.50

HOGS—Receipts continue light and the market the past week showed no change. What few arriving being taken by killers at old prices for the fresh meat trade. No buying for curing purposes.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$14.00@14.50
Mixed, 225@275 lbs..... 14.50@15.50
Light, 175@220 lbs..... 14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

North Portland, July 1, 1918.

CATTLE—Receipts today 1650, which run in a general way from good to choice quality and are selling steady to strong at following quotations: Good to choice steers, $11.00@12.00; medium to good steers, $9.00@10.00; fair to medium steers, $8.00@9.00; common to fair steers, $5.00@8.00; choice cows and heifers, $8.50@9.00; fair to medium cows and heifers, $4.50@7.50; canners, $3.00@4.50; bulls, $6.00@8.00; calves, $8.50@11.50; stockers and feeders, $7.00@9.00.

HOGS—The hog market is showing considerable life today, all offerings selling readily at an advance in price of 10c to 15c over last week's prices. Receipts today, 1500 head. Quotations as follows: Prime mixed, $16.10@16.90; medium mixed, $16.50@16.70; rough heavies, $15.70@15.90; pigs, $15.50@16.00; bulk, $16.60@16.65.

SHEEP—Receipts today are not large. The market is holding steady at quotations. East of the mountain lambs, $13.00@13.50; valley lambs, $12.00@12.50; yearlings, $7.00@8.00; wethers, $7.00@7.50; ewes, $5.00@7.00.

Classified Advertisements

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MISCELLANEOUS.

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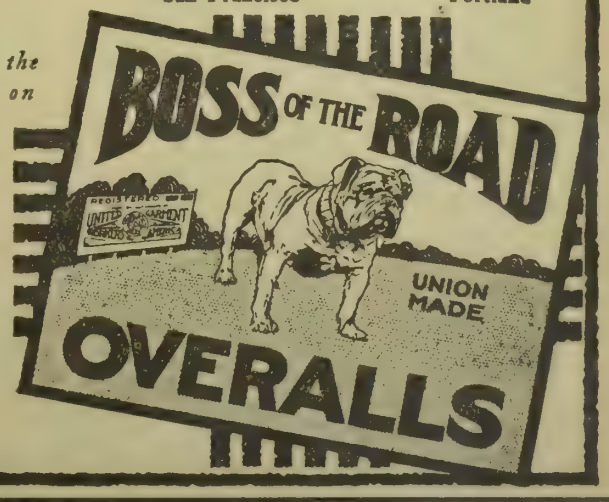

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Vol. XCVI—No. 2 Forty-eighth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO JULY 13, 1918 LOS ANGELES

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California Pear: Great Fruit with Problems

Twenty-seventh of the Editor's series of historical and analytical sketches of California farming

IT WAS THE PEAR which constituted the connecting link between the sanctified pomology at the California Missions and the commercial pomology of the American Occupation. And there were at least two reasons for this:

First, the pear was the best of the deciduous tree fruits which the padres had at the time of their greatest prosperity a century ago, and the pear trees were those which survived neglect and came through in best shape with fruit to refresh the American trappers and traders who preceded the gold discovery and the argonauts who followed it.

Second, though there were oranges at the missions, the American pioneers had never seen oranges on trees before, and though there were plenty of grapes they had never seen grapes growing on bushes and of such strange forms, colors and flavors! But the pear trees they recognized at first sight and hailed as old friends.

—ancient pear trees that with springtime burst into such breadth of bloom!

And later on they climbed into these old trees, gathered the fruit to sell for as many dollars per pound as they had for cents in their old homes; brought scions from the old home trees of better varieties to graft into them and were convinced that the gold country was a fruit country like that of their boyhoods—but in every way more abundant.

Glimpse at a row of young bearing Bartletts in a Sacramento Valley orchard—showing need of a good pruner next winter.

The Pioneers and Their Pears.

But to the pioneers the pear was greatest in its symbolism. What they found in the wrecks of the old missions taught them not so much to plant pears as to discern California's adaptation to other deciduous fruits of greater charm or serviceability. In 1856 there were growing, as compared with pears, ten times as many apples, king of deciduous fruits, and twenty times as many peaches, queen thereof—and it is interesting to note that though during the sixty-odd years since that time the pear has gained notably in ratio it has never excelled, for we have still about one-third more apple than pear trees and three times as many peach trees.

And in pioneer days pears were chief exponents of size in California deciduous fruits. Seckels grew so large, under favorable soil and moisture conditions, that even growers doubted their truth to name. Many notable weights and measurements of pears are in the early records. One which was set forth with much glee by Californians and was received with incredulity at the East was that of a Sacramento Bartlett pear which measured 13¼ inches in girth and weighed 27 ounces. Incredulity was met by the publication in the California Culturist of December, 1858, of a life-size outline of the fruit.

But probably even more astonishing was a pound pear sent to an Eastern fruit show in 1871, which was officially reported to weigh four pounds and nine ounces and of which a life size portrait was with difficulty squeezed into the first page space of the Pacific Rural Press of November 8, 1873.

Two things were characteristic of pioneer pear growing, viz.: thirst for large collections of varieties and passion for dwarf trees—both of which have been quenched by experience, though possibly capable of revival in some degree. In 1858 B. S. Fox of San Jose, a nurseryman who gave much attention to pears and won Wilder medals for his seedlings, was regularly propagating for sale 110 varieties, while our largest California nurseries of the present day do not list more than one-quarter as many and probably do not largely propagate more than a quarter of their list. In the Santa Clara Valley were situated the largest and the greatest number of nurseries, while wide-variety planting was the policy, and that may be one of the reasons why that valley now commercially grows more varieties of pears than any other section of the State.

While California was beginning with fruit growing there prevailed in New England and the Middle States a passion for growing dwarf pears, and pioneers from those regions brought it to California with them; but it soon burned out and wide-distance planting for standard trees became practically universal. Recently interest has reawakened in dwarf pear trees, largely based upon the commercial success and endurance of the A. Block pioneer orchard at Santa Clara and the demonstration in a thirteen-year-old orchard of the Swetts in Alhambra Valley, Contra Costa county. On the basis of this experience, Frank T. Swett, horticultural commissioner of his county, favors planting trees on quince roots 14 feet apart on the grounds of earlier bearing, lower trees to facilitate all orchard operations, and resistance of the quince root to root aphis, though it is not immune to blight and oak-root fungus. It is likely that dwarf pears will receive more attention henceforth than they have for the last half century. But it must be remembered that the Bartlett, which we chiefly desire to grow, should not be worked directly on the quince root. The Beurre Hardy has proved a good connecting link between them.

The Ascendancy of the Bartlett.

But though we may thus, in some measure, return to the pioneers' ideal of dwarf trees, it is probable indication that Californians will always think there is just one pear—just as most men (in their youth, perhaps) think there is just one peach. And the Bartlett is that pear. In his recently published monograph on "Pear Culture in California," in which Deputy State Horticultural Commissioner G. P. Weldon has made a distinctly valuable contribution to our pomological literature, it is calculated that "probably between 80 and 90 per cent of all the pear

(Continued on page 30.)

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EDITORIALS

FARMERS AND POLITICS.

TO THE EDITOR: While I often differ with your politics, I still like to read your editorials, for two reasons, viz.: you have not lost your sense of humor under present extraordinary conditions, and, further, you have the faculty for expressing your views without unnecessarily offending the other party—which is a gift of God!

One of your principal contentious seems to be that farmers should not enter politics as a class but only organize industrially. In my judgment this will not be enough. Where will we be when peace comes, with our abnormal war markets gone and unorganized farmers at the mercy of vote-controlled officials?—K. S. Harlow, Imperial.

Bless your sweet heart: where did you get the idea that we were advocating organization of farmers with no political objective? If many readers have been thus blinded by the camouflage on the forces we have been trying to rally for the very drive which you indicate, we have certainly ring-streaked and spotted those forces too much. Let us say plainly again, what we have declared before, that agricultural mastery in politics, to the extent of its own protective needs and to safeguard the whole country against the destruction which anarchistic organization now threatens, is exactly what we are aiming at. In this country the only way to kill bad votes is to smother them with good votes, and that is why we prescribed the bolster for the bolsheviki.

* * *

FROM INDUSTRY TO POLITICS.

IN OUR judgment the only efficient and durable basis for political action by agriculture, for itself and for the country, is industrial organization, which gives agriculture power and solidarity through its mastery of its own interests in production and in trade. Organization of farmers as a class is not only vague and vain, but it is at enmity with principles of our State constitution, which prohibits class legislation. Organization of an honorable industry to insure its prosperity is to lay foundation stones for all prosperity because it supports the proper correlation of all beneficent industries—which is the ideal of national strength through attainment of individual rights and rewards for work. Clear sight and devotion to resolute pursuit of this ideal are starting points from agriculture to political action.

It is our notion that the reason why numerous efforts on the part of farmers have always failed to command political influence and power is to be found in the fact that such efforts have proceeded from claims of class martyrdom and not from demonstration of business rights and privileges, such as broad and powerful industrial organization is able to enforce upon national attention and to secure by political action. Recall a few of the efforts at class organization of farmers during the last half century. The Grange began with a loud cry of martyrdom of farmers. It made a strong effort to right wrongs and it accomplished several great things; but its constitution prohibited political action and most of its once great membership fell away because they thought it did not get anywhere. The Farmers' Alliance went to the other extreme. It exalted politics and sought the curing of class-martyrdom through commercial ventures which failed of proper support in industrial organization. Next came the Populist movement, which was class politics with neither the social force which the Grange had and without the commercial force which the Farmers' Alliance tried to get. It held that getting offices, even on the basis of economic fallacies, would lift farmers to their proper place in the national scheme of things. Its chief attainments were the sending of a sockless Senator to Washington and the political bedevilment of William J. Bryan. And there are many other movements which have aimed to organize farmers as a class which have accomplished no more than those cited, and, in our opinion, such efforts never will achieve more.

* * *

WHY FARMING-CLASS ORGANIZATIONS FAIL.

WE HAVE two reasons: first, there really is no "farming class" in the sense that there are some other "classes" in our population. There are farmers in all the so-called "classes"—whether you segregate people into classes by standards of ancestry, literacy, wealth, religion, morals, or by any other thing in which people may resemble each other or differ. A conception of a "farming class" is therefore a dream, because there are no ruling characters or characteristics which qualify for membership in such a class. This explains why all efforts to solidify a "farming class" have never achieved anything more than local, limited and temporary success.

The second reason why such efforts at organization, even when they at first do rally large numbers of farmers for a class-drive, seldom reach any notable objective, is because there flock to their banners all the socialistic and economic visionaries, all the doctors with sure-cure recipes for public evils, all the get-rich-quick financial theorists and all the lame-duck seekers for public office. And when the really understanding and level-headed people who may cross the gang plank at first see with what a crew they have shipped they jump overboard and the cranks and the candidates soon run the craft on the rocks.

* * *

WHAT WILL GO IN POLITICS.

MUSING on such marine disasters for some years has brought us to the conclusion, which we have been very freely announcing of late, that a class organization of farmers as such to secure the ends which all the dreamers hold to be good for farmers will never get anywhere in national politics and will never get far in anything, but that organizations for the promotion and protection of the business of farming can do more and get farther than any "class" organization can—and of course we realize and urge that it must do much of it in politics. And when men and women who have their livelihoods in farming realize it, too, they will come from all "classes of society" to joint efforts to do what those livelihoods and properties require to be done. It may be to buy and sell, to get and regulate labor and wages, to secure capital and interest rates, to place and determine taxes or a dozen other things which the business of farming requires to be done for its very existence and for the future feeding of the world. When such things need to be done farmers will come together in the product-groups possessing the same specific needs and knowledge, and will do things needed there. When things arise which reach beyond the group and are vital to all farming business, a convention of delegates from all groups will deliberate and act. A farming assembly will not be then, as it is apt to be now, a group of shame-faced farmers with their backs to a wall in front of a firing-squad of office-holders and office-seekers—all eager to plug them to gain the favor of voters of adverse interests and policies!

It is our conviction that the most inane and useless thing that can now be undertaken is to try to isolate farmers as a class—not only because it is vain, for the reasons already stated, but because the times demand exactly the opposite action. It is not alone necessary that farmers should come together from all the "classes" to which they belong for joint action on the business of farming. It is just as necessary that they go back to their places in all the "classes" and take back with them the agricultural point of view on all public questions and work not to get all the "farmers' votes," which they never can get, but to get recognition for the real needs of farming from our whole American citizenship. We have surely had enough of efforts to herd farmers, by themselves like cattle, upon a political pasturage of social and economic fallacies thickly set with the thistles of anarchy! We need efforts to get farmers into all kinds of politics which are decent and of good repute and for the welfare of the country.

And so you must see, our Imperial friend, that we are for industrial organization with politics!

* * *

READY-MADE FARMS ACTIVE.

WE USE the language of the market to indicate that an agricultural commodity which the State of California is offering is in brisk demand. And that commodity is farms ready for cropping—not farms which are made ready while cropping waits for the settler to chop a little, scrape a little, build a little, and get weary and discouraged and in debt to the storekeeper and finally gets off the land wiser and poorer: in four cases out of five, as the records of unaided and misdirected colonization enterprises indicate. Our readers already know from our frequent allusions to the subject that the California Legislature of 1917 passed a law providing for putting on the market, not raw land, but farms ready for cropping, with plenty of time to pay for them, as a demonstration that that is the right way to cater to settlers who have farming ability, character and about as much money as old-time subdividers take from their settlers and pay over to their selling agents for the camouflage which they paint on the projects. And the State put this new line of State business in the hands of the State Land Settlement Board, of which Dr. Ellwood Mead is director. And now we say that this business is brisk. Practically all the ready-made farms in the Durham project are taken and that covers 6500 acres of the 10,000 which the State authorized to be used in such a demonstration as it desired to make, and now comes a land owner in the San Joaquin Valley and offers the board land enough to fill the 10,000 acres which it is authorized to handle; offers also money enough to turn this open land into farms ready for cropping—water on the land, buildings on the land, work stock in the stable and tools in the shed, and everything else ready to put in a crop this coming winter to help beat the kaiser and pay the settler for bringing it through. And the owner of this land does not require the State to buy it: he will simply chuck it in with the money to get it ready and take his repayment as the settlers turn it in, according to the terms of repayment which the law of 1917 provides. Of course, we shall have more about this new aspect of State land settlement just as soon as the censor takes his foot off the details of it. At the moment all we can say is that the action is now in progress somewhere in the San Joaquin.

* * *

THE ROAR OF THE BIG GUNS.

THAT California is doing something new, not only to get the right kind of busy men on the idle lands, but to make it possible for them to stay on the land, is clear enough from the racket which the big Eastern publications are making over our land settlement activities. The swell farm journals of the Atlantic side are covering their pages with proclamations and pictures of cutting up California's oak-shaded plains into ready-made farms, with made-to-order farm cottages and outbuildings nestling under the oaks, and their praise of the desirability of such fractions of paradise is as picturesque as their art work. And the publications claiming to do higher-up farming are not the only ones which are going to this new way of making more farms and farmers like a hop-toad to a June bug. All the high literary, economic, socialistic and publicistic publications are trying to beat them to it. It looks as though California would have to fit up such ready-made farms by the thousands to meet the demand which such free advertising will create. We surely never had such a fine line of attractive, humanistic advertising before, and it is development advertising which we could not get by paying for it, even if we offered never so much hard cash. California is getting on the heart and firing the imagination of the American people

as never before, and this means that American heart-throbs and humanistic visions will make the world wonder and pursue. The result will be that the California plans and achievements for safe farm homes in the glorious sunset land of the world's safest democracy will kindle fires of desire in all the trenches, dug-outs and billets of the allied fronts—for all accounts agree that the chief talk of the brave defenders of humanity is of the victorious end of the war and "where do we go from here?" And when they read of California's plans for their home-making in a land free from the weather-stress and distress of northern Europe and find the choicest foods of their mess tables bearing California labels and discern that proclamations and products support each other, it is not difficult to foresee that if business in our ready-made farms is now brisk it is really no circumstance to that which will come when great liners begin sailing direct from all European ports to San Francisco via Panama. And all who live to see that day, which we believe is not far distant, will also see a new birth for California!

LIGHT-BOMBS IN OUR OWN SKY!

BUT NEARER than the effects which we have thus anticipated and important as preparatory to the realization of such anticipations is the effect produced in California by the widely known fact that business is now brisk in farms ready for productive occupancy. There probably never has been a piece of development legislation which has acted so quickly and beneficently as has the land settlement policy which California adopted in 1917. Before the board then created can make its first biennial report, the practical operation of its plan and public endorsement of it have come. Of course we know that it will take a decade perhaps to figure results in a scientific, economical way, but the public is sure enough already to be deeply moved and to enter upon pursuit of the same plan and operation by private and collective enterprise. The announcement is now made by W. B. Wellman of this city that the State Development Board (after getting into wide operation the Stanislaus plan of short loans to producers, described on page 670 of our issue of May 25) may undertake to apply the Stanislaus plan to land settlement. Mr. Wellman writes:

There may be attempted the creation of county land settlement enterprises modeled after the State land settlement project at Durham, to be financed and administered in a manner similar to the Stanislaus plan. Land settlements by a county unit plan would accomplish important results, among which are the more rapid increase in food production and the providing of desirable farms for returning soldiers on favorable terms of payment, with the added provision of helpful suggestion and practical advice.

The suggestion certainly opens a delightful vista of local interest and helpfulness in building up the counties by community funds and credit employed in turning idle lands into well-equipped farms. And this is doubly important because engendering such an attitude toward developing new farming is likely to improve the community attitude toward those who have previously developed farms by their own service and sacrifice and have hitherto been awarded more taxes than thanks. In a way the State land settlement demonstration is designed to show that general prosperity results from a community standing in with the farmer, and the more demonstrations we have of that fact the better.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Growing Alfalfa Seed.

To the Editor: I have a variety of alfalfa from which I would like to grow a seed crop. How shall I proceed? How separate the seed from the straw? What length of time is required to grow a crop for seed? My fourth crop is almost ready for cutting. I am of the opinion that the seed should be grown from the last crop of the season. I generally cut a crop on the 9th of each month.—G. E. S., Lodi.

Waiting to make seed from the last cutting is as a rule altogether too risky in the line of rain or frost and the growth is apt to lack vigor from other causes perhaps. There may be places where few cuttings are made or where autumn months are sure to have the requisite heat and drouth that the last growth of the season might make seed, but it is usual to make one or two cuttings to clean the stand and take seed from the second or third growth. Harvesting seed in August is a good schedule and as it takes as a rule a month to get the seed after blooming and about three weeks to get the next bloom after cutting, the growth for seed should start in May or June. The crop should be cut when about three-quarters of the pods have become brown and the plant cut with a mower with a swath-laying attachment or a self-raking reaper, gathered into windrows and well cured in shocks. It can be threshed with a grain separator with concaves close down and special alfalfa screens, or, better still, with a regular alfalfa huller designed for such work.

Pear Mite Knocked: Slug Comes On!

To the Editor: I sent you samples of infected Bartlett pear leaves some time ago and you told me it was "blister mite" and advised me to dust them with sulphur. This spring it reappeared and I sprayed with the "Peerless." It appeared to be effective: very few leaves had any spots on them, and those had become marked before we sprayed, as they were the first ones to put out, and I waited till all the leaves had appeared. The trees presented a fine, healthful appearance, until a few weeks since, when many of the leaves began to turn brown, and now there are so many of them that I have become alarmed and would like to know the cause and the remedy. I send some of the affected leaves. I notice some gummy insect on some of them and suspect that it is the cause.—C. H., Honcut.

Your trouble is the pear slug—the slimy caterpillar which you have caught at his work on the leaves. The treatment is a spray with lead arsenate—the same as used for the codlin moth, applied as soon as you see the first work of the slugs on the leaves. It can also be checked by a dust spray applied very plentifully so as to cover the leaves well. Adobe road dust can be used on a few trees by simply throwing or blowing it upon the leaves. It sticks to the slug and he falls off. Probably a plentiful dust spray with lime-hydrate or with kaolin would act in the same way. The slugs now at work will not work much longer, but another brood may appear later in the year. The same pest hits the cherry. Always hit back when you see the first injury.

French and Robe Prunes.

To the Editor: I have ten acres of French prunes; half were two years old and half one year old last winter. I intend to have the one-year-old trees budded over to Robe de Sergeant, as I have been told they bear just as well as the French, have a larger fruit and ripen from two to three weeks earlier, which would distribute the work of harvesting over a longer period. But a friend urges me not to do this, but leave them all in French. He says I will set the trees back at least one year and very likely two years and are very apt to get the young shoots from the buds burned by the hot sun and run a chance of losing them altogether. I have about five acres of open land which I intend to plant out also in prunes when the older ones get to bearing.—P. D., Tudor.

Well-grown Robes are apt to be larger than French and to sell better, but we should count them only one to two weeks earlier than French and not two to three weeks. They are usually less productive than the French. Your friend does not exaggerate the dangers and vexations of budding over in the orchard and the difficulty of getting a good stand and uniformity in the worked-over trees. If we had good French trees in second year we would not monkey with them. Meantime look into the behavior of Robes in your region more carefully and plant your remaining acreage with them if you finally find their record good.

Alfalfa Under an Umbrella.

To the Editor: I have a small stream running through my place, which dries up about the first of August. Should I sow some alfalfa and water it up to August 1? Would it hold over until the first rains, which usually come in October? I only wish to put out about one-fourth or one-half acre for green feed for chickens and thought perhaps that, should I cover it with straw after my water played out, it would help to conserve the moisture and keep it from burning out the first year. I am told that I would have no trouble after the first year. Is this a fact?—S. E., Ukiah.

If you wet the land now down to the bottom, then dig or plow, rake and sow and put on a light covering of straw right away for partial shade, you ought to get a good stand. There would be nothing gained by any further irrigation up to August 1, unless you were rigged for sprinkling over the straw. To flood the young seedlings would probably do more harm than good by baking the soil, and to put on straw after doing that would do less good than by covering from the start. The soil ought to take water enough now to keep moisture coming up for a month, and with the partial shade the plants will hold on for the early rains in your part of the State. If you get a stand, the plant will go on after the first year with whatever water you can give it or with none—if the gophers do not eat it all up.

HAS YOUR SUBSCRIPTION EXPIRED?

(7-13-18)

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We take this opportunity of thanking the many subscribers who write similar appreciative letters, and to assure them that nothing will be overlooked to increase the usefulness of the Press to the California farmer.

A check, a money order, a dollar bill or postage stamps will keep it coming

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Elizabeth McHugh, Subscription Clerk.

Did Feterita Do It?

To the Editor: Is feterita poisonous to cattle at any stage of its growth? My milch cow ate about a dozen bites of it and in fifteen minutes was dead. She seemed stiff in the hind legs, bloated some, chewed her tongue. I can not find any weeds that are poisonous where she was. How about "gyp" corn and wheat—they are of the same family as feterita?—F. M., Santa Margarita.

We cannot be sure that feterita did it, but it is well established that feterita and other sorghums can do it, and when they do they are very quick about it, for the poison is hydrocyanic acid. It may be present in the very rank growth, either first growth or second growth, after cutting, and it disappears from such growth when cut and wilted or partially dried. If your observation is correct as to amount eaten, your cow must have been very hungry and took very large bites. Green sorghum should always be tried after the cows are well filled with something else. Though it is always well to be careful, it is fortunate that fatal feeding on sorghum is rather rare.

Distances and Crops of Mission Figs.

To the Editor: How far apart should Mission figs be planted on good soil? How long before they bear a paying crop? About what is the average crop produced per acre for bearing trees?—H. J., Winters.

Mission figs are very free growing trees and should finally have all the space they can get with planting at 40 feet each way—with fillers between, to be taken out before crowding interferes with growth. Figs begin to bear early, but do not get to full crops until ten or twelve years old, when two or three tons per acre is a reasonable expectation.

Cutting Sudan for Hay.

To the Editor: When is the proper time to cut sudan grass to be used as horse feed?—A. S., Denair.

We presume you mean when to cut for hay. Cut when in full bloom, not before. It may be cut somewhat later without losing nutriment, for the leaves remain green longer than what are known as "hay grasses" do, but late cutting is coarser and less attractive in flavor.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 9, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.02	.02	.05	58	48
Red Bluff	...	....	....	102	64
Sacramento	...	....	....	100	50
San Francisco	...	....	....	62	50
San Jose	...	....	....	82	46
Fresno	...	....	....	102	64
San Luis Obispo	...	....	.01	80	50
Los Angeles	...	.08	....	84	58
San Diego	...	....	....	74	62

Don't Let Tuberculosis Get Your Hogs

Written for Pacific Rural Press by R. H. Whitten, Los Angeles

I ONCE had an Irishman working for me who told about having the grip the previous winter. To draw him out I asked: "What is the grip, Pat?"

"The grip," he replied. "Don't you know what the grip is? Why, it's a disease that makes you sick for six months after you get well."

I thought of this incident as I listened to the different addresses and discussions at the recent annual meeting of the Swine Breeders' Association, and I was convinced that unless a good many California hog raisers take immediate steps to stamp tuberculosis out of their herds the disease will make them sick for about six months after they market their hogs—sick because of the loss from condemnation which they will have to stand.

DEMONSTRATION AN EYE-OPENER.

Tuberculosis of hogs received more consideration than any other subject; in fact, one would almost think that the meeting had been called to consider this matter, for while there was a varied program, almost every speaker said something about tuberculosis before he finished. And to cap the climax Dr. F. M. Hayes gave a demonstration that was an eye-opener. By special permission from the United States Bureau of Animal Industry he secured the first and only condemned carcass that has even been sent out from a San Francisco packing house. And when he had finished his work with that diseased carcass he didn't need to add anything to convince us that the disease really exists and that we have a serious problem to solve.

A prominent breeder who sat near me noticed on the program the subject for the professor's talk, and whispered to me that he thought this condemnation business was all bosh. He didn't think there was any such thing as tuberculosis of hogs, and he felt that the packers who reported condemnations were simply skinning the poor hog raisers. But after Dr. Hayes had finished his demonstration, this same breeder gave me a nudge and said: "I'll take it all back. That carcass was enough to convince a wooden Indian. Awful serious matter, isn't it? We must awaken the masses of hog raisers to its real importance and to its effect upon them individually if they don't get busy."

CONDEMNATION RULING SERIOUS.

Yes, it is an awful serious matter—the most important problem that we have to solve. The relative prices of grain and pork, co-operative selling organizations, and all such matters dwindle into insignificance as compared with the way the new condemnation ruling is going to hit thousands of hog raisers very soon.

Too many of us are like the snake that two men killed. They pounded the head to a pulp, but the tail continued to wiggle. "Isn't he dead?" gasped one of the men. "Yes, he's dead all right," answered his companion, 'but he ain't conscious of it." Many of us are going to be hit mighty hard when this new condemnation method is put into operation, but we are not conscious of it. We keep right on feeding our hogs unpasteurized milk and taking no steps to check or overcome the disease in our herds—taking no thought for the future.

But if we don't want to lose heavily we must rouse ourselves from this lethargy. We must realize the seriousness of the situation, particularly as it will affect us, and we must take the necessary steps to make the future secure. So let us see what this new condemnation method is, and then find out how tuberculosis gets into a herd of hogs, and what steps must be taken to stamp it out.

CONDEMNATIONS CHARGED BACK TO SHIPPERS.

Last winter, when J. P. Cotton, head of the Livestock Department of the Food Administration, was out here, he endeavored to get all of the packers to agree to a minimum price on hogs that would be one cent under the Chicago minimum. The packers complained that condemnations were running high, and objected to signing the agreement unless condemnations could be charged back to the shippers, so the agreement was finally made on that basis.

This worked out all right in handling carload lots from individual shippers, but very few farmers in this State raise hogs on a large enough scale to market a carload at a time. The bulk of the hogs come from the little fellows who have six or twelve or twenty to market at a time. These farmers had been selling to local buyers, and as the buyers had to stand the risk of loss from condemnation they were obliged to work on a broader margin, which resulted in lower prices to the farmers. Naturally this brought forth a big howl.

HOW THE FARM BUREAU AUCTION WORKED.

At about the same time the plan of marketing through Farm Bureau auction sales developed momentum, but here again trouble was experienced. After one sale the County Adviser was charged back over $200 by the packers to cover condemnations. He paid the amount out of the general fund of the swine department, but naturally many of the consignors of stock objected to this. They believed that their herds were free from tuberculosis, and they did not feel that they should be made to stand any part of the loss occasioned by disease in other breeders' herds.

The matter was taken up with the Federal Livestock Commission and it was decided that the only satisfactory way would be a system whereby the condemnation on a particular hog would be charged back to the consignor of that hog.

So for several weeks the members of the Livestock Commission have been working with the packers and the Government inspectors, trying to devise a satisfactory method of identification. The hogs are not inspected until after they are scraped, and as the scrapers handle hogs pretty roughly, especially the ears, it has been difficult to devise a satisfactory way of identifying the animals after being condemned. Tattooing, branding on different parts of the body, ear notching, ear tagging—many methods are being tried out. And as soon as a satisfactory method is found the farmer who markets a tubercular hog—no matter whether he ships it direct to the packer, sells to a local buyer, or consigns to a Farm Bureau sale—that farmer alone is going to be made to stand the loss.

PENALIZE THE FARMER WHO GREW THE HOG.

As Prof. True of the Livestock Commission puts it, "The penalty for a diseased carcass will be placed upon the man who grew the hog—where it rightfully belongs."

Perhaps you feel that this won't hit you, but don't be too sure about it. The annual loss in the United States from tuberculosis is $25,000,000. Of 40,000,000 hogs slaughtered in 1917 under Federal inspection, 3,974,000 were affected with tuberculosis — almost 10 per cent. Coming nearer home, from 15 to 25 per cent of the entire kill of hogs at San Francisco is tuberculous, and at Los Angeles during the first four months of the year, out of 63,482 hogs killed, 4253 were affected with tuberculosis.

This does not mean that all of these animals were condemned. During 1917 the condemnation at San Francisco was 3.14 per cent. During the first four months of 1918 it jumped to 4.68 per cent, and the condition is getting worse all the time.

DAIRY DISTRICTS MOST PROLIFIC OF DISEASED HOGS.

This is particularly true in dairy districts, where hogs are fed unpasteurized skim milk from untested cows or unpasteurized buttermilk from creameries. Government records show that during one year only 2.4 per cent of the hogs slaughtered at Fort Worth were tuberculous, most of these having been fed on alfalfa and corn, without milk. During the same year 25.1 per cent of the hogs slaughtered in one of the cities of a leading dairy State were found tuberculous.

To show how easily hogs contract tuberculosis when fed on skim milk from tuberculous cows, a lot was given such milk for only three days, and the post-mortem examination held 107 days later showed that 83.3 per cent of the hogs had become tuberculous. When hogs received such milk for thirty days and were allowed to live fifty days longer, 100 per cent of the animals had developed generalized tuberculosis.

SOURCES OF INFECTION.

At the Swine Breeders' meeting Dr. Hayes gave seven sources of infection, in order of their importance, as follows:

1. Milk from tuberculous cows.

2. Manure from tuberculous cattle. It is a common practice to allow hogs to follow cattle about the feed lot, where they work over the manure and feed upon whatever portions of food have passed through the cattle undigested. In healthy herds this method may be commended because of the economy, but where there are tuberculous cows the danger of infection is great.

3. Slaughter house offal. It is very unwise to buy carcasses of animals that have died from unknown causes, or unedible parts of slaughtered animals, and feed them uncooked to hogs. This, however, does not apply to tankage, which is cooked and therefore sterile. It is an excellent—in fact, a necessary—substitute for skim milk.

4. Uncooked garbage. Records show that hogs fed upon uncooked garbage contract disease far more frequently than those fed upon cooked garbage. From a sanitary standpoint there is no objection to the feeding of garbage to hogs, provided it is thoroughly cooked and is

(Continued on page 41.)

Grape Stem Mildew Banned

[Written for Pacific Rural Press.]

Stem mildew was the chief trouble discussed at a grape standardization meeting held at Merced, June 27, on call of State Horticultural Commissioner G. H. Hecke, as reported by O. W. Newman, who acted as secretary. Forty-two delegates, including twelve county horticultural commissioners, attended the meeting, whose principal purpose was to standardize the inspection, testing, and requirements for shipping grapes from the various counties. Everybody agreed on the basis of two seasons' experience that no grape mildew on the berries should be shipped. But on stem mildew, which Deputy State Horticultural Commissioner Geo. P. Weldon said was believed to be the same fungus in a different stage, varying opinions were expressed. Tulare packers said that no grapes should be shipped with mildew on the stems. Fresno packers had reported to Fresno Horticultural Commissioner F. P. Rouillard that stem mildew did not affect grape berries before they were sold in New York. C. B. Bills of the Pioneer Fruit Co. said that berries dropped from bunches at New York due to mildew on the stems when they left California. His company had allowed it, but would eventually discontinue the practice and he favored universal condemnation of such. F. J. Johnson of Fresno had sent test shipments of Malagas east and the stem-mildewed ones brought higher prices than the rest of the lot. L. G. Haight of Fresno had a similar experience in 1915.

It developed that late grapes are very little affected; and Sacramento Deputy Horticultural Commissioner F. C. Brosius said stem mildew did not affect Tokays much in his territory. San Joaquin Horticultural Commissioner H. H. Ladd said he did not condemn grapes for mildew. But infected Tokays were claimed by Geo. W. Ashley to drop badly, while Emperors and Cornichons held all right. Mr. Bills agreed. The final sense of the meeting was that all grapes except Emperors and Cornichons should be practically free from stem mildew when packed, and that in no case should infection exceed three per cent.

FRUIT PROPAGATORS, ATTENTION!

Under the State law, "any person who ships, sells, or handles nursery stock, trees, plants, shrubs, or vines for planting or propagation purposes within this State shall register with the State Commissioner of Horticulture, who shall issue to each applicant a special license number, and all shipments by such licensee shall have his license number affixed to the package." Rubber stamps are this season provided by the State Commissioner of Horticulture, Sacramento, for the license numbers. All licensees are requested to state the nature of their operations. A directory will then be made of great value to all interested. Registration is now in progress.

NITRATE OF SODA FOR SICKLY PLANTS.

Nitrate of soda in its commercial form resembles coarse salt in appearance. It contains about 15½ per cent of nitrogen in the nitrate form in which plants take it up when dissolved in soil water. Excessive quantities are injurious, but 100 to 400 pounds per acre, evenly broadcasted and harrowed in just before an irrigation or evenly distributed in numerous furrows containing standing water, shows almost immediate improvement in growth of sickly plants.

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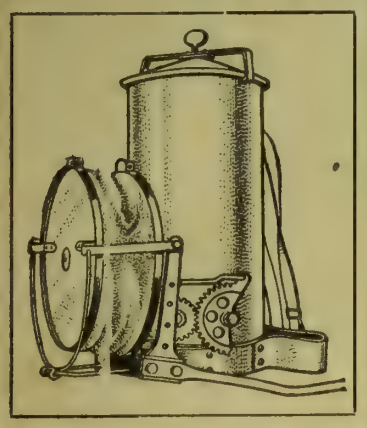

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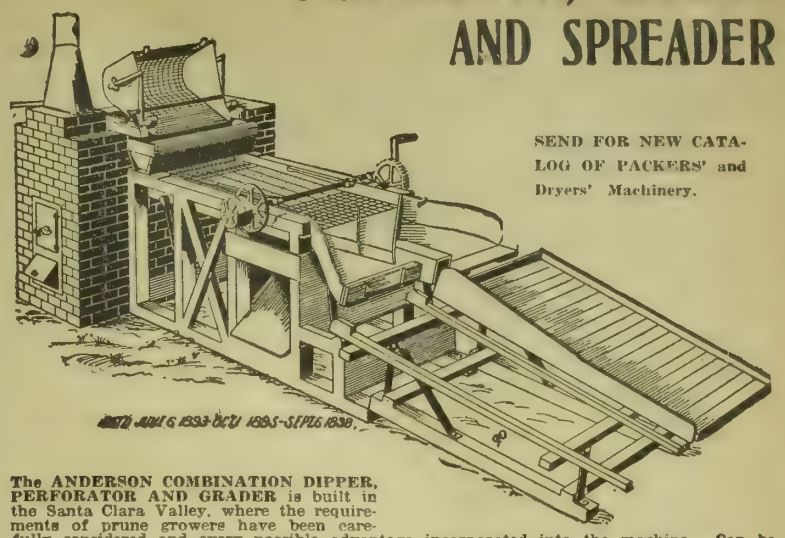

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California Pear: Fruit With Problems

(Continued from first page.)

trees in California are Bartletts." We incline to the higher figure. We do not know just when the leadership of the Bartlett was first conceded. It was only mentioned with others as worth planting during the '60s and '70s. The records of overland shipments early in the latter decade do not distinguish it as more desirable than others, but about 1880 the Bartlett began to be recognized as supreme in sales in Eastern markets in the choice of the California canners and as superior in the early efforts at sun-drying after sulphuring. These facts, coupled with its long season through difference in ripening dates in different districts, constituted the Bartlett the kaiser of California pears.

CALIFORNIA PEAR PROBLEMS.

No fruit commercially great in California has been carried through greater difficulties than the pear—though perhaps other fruits have met as many and as bad menaces—save one. Scale insects, slugs, codlin moth, scab, aphis, mite, thrips and others have been shown to be amenable to control and are, by all diligent growers, kept under it. But no fruit has an enemy so relentless as the "pear blight." The apple, quince and loquet share in its ravages, but are usually less strongly hit. This blight is worse than others of similar bacterial character because it virulently attacks twig, branch, trunk and roots and can kill the tree outright and not merely destroy some of the smaller growth and the fruit of it. And there has been thus far demonstrated no escape from the pest except by eternal vigilance and unremitting surgery—although good progress is being made toward protection of trunk and root by putting immune wood in those parts. Immune varieties which would make the whole tree resistant are at present out of the question because there is no sign that any of them can produce a fruit which may be substituted for the Bartlett in the uses we make of it. Therefore, to keep the blight out of the trunk and root and to everlastingly fight it in the top of the tree is at present our best pear program. Hard as is this task and great as is the cost of it, there is wide confidence among California planters that they can successfully defend their blighty Bartletts and the recent increase in acreage of new plantings has been large. Mr. Weldon shows that California, Washington and Oregon are the only States of the Union in which the pear industry is on the increase, and therefore in the Eastern pear markets Pacific Coast pears have an expanding opportunity.

COMMERCIAL PROBLEMS OF PEAR GROWING.

Although the California pear and its products have a total value only about one-fifth of that of the grape, the orange and the peach, one-fourth that of the prune and only about the same as that of the apple, apricot and lemon (each fruit valued by itself in all cases), this State is ranked first in the Union in the commercial production of pears. The 1917 pear crop, the largest ever produced in this State, is estimated to have been 90,000 tons, used in the following ways:

For Eastern shipment, 57,500 tons green;

For canning, 25,000 tons green;

For drying, 7,500 tons green.

The figures are not to be taken as exact, but relative, and they show that the issue in selling pears lies between selling to the canners and to the Eastern shippers and that drying is a safety-clutch—except in Lake county, where, because of distance from rails, an independent reputation has been achieved for a primary product of dried pears.

Last year Eastern shipment was 4798 carloads as compared with 3701 carloads in 1916, and the increase of a thousand carloads was largely due to the attitude of the canners, who painted a mournful camouflage of sans trade, sans tin, sans boxes, sans cars, sans everything over their canning situation and cut their price to the growers to $35, a reduction of $15 per ton. Fortunately a Pear Growers' Association began to be talked up in 1916 and the 1917 drive of the canners awoke it to action and to actual existence as a co-operative selling organiaztion. It has force enough to seize the alternative of Eastern shipment as a trench-knife against the canners. Pears were diverted eastward and the canners, in order to get any pears, had to change their face-long lines to curves and go out hunting pears with a camouflage of smiles, paying perhaps as high as $50 per ton in some cases and not getting pears enough to fill orders, which they declared they had no hope of getting, and Eastern markets went short on California canned pears. Meantime growers who would not accept their $35 bid pocketed $50 to $60, and in some instances as high as $80 per ton from Eastern shipments.

Of course, we are charitable enough to believe that the canning outlook may have changed somewhat after the canners had pulled down their jaws to a $35 per ton expression, but to see them saying anything about it to growers after such contracts were signed passes our imaginative resources.

WHAT THE ASSOCIATION IS DOING THIS YEAR.

It is different this year, for the Pear Growers' Association has both power and pears. It has about 90 per cent of the pears signed up in the Sacramento river and Contra Costa districts and 75 per cent in the Santa Clara Valley—these three districts furnishing most of the canning pears. It also has 50 per cent signed in Sonoma and 60 per cent in Alameda counties, where much of the product goes into local trade from small orchards. It does not enter the large shipping districts at present nor does it undertake anything with pears that are dried.

It has, we understand, reached some sort of an agreement with canners that $70 per ton is a fair price for the best canning Bartletts this year, in view of increased cost of production, and it is trying to do something to help growers under term contracts to secure a price which will keep them off the scrap heap. It has established an open house for pear growers at 238 Consular building, opposite the Custom House, in San Francisco, where all people who have pear problems on their digestions can get relief from President Frank T. Swett and Secretary J. S. Bailey, according to their needs.

And of course the Pear Growers' Association has entered the Federation of California Co-operative Selling Organizations—which we have mentioned several times lately as the possible universal solvent for all agricultural problems if the producers will support and develop it toward that end.

PEAR GROWERS' CONFERENCE.

A conference was held Tuesday afternoon between a committee representing certain pear growers whose crops are under term contract and a committee of canners. The growers were represented by E. Bowles, J. S. Brown of Santa Clara and Frank T. Sweet of the California Pear Growers' Association. Nearly all the canners were represented. Figures were presented showing that with the increase in cost of labor and materials due to the war it was no longer possible for the grower to properly care for his orchard and maintain it at a price of $30 to $35 a ton.

The canners met the situation in a broad-minded and fair spirit and voluntarily raised the price for this year on all term contract pears $10 a ton, to a figure not to exceed $47.50 a ton on pears 2¼ inches to 2¾ inches in diameter.

While the meeting was held at the invitation of Mr. Miller of the Food Administration, the liberal action of the canners was entirely voluntary, as the Government has no authority to abrogate contracts on unlicensed foodstuffs. While prunes and peaches are licensed, pears, owing to the comparatively small tonnage, are not under license.

Everybody went home happy—the canners because they had done a good and wise act, involving a raise of $60,000, and the growers, who will now be able to care for this season's crop and prepare for the 1919 crop.

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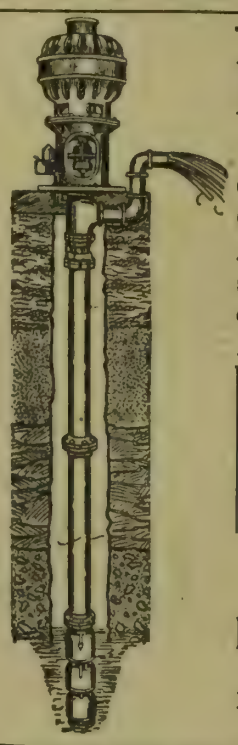

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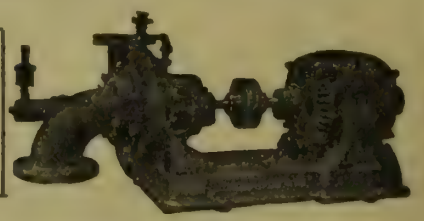

WRITE FOR CATALOGUE NO. 47

BYRON JACKSON IRON WORKS, Inc.

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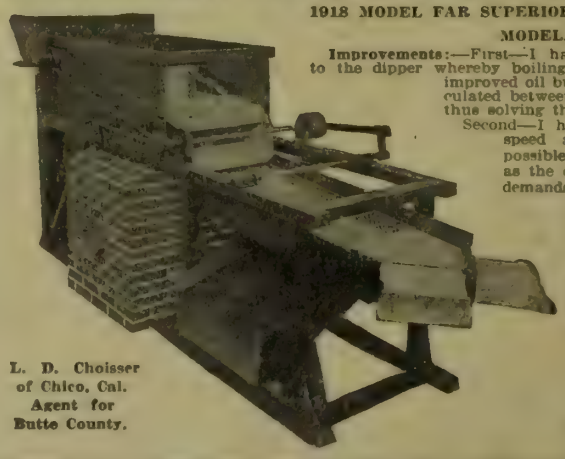

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Spray Late Apples Now.

A light crop of late apples is invariably accompanied by a heavy crop of codling moth, says Sonoma County Horticultural Commissioner O. E. Bremner. The same number of worms distributed among one-third the number of apples means three times the percentage of apples containing worms. We are confronting such a condition this year, and an extra effort must be made if we are to maintain the standard of our fruit. The first generation of worms is now leaving the apples; the second generation will hatch and enter the apples during July (the time varying with the relative earliness of the district). It is safe to say a spray applied between July 10 and 20 will prove effective. In applying this spray, care must be given to covering the apples evenly with the arsenate of lead, as the worms enter mostly from the side, particularly where two apples touch, or a leaf or limb comes in contact with the fruit. They may also enter by the stem or blossom end. If a spreader is used, the arsenate of lead is given a more even distribution over the surface and is prevented from producing the concentrated cakes of material. The best spreader we have used is a commercial flour paste. Next to this is dry glue. Use 6 pounds of flour paste to each 100 gallons of water. If glue is used, dissolve ¼ pound dry flake glue to each 100 gallons of water. Use arsenate of lead at the rate of 2 pounds dry or 4 pounds paste to the 100 gallons of water. Sulphur paste may also be used in combination with the spray if mildew or red spider is present.

Southern Insectary Showing Results.

The State Insectary branch in Southern California is proving its great value to the citrus industry, acording to the new secretary of the State Horticultural Commission, Avery S. Hoyt, by the results from its liberation of multiplied thousands of insects which prey on scales affecting the citrus trees. These insects include ladybirds and new internal parasites recently imported by the State Insectary. Until the branch insectary was established these preying insects and parasites were not available in really effective quantities for the work as a whole.

Boys on Berry Ranch.

Camp Perkins was established sixteen years ago on Mrs. L. E. Barlow's ranch in Sonoma county, and is occupied each summer by the boys of the Boys and Girls' Aid Society of San Francisco. George C. Turner, the manager, now has 118 in camp. Here are some interesting figures Mr. Turner gave of last year's work: The boys picked 300 tons of berries, 265 tons of prunes; earned $6,015, $4,000 of which was paid out to the boys as soon as they got back to San Francisco, and the balance turned into the general expense fund.—W. P. Brown.

One Picking for Prunes.

Three-fourths of prune growers in Tulare county have to use more lye in dipping their crops than they should, according to a well-known prune grower, who has another orchard in Santa Clara county. Excessive lye is required because they pick all of the prunes on a tree at once. Then enough lye is used to check the ripest and nearly peel the greenest.

Trees Will Be Defoliated.

When the color of leaves of prunes, almonds, apples, plums, etc., turn grayish white and silky spider webs may be found irregularly over them, you may look for them to drop soon unless you apply a sulphur paste spray or give them a good dusting with a dry dust sprayer. The enemy is red spider and you will see trees defoliated by it in midsummer in neglected orchards. This will reduce next year's crops as well as preventing the present crops from maturing properly.

Box Storage of Dried Peaches.

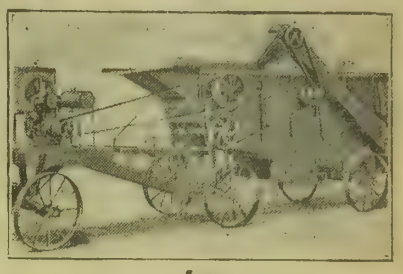
Dried peaches stored in boxes in an open shed from late August to March 1 by Brooks Bros. of Kings county sweated and dried like chips in the fall, then absorbed moisture from the air to a depth of three or four inches where circulating air could reach them. They lost a great deal of total weight, which was not so bad as if they had become wormy by exposure in bins.

CALIFORNIA STATE FAIR. 1918.

The Rural Press has received a copy of the premium list of the sixty-fourth California State Fair, to be held August 31 to September 8. In presenting the list the State Board of Agriculture declares that it has made an earnest endeavor to formulate a classification to meet war conditions. It announces that it subscribes to the resolution adopted by the American Association of Fairs and Expositions in 1917, which commits the managing board to the "dedication of all the agencies and instrumentalities of the association to the country's weal in the highest sense." The premium list is liberal, and embraces a wide range of products. Special county exhibit prizes are offered for agricultural, horticultural, viticultural, mineral, manufacturing, and other industrial products, ranging from $25 to $600. The premiums in the livestock exhibit total about $30,000.

Cushman

Light Weight Motors



for
Bean Threshers
Combined Harvesters
Potato Diggers
Rice Binders

Corn and Grain Binders, Shellers, Ensilage Cutters and all other farm work.

4 to 20 H. P. Weigh only about one-fourth as much as ordinary engines, yet run even more steadily and quietly.

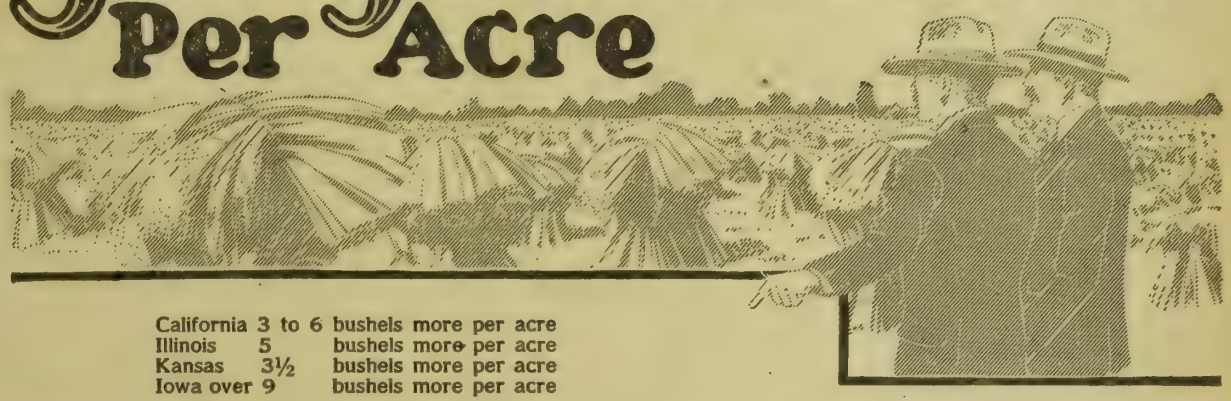
Moving parts run in oil, absolutely enclosed; free from dust.

Equipped with Throttling Governor, Carburetor and Friction Clutch Pulley. Cooled by circulating water system, driven by engine pump.

Thousands are in use in this state, doing more different kinds of work than any other type of engine. Sold by California Representatives and distributed from stock in California Warehouses. Write for Book on Light Weight Engines.

CUSHMAN MOTOR WORKS
956 N. 21st St. LINCOLN, NEBR.

3 to 9 Bushels More Per Acre



California	3 to 6	bushels more per acre
Illinois	5	bushels more per acre
Kansas	3½	bushels more per acre
Iowa over	9	bushels more per acre

These are actual increases in yield per acre obtained on big farms in those states for several years by drilling instead of broadcasting. You gain both in yield and in seed saved by using a

John Deere-Van Brunt Grain Drill

Plants all the Ground—No Costly Bare Spots

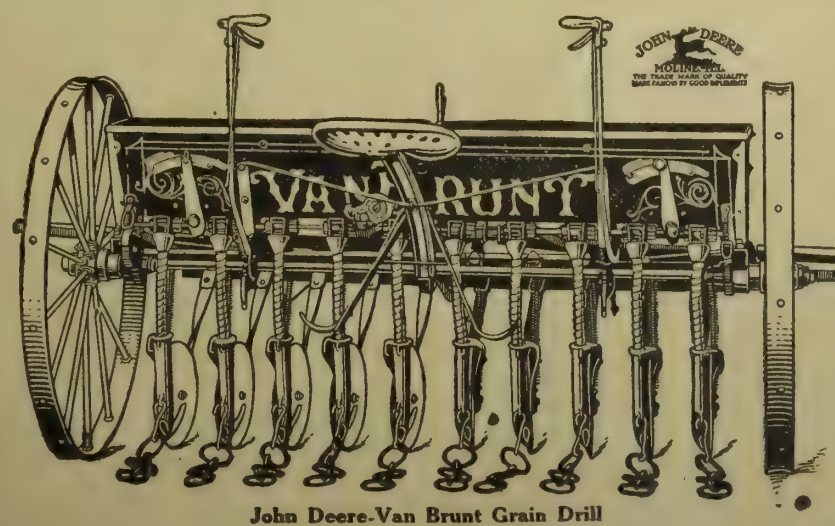
Coarse, medium size or very small seed can be planted with this drill. The force feed used on Van Brunt drills has a patented gate, adjustable to handle any size seed from alfalfa to large bearded oats, peas and beans.

All the ground is seeded—no choking up in the seed box. Change in quantity of seed by the feed shifter lever is exactly the same in each and every feed. The force-feed compels the seed to leave the seed box in even, continuous streams, but the seed is not crushed.

No clogging up—the Van Brunt successfully plants seed in mud, gumbo or trash. The seed is protected from the time it leaves the seed box until it reaches the bottom of furrow.

Disc bearings guaranteed to last the lifetime of the drill. The furrow openers, the hard-working part of any drill, are made of highest quality of steel.

Grass seed attachment can be furnished. It sows broadcast or in drills, as you desire. Van Brunt Drills are furnished in sizes and with equipment that will meet your requirements.



John Deere-Van Brunt Grain Drill

Get These Valuable Books Free

"Better Grain Yields From the Same Fields"—32 pages of valuable information on how to select seed, how to test it, depth to plant, best method of planting, etc. Also, "Better Farm Implements and How to Use Them"—a 156 page text book on farm implements. Worth dollars.

To get these books, just state the implements in which you are interested and ask for package ***BP2 24***.

JOHN DEERE, Moline, Ill.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Can You Beat It?

Joe Fox of Salida has had things coming his way, according to C. E. Capps of his town. In January, 1917, he planted 15 acres to barley and harvested it in June. He got 321 sacks which weighed 105 pounds. This was sold for $2.30 per 100. Then he flooded and disked the land and planted to tepary beans on the 2d and 3d of July, which yielded 115 sacks of 107 pounds and were sold October 1 for $9.50 per 100. Then the fall rains brought the volunteer barley up, so he turned 15 calves out to pasture, but the barley kept on coming and it was decided to take calves off and save for hay. Later the barley averaged 25 sacks per acre. Then Joe sold the land for $400 per acre.

Wasteballs for Squirrels.

The serious shortage of wasteballs for carbon bisulphide operations last winter and spring caused an inquiry to be made by the Rodent Control Division as to the possibility of obtaining these jute balls from the State Prison at San Quentin. The answer was from the State Purchasing Department: "We beg to state in regard to jute wasteballs that we can furnish them at $2.75 per thousand, the only difference in make-up being that they are tied with jute instead of white thread."

Wheat, Barley, and Bean Stocks.

Stocks of wheat in Port Costa, San Francisco, and Stockton warehouses had been increased to 17,156 tons, July 1, 1918, as against 9497 on the same date last year and 9593 a year before that, as shown by Chief Inspector Henry C. Bunker of the San Francisco Grain Trade Association. Figures for barley on corresponding dates were 7251, 4956, and 31,965 tons. For beans, the figures for corresponding dates were 128,985, 72,454, and 110,444 sacks.

Avoids Shattering Bluepods.

To avoid shattering bluepod beans from their pods while harvesting, R. Featherston of Santa Barbara county begins with a sled cutter about midnight and quits about 8 o'clock the next morning. A fog usually rolls in from the ocean in the afternoon until late at night. Three men follow the sled to fork the vines into small piles, where they cure a short time.

Dust Explosions.

Explosions were recently staged by Dr. H. H. Brown of the United States Department of Agriculture, using corn starch dust, wheat flour dust, and grain smut dust ignited when mixed with a quantity of air. Smut was shown to be especially dangerous when sparks were made in a cloud of the dust. Mills and threshers are much safer if dust is not allowed to accumulate and if sparks or flames are kept away from them as much as possible.

Gallons Per Miner's Inch.

To the Editor: Please state how many gallons of water are running per minute when one miner's inch is running.—J. L. S., Placerville.

[Answered from "California Fruits."]

A miner's inch varies slightly according to the vertical width of the slot used to measure the flow and according to the depth at which water is kept above the center of the slot. If the slot is one inch wide vertically and the water is kept four inches above its center, the discharge will be normally 8.976 gallons per minute.

Straw Must Not Be Burned.

To the Editor: Under the President's proclamation, the burning of bean straw, as well as other feed products, will be considered a crime. Our county food administrators have been advised of this and other means taken to notify the general public, and any complaints coming in from county food administrators of inattention to the proclamation will be dealt with by this office as may seem fit to the State Administrator.—L. A. Nares.

Potato Storage Over Running Water.

If your potato crop is not salable at good prices when dug, what then? Do you have a cool, ventilated, dark place in which to store them? Look around the ranch. A storage house built over a running stream should prove quite satisfactory, but the stream must be led out to the side, where the building will be protected from washing out in winter.

Poultry Manure Made Grain Hay.

One-third greater yield per acre of grain hay is estimated by Walter Cook of Alameda county as the reward for spreading 18 loads of poultry manure over a considerable part of ten acres. The manure cost $9 plus the hauling, and Mr. Cook estimates the increased crop to be worth $200 extra due to the manure.

Leaf-Eating Insects.

For leaf-eating insects in the garden, dust the plants with a mixture of sifted hydrated lime ten parts and paris green one part. This may be put into a coarse sack and shaken over the plants or used in a blower.

We Object to the Non-Partisan League

To the Editor: In your June 29th issue your editorial on "What Is the Non-Partisan League?" does an injustice to that organization.

In the early days of the Grange, when its members did collective buying, I was a member and bought my farm supplies through it and paid about 50 per cent of the prices my neighbors who were not Grangers paid, and from the same dealers. This created such a furor that the powers of business thought it wise to crush the Grange, and every profiteer vociferously cried that the Grange was a dangerous organization and berated and ridiculed grangers in every way.

In the interest of harmony, the Grange gave up the pernicious habit of collective buying and thereby regained its standing with the profit-takers. Since that time (about forty years ago) we have dutifully handed over the 50 per cent in addition to a reasonable profit to the profiteers. Since that day I have been in favor of some live organization of farmers that could unhorse their feudal masters.

I am not a member of the Non-Partisan League, but am familiar with its work and its aspirations, and I know you do them a great wrong when you repeat the cry of the business interests and call the League "disloyal."

You may not know that the League was organized before the war and that great prosperity had

Save that Crop

Largest Stock on Hand—All Sizes

Western Surface Irrigation Pipe

GALVANIZED
RIVETED AND SOLDERED

Best for Strength and Durability. Order Now.
Write for prices, description, etc.

Western Pipe & Steel Co.
of California

444 Market St. San Francisco
1758 N. Broadway Los Angeles

AMES-IRVIN Surface Irrigation Pipe

The strongest and most durable surface irrigation pipe you can buy. Stands up under the roughest usage.

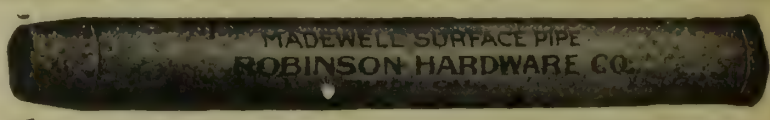
Notice the Heavy Lock Seam.

Four thicknesses of metal the entire length. Locked under tremendous pressure. This seam HOLDS. It's a smooth seam, too. No rough projections to catch and give trouble.

Send for Folder "P I"

Tells you how to irrigate at less cost, and describes the most complete stock of surface pipe and pipe equipment in the West.

AMES-IRVIN CO.
Surface Irrigation Pipe, Orchard Heaters, Etc.
EIGHTH AND IRWIN STREETS, SAN FRANCISCO, CAL.



Smooth Lock Seam Sleeve

Here is an exclusive Madewell feature that appeals to every user of Surface Pipe. Seamed inside with perfectly smooth surface. Much stronger than the old-fashioned lapped and riveted seam used by others.

Madewell Surface Pipe

is recognized in established surface pipe districts as having the strongest, smoothest, and most practical construction.
Our Long Lock Seam is the best seam possible to make—and in addition is carefully soldered the entire length so that it stays water-tight. Strength and Smooth Finish are the big things to consider when you invest in surface pipe.

Send for Free Booklet—which tells just how Madewell Pipe is constructed

Robinson Hardware Co. Box B Gilroy, Cal.

Beekeepers' Supplies Everything for the Honey-Bee

Catalogue sent free on request.

The A. I. ROOT CO. 245 Mission St. San Francisco, Cal.

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

overtaken the farmers when they got rid of fraudulent grading of wheat and other methods of robbery, and that they were bitterly assailed by the profiteers before the war. When the war came the profiteers availed themselves of the opportunity of the war hysteria to cry traitor, pro-German, disloyal.

The farmers had discovered that when the business interests got more the farmers got less; and the business men discovered that when they got less the farmers got more. As in the old days, when the Grangers were accused of being socialists (and they were to a small degree), so today the League is charged with the same sin. The League will hardly deny this charge, for in every step in our civilization some measure of socialism is adopted. Otherwise there can be no progress. Every other tendency is reaction.

Business interests are very ready to scent danger and were prepared to meet the wicked farmers and brand them with disloyalty, or with tar and feathers, but this time they started too late.

The principal newspapers of the land are owned by the same men that own the banks and factories and mines and railroads and elevators, and they, with their aids, the small business interests, took the contract to crush the League.

If you will take pains to inquire of the Federal Government at Washington the status of the Farmers' League, you will be told it is as loyal as the Masons or as the American Medical Society.

After your attack on the League, I trust you will do me and the League the justice to publish this defense. A. E. BRIGGS.

Sacramento.

[Surely we condemn nothing unheard; but in the nature of things we shall not give much space to defense of an organization which carries on open flirtation, if not closer relations, with the I. W. W. Any organization which gets as close to the verge of anarchy as that had better get back from the edge of the gulf as fast as it can. As for what you say of the experience of the Grange nearly half a century ago, there is truth in it; but the Grange did not suffer in vain. Our California co-operative product-selling organizations are now co-operative supply-buying organizations also, and that is one reason we are urging them to broader and closer federation. Giving your time to a professional career, as we happen to know you have, you probably do not know what has been going on in our California co-operative organizations for the last twenty years, and especially during the last decade. Manufacturers and wholesale dealers in supplies do not hesitate to deal with co-operative associations now because they know that they can get along without them if they refuse—even if they have to buy sawmills to get out their own box lumber, etc. And we have a good equipment of smaller co-operative buying and distributing organizations also. Therefore we claim that the Grange did not suffer in vain forty years ago, for it was the progenitor of other organizations which are now so powerful and efficient in this State that no interest can counter-attack either their product-selling nor their supply-buying enterprises. We are now urging wider joint action among them because they are sane and patriotic and they have the power to exclude all other organizations which cast side-long glances at Bolshevikism, such as you seem inclined to defend. We know that the Non-Partisan League has done good things, but nothing to compare with what our California organizations have done for the farmers of this State—and they are not doing good that evil may come.—Editor.]

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50 per cent increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

HAUSER PACKING COMPANY

9th and Mateo Sts. PHONES 10336 Bdw. 5600 Los Angeles, Cal.

A VICTORY OIL MOTOR

IS THE CHEAPEST POSSIBLE FORM OF POWER FOR IRRIGATION

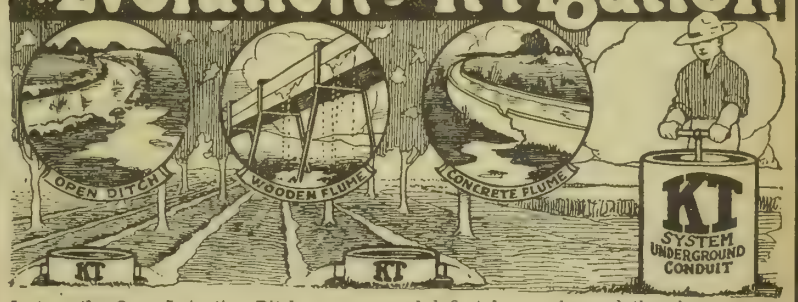
Then again it is the most simple and dependable

Let us figure on your requirements

VICTORY MOTOR CO.

NILES, CALIFORNIA

The Evolution of Irrigation



Just as the Open Irrigation Ditch was superseded first by wooden and then by concrete flumes, so were the latter in turn forced to give way to the "K-T SYSTEM" of underground conduits, equipped with gates and valves. This provides for a perfect distribution of the water at the exact spot required, and at just the time it is needed. It also eliminates the constant losses resulting from evaporation, seepage, and ditches choked with weeds—wasting land, water, time and money.

We are prepared to make immediate deliveries at the present time but cannot promise prompt shipments during the entire season, because of the uncertainty regarding raw materials, labor and other factors of manufacture. Forewarned is forearmed. Place your orders now when you can get the goods. Don't wait until conditions make prompt deliveries impossible.

KELLAR-THOMASON COMPANY 1234 East 28th Street Los Angeles, Cal.

"Originators of the Valve System of Irrigation."

Scenes of Prosperity

are common in Western Canada. The thousands of U. S. farmers who have accepted Canada's generous offer to settle on homesteads or buy farm land in her provinces have been well repaid by bountiful crops of wheat and other grains.

Where you can buy **good farm land at $15. to $30. per acre—get $2. a bushel for wheat and raise 20 to 45 bushels to the acre** you are bound to make money—that's what you can do in Western Canada.

In the provinces of Manitoba, Saskatchewan or Alberta you can get a

Homestead of 160 Acres Free

and other land at very low prices.

During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops also of **Oats, Barley and Flax. Mixed Farming** is as profitable an industry as grain raising. Good schools, churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

GILBERT ROCHE
3-5 First St., Sheldon Block
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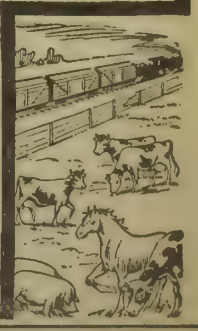
Canadian Government Agent.



General Agricultural Review

FAIR DATES.

Monterey county—Salinas, July 30 to August 3.
Mendocino county—Ukiah, August 5 to 10.
Humboldt county—Ferndale, August 19 to 24.
Napa county—Napa, August 22 to 24.
State Fair—Sacramento, August 31 to September 8.
Exposition—Oakland, September 9 to October 6.
Glenn county—Orland, September 15 to 21.
Kings county—Hanford, September 23 to 28.
Fresno county—Fresno, October 1 to 5.
Southern California Fair—Riverside, October 8 to 13.
Liberty Fair—Los Angeles, October 12 to 26.
Livestock Show—San Francisco, November 2 to 10.

Field Crops.

Barley hay is being sold for $18 per ton f. o. b. Byron.

Hay brought in Santa Rosa last week $25 per ton f. o. b.

The hay crop in the King City and San Lucas sections is estimated at 3000 tons.

The first shipment of cantaloupes from the Turlock district was made this year on July 5.

James Martin of Bloomfield says his nine acres of black oats will yield at least five tons per acre.

Farmers generally are reluctant to sell their hay or place a valuation on it until baling operations commence.

The sugar beet crop is now on in California. The yield and quality are said to be good, also the marketing prospect.

An increase of 20 per cent in the acreage above last year's planting is estimated for the bean industry of Merced county this season.

A report comes from Clarksburg, on the Yolo side of the river, south of Sacramento, that barley in that section of the county will yield from 30 to 40 sacks to the acre.

Balfour-Guthrie report that they are receiving $20 a ton for their alfalfa f. o. b. Brentwood. This price is being paid by dealers who are buying for the Government.

The packing of tomatoes in Tulare began there on July 10, with the Italian Products Company of California anticipating one of the best runs in the history of the Tulare cannery.

It is announced from El Centro that the first of the Imperial Valley crop of cotton for 1918 was picked June 1. Picking for commercial purposes was expected to begin early this month.

Grain harvesting is nearly over in Contra Costa county. No labor trouble has been experienced. The yield has been about two-thirds of what it was last year. The largest yield was 20 sacks per acre.

The United States Census Bureau fixes the final figures on the 1917 cotton crop at 11,302,375 bales—less than a normal crop. California and Arizona, however, showed a notable increase in the production of this staple.

The Kern County Growers' Association, representing about 800 to 1000 acres of cotton, plans to have a cotton gin in operation by September 1. It is estimated that there are 1000 acres planted to cotton in Kern county and that the yield will be half a bale to the acre.

From ten to twelve carloads of vegetables from Sacramento Valley and upper San Joaquin truck farms left Sacramento daily last week, eastward bound, according to the California Vegetable Distributors. Potatoes are being sent as far East as Chicago, and onions to Boston and New York.

Harvest of the tomato crop of the Porterville district began this week, for delivery to local canneries. According to estimates the output of this section will be about 2000 tons, contracted for at about $15 per ton. Packers say that practically their entire output has been contracted for delivery to buyers for the Army.

The sugar beet harvest is now under way in Kern county. At Conners and Buttonwillow several thousand acres of beets are being harvested. The crop is turning out well, according to reports, conditions having been favorable for extra heavy yields in many fields. Seventy Mexicans are helping to harvest the crops.

While no agreement was reached between the rice men and Food Administrator Merritt at the Davis conference, indications are that favorable consideration is being given the growers' contention that California rice should bring more than the $4.16 2/3 figure fixed in the South. The price will doubtless be settled at another conference.

The commercial stocks of wheat reported to the United States Department of Agriculture in a food survey for June 1, 1918, amounted to 17,068,487 bushels. This refers to stocks actually reported and does not represent an estimate of the total commercial stocks of the country. Neither do the figures include stocks on farms on June 1, for which no data was available.

A. C. Houston, president of the Yolo Water and Power Company, announces the completion and operation of the newly installed pumping plant at Clear Lake, in Lake county. The plant has begun to distribute water for 10,000 acres of Yolo county rice fields and 5000 acres of other grain. It has a capacity of 225,000 gallons a day and means a $2,000,000 rice crop in Yolo county.

Deciduous Fruit.

The first dried apricots of the season were delivered last week at the packing houses at Hanford.

Word comes from Sebastopol that the apple crop of the Sonoma Valley Apple Growers' Union will total 30,000 boxes this year.

According to H. M. Van Tassel, horticultural inspector for the West Sacramento district, the pear crop in the West Sacramento section will make about a 70 per cent crop this season.

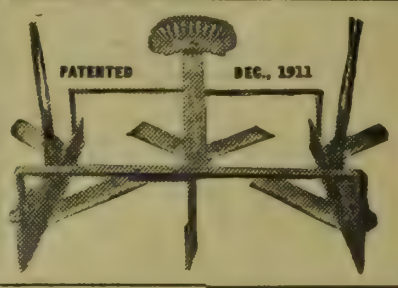
San Benito county has raised and is busy harvesting, packing and shipping 1800 tons of apricots, 3000 tons of prunes and 30,000 tons of hay. Women supplied the large part of the labor in the apricot and prune orchards.

F. B. Bill, manager Sebastopol Berry Growers' Association, says the berry crop is fine, but that they are shipping little more than one-half as much as last year, owing to inadequate shipping facilities. They are being canned.

A dollar apiece for cherries is the price paid by the members of the Mount Diablo Park Club for the Belgian Babies' Relief, after the box had been auctioned off for $50.50. The cherries brought in all $127, believed to be a record.

Packers and dealers of licensed dried fruits, which include apples, prunes, raisins and peaches, were authorized by the Food Administration to commence buying last Wednesday (July 10). Packers, however, will not be permitted to sell prior to July 15, as previously announced. Maximum prices down the line from grower to consumer have already been set by the Food Ad-

Dealers in PAPER
Blake, Moffitt & Towne
37-43 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.



Golden Gate Weed Cutter
Kills the Weeds and Cultivates the Soil
Greatest weed killer on the market. Cuts them off clean, under the surface, close down to the roots. Besides, it breaks up the ground so thoroughly that one user says he saved $200 in a single season because after cutting the weeds he did not have to plow. Cuts seven feet or less. Weighs but 230 pounds. Cut adjustable to any depth. Constructed of steel throughout. No other implement like it.
WRITE FOR CIRCULAR which illustrates and describes the Sigurd Weed Cutter and contains letters from many users.
C. G. Sigurd, Manufacturer
Capital Ave. and McKee Road, San Jose, Cal.

BEST IN THE LONG RUN
FAIR TREATMENT
Like a Hambletonian Horse

THE all-around usefulness of the Hambletonian Horse is proverbial on the farm. A fine looker, yet a husky worker. At the plough he pulls with the best; in a neat roadster he steps a gait with the speediest. He rides fine, or he will carry a load. You know him, you men of the farm, for a Kentucky thoroughbred, and a pulling horse in one.

Goodrich Tires are the Hambletonians of tires. Fine lookers, speedy, yet husky workers for heavy loads and rough going, they fit all-around service of the farm as no other tires.

Like the Hambletonian Horse, they have pedigree. The scientific and workmanship skill of the oldest and largest rubber factory is in them. Like the name Hambletonian, Goodrich stands for prestige.

But Goodrich does not ask you to buy on blind faith. It proves its tires for you as an assayer proves gold, or a chemist food, before it assures you the tested service of—

GOODRICH
SERVICE VALUE TIRES

That word, *tested*, is the last word in tires for the farmer. It means that Goodrich Test Car Fleets, six of them, throughout the year 1917, battled Goodrich Tires from state to state, mauling them over sand, gravel and rock roads through mud, snow and frozen slush; and the tires proved their durability in mileage that ran to 4,178,744 tire miles.

Think of it, more than 4,000,000 miles of mileage vouch for the sure service of Goodrich Tires. The roads of every region of our country—perhaps the roads that run by your own farm—vouch for their strength.

These tires coin themselves into real money for you, the same as your ploughs and your reapers.

Whatever tires you need; for an automobile large or small, for your truck, bicycle, or motor cycle, the Goodrich brand is your guide to sure service. You know it of old from the service of the Goodrich Hipress Boot.

The husky, generous size of Goodrich Pneumatic Tires tell you their strength at a glance. Actual working tests show Goodrich Truck Tires outwear steel.

W. S. S.
For Sale at every Goodrich Branch and Depot

THE B. F. GOODRICH RUBBER COMPANY

Where You See This Sign Goodrich Tires are Stocked
GOODRICH TESTED TIRES
Buy from Goodrich Dealers Located Everywhere

THE CITY OF GOODRICH · AKRON, OHIO.

ministration, except on apples, because of the diversity of area on which they are grown. Prices to the public must show no profiteering.

The monthly crop report of the State Commission of Horticulture is just received. It gives the condition in percentages of the fruit crop as follows, based on State averages: Almonds, 63; apricots, 74; figs, 99; peaches, 73; pears, 82; plums, 74; prunes, 69; walnuts, 78. The berry crop averages very high, ranging from 70 to 100 per cent. The grape crop also runs high, ranging from 75 to 110 per cent.

Citrus and Semi-Tropical.

It is reported that a number of orange trees in an orchard in the Lindsay district have been killed by irrigation water containing a large percentage of salt.

The Placer County Farm Bureau is urging Placer olive growers to co-operate and pickle their own fruit instead of shipping their olives to Los Angeles, where they are pickled down and put on the market as a Los Angeles product, it is claimed.

Representatives of the California orange and lemon growers held a conference lately to protest against the recent order of Mr. McAdoo increasing freight rates on orange, lemon and other shipments 25 per cent. They formulated a petition to have the increase cut down to 11c per 100 pounds.

Grapes.

Wine makers are offering as high as $40 per ton for grapes this year in Sonoma and Napa counties, it is reported from Santa Rosa.

The Stewart Fruit Company has commenced the erection of a large grape packing house along the Santa Fe right of way at Fresno.

In Sonoma and Napa counties it is reported that $45 and $50 a ton have been refused for grapes. In Santa Clara county the highest price thus far offered has been $36.

Miscellaneous.

The scarcity of sacks and the consequent high price for bags will hasten the general use of grain elevators throughout California.

Grasshoppers sweeping through the northern Sacramento Valley are threatening serious damage to crops, according to reports from ranchers.

Rice growers of the Sacramento Valley are working toward a $4.50 basis for paddy rice, an advance of about 40c a hundred on last year's price.

Several counties have officially announced their intention of participating in the Pacific Coast Land and Industrial Exposition to be held in Oakland this fall.

It is reported that the United States Reclamation Service is preparing plans for the expansion of the Orland Reclamation District by about 30,000 acres.

Reports from Santa Clara Valley are to the effect that the wells in the district are running very low. This being the second year of comparative drouth, it is keenly felt.

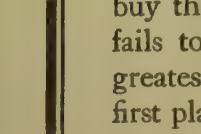
Mrs. L. E. Barlow of Sebastopol has recently completed an up-to-date fruit dryer to handle the excess fruit from her 200-acre ranch and also that from the Sebastopol Apple Growers' Union.

The Board of Supervisors of Santa Cruz county has appointed a successor to W. H. Volck, who left the service of the county some time ago. Donald D. Penny, laboratory assistant, State Insectary, received the appointment. Mr. Penny took up his new work July 1st.

Increased freight rates are driving the heavy shippers in the vicinity of Oakdale to the use of automobile trucks, as requested by the Government, in so far as the short hauls of freight are concerned. With the minimum rate of 50 cents per shipment, and with the local rates doubled, practically, between local points, use of cars for shipment are almost prohibitive.

LOS ANGELES FARM WAGE SCALE.

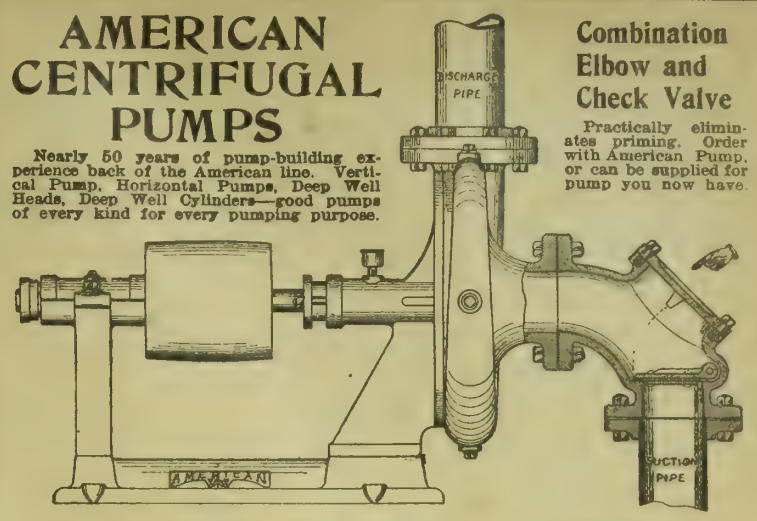
Last month the Los Angeles County Farm Bureau, after a discussion of the labor situation, prepared an average wage scale, which, while obligatory on no one, has been presented with the thought that, where the members of the Farm Bureau keep the scale in mind, there will be fewer wage inequalities and less variation between the different centers and as a consequence less dissatisfaction and moving around of laborers. The scale is as follows: Workers in hay harvest, $3, without board; tractor drivers, $4 small, $5 large, $150 month, 50c an hour; teamsters, $2.75, without board; plowmen, $2.75, without board; fruit pickers, by day, $2.75, without board; pruners, $3 to $4, without board; irrigators, 35c per hour, without board; potato harvesters, $3, without board; general farm work, with board, $60 per month.



Kills Prairie Dogs and Gophers of all kinds. Endorsed by State Experimental Stations. 1000 tablets prepaid for $1.25. Warranted. Raticide Tablets, 25c. Ask druggist or send direct. Booklet Free. F. D. Chemical Co., Ft. Dodge, Ia.

AMERICAN CENTRIFUGAL PUMPS

Nearly 50 years of pump-building experience back of the American line. Vertical Pump, Horizontal Pumps, Deep Well Heads, Deep Well Cylinders—good pumps of every kind for every pumping purpose.



Combination Elbow and Check Valve

Practically eliminates priming. Order with American Pump, or can be supplied for pump you now have.

GAS ENGINES, OIL ENGINES, MOTORS, Etc.

Put your irrigation problems up to irrigation experts. We'll show you how to get the MOST WATER with the LEAST TROUBLE at the SMALLEST COST. Write for our catalogs of Gas Engines, Oil Engines, Motors, Direct-connected Motor-and-pump Outfits, or any of these in which you are interested. We'll answer your inquiry fully and carefully.

CALIFORNIA HYDRAULIC ENGINEERING and SUPPLY CO.

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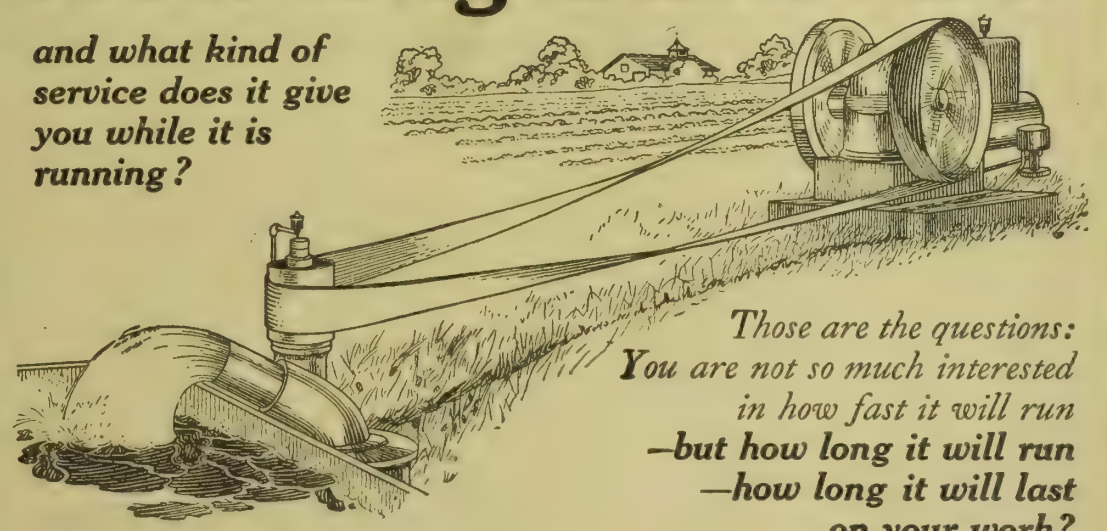
How long will it run?

and what kind of service does it give you while it is running?



Those are the questions: You are not so much interested in how fast it will run —but how long it will run —how long it will last on your work?

—Test Special Belts

—last and *run* and do their work well for years—it depends on the kind of work. Some belt users buy cheap belts made of short fibre cotton and shoddy rubber — *consequence:* ***they last a few months—maybe not a whole season.***

You can't throw money away faster than to buy that kind of a belt—besides, when it fails to do your work the need may be greatest. Buy a **Test Special** belt in the first place—***it lasts for years. Write us.***

BELT TROUBLES: Do you have any troubles with belts? We are belt engineers. Send us a rough drawing to indicate *how your belt is operated, and tell us your troubles. We'll cheerfully help you solve them—FREE.*

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New York Belting and Packing Co.
519 Mission St., San Francisco —*Dept* P 5
Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

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Horse Power	Diameter in Inches
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Steam Engine.....	Driven Pulley.....
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Kind of Drive

Cross.....
Straight.....
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Width of Belt..... Ply.....
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Rev. per minute of Driving Pulley.....
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My dealer's name.....
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A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

New York Belting and Packing Company

519 Mission Street : : : : : San Francisco

Home Office: New York City. Branches in all principal cities

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

GREAT AUTOMOBILE NECESSITY.

There are 5,000,000 motor vehicles in the United States, one for every 20 persons. The total horsepower used to turn the wheels of America's industrial plants is only 11,000,000. The passenger automobiles of this country represent 100,000,000 horsepower. Motor cars constitute the greatest transportation force in the world, and transportation is the necessity of war most difficult to obtain adequately. Compare the motor car with the railroads and we find the automobiles of this country traveling 60,000,000,000 miles a year, as compared with the 35,000,000,000 passenger miles of the railroads. These multipliers of energy are traveling 4,000,000 miles per day, the equivalent of 1600 times around the world. Many a nation has been conquered, not for lack of bravery or men, but for lack of transportation.

An inquiry from every man who purchased an Overland car in 1917 proved that 90 per cent of automobile use is for business purposes, as reported in a special article by John N. Willys of the Willys-Overland Co. The inquiry showed that American farmers, representing 33.2 per cent of the population of our country, bought 53.1 per cent of the automobiles. Mr. Willys goes on to say that the Government estimates that it takes five acres on the average to support a horse. Assuming that every automobile on the farm replaces one horse, the automobiles are releasing for human food production over 10,000,000 acres of land. For the marketing of perishable products, getting repair parts for machinery, etc., the automobile has made the farm 30 miles from town as valuable as one five miles away that depends on the horse.

In time of labor scarcity the automobile enables farmers to scour the country and city for more help; and the time saved on the road for this and other errands enables them to do more work themselves in producing food. Since a farmer is generally worth two hired men in the field, automobiles are worth lives to Uncle Sam's people. Food produced and transported by motor vehicles will win the war.

PUMP BELT WORE OUT.

To the Editor: How far should a gas engine be from the pump? The engine is 9 horsepower and the pump a vertical centrifugal with 75-foot lift. The driving pulley is 32 inches and the driven pulley 6 inches. At present the engine is only 12 feet from the pump and the first belt is already in pieces after 10 days' service.—J. B., Niles.

For any work where there is a quarter-twist in the belt, the centers of the pulleys should be not a foot less than 25 feet apart, according to expert belting authority. The reasons for this are: (1) The power transmitted by a belt is in a direct proportion to its bearing surface on the pulleys. With a short belt and a quarter-twist, as you have, not over half of the belt width is bearing on the small pulley and the power is reduced greatly. (2) Your belt is probably traveling about 3000 feet per minute. About every 15 feet it makes a quarter twist and coming back it makes a quarter twist in the opposite direction, or about 200 quarter twists per minute. There is every reason for it to pull to pieces. With double the distance the twists would not be so short nor so frequent. With a horizontal centrifugal your distance would not be so bad.

NATIONAL AUTOMOTIVE SHOW.

Motor trucks, tractors, and accessories will have a national exhibition of the greatest magnitude on Chicago's $5,000,000 Municipal Pier, September 14 to 21. For trucks alone, 42,000 square feet of space are allotted, with option of increasing it. No floor unit will be sold of less than 400 square feet. There will be plenty of time for storage before and after the show for trucks driven cross-country. Equivalent individual and total space is allotted to tractors and nearly equal for accessories. Thus the transportation of essential materials, including food, the mechanical aids to the production of food, and the latest achievements to make both more effective, all will be embodied in a wonderful opportunity for inspection, comparison, and learning.

DANGEROUS "ROAD HOG."

One form of a road hog who has many narrow escapes is he who runs up behind another machine which is meeting still another. The hog insists on passing the machine in front of him immediately instead of yielding the right of way to the car meeting them. There is sure to be a collision on most roads unless the driver of the last named car has the good sense and ability to turn off the road at that moment. He would be justified in wrecking the "hog," who is less respectable than live pork.

Specially strong demand for pea and bean threshers is reported by Arnott & Co. of Los Angeles. The two types of threshers introduced by these people last summer, known as the Farquhar and American Double Cylinder Threshers, are in big demand. They are built for Western conditions and are claimed to require fewer hands to operate them.

Cleveland Tractor

12—20

$1600 F. O. B. L. A., Cal.

F. T. BRILES

Southern California Distributor

214-216 North Los Angeles Street

Los Angeles, Cal.

Branch House, 110 Main St., Porterville, Cal.

Motorize your Farm

Make up your labor shortage with power farming machinery. Put every acre under cultivation. Get away from the drudgery. Select a Tractor—a **LAUSON 15-25**—and get year 'round service in the field and at the belt.

The John Lauson Manufacturing Company of New Holstein, Wisconsin, is one of the old, responsible manufacturers of farm engines noted for their salability and serviceability. The same experience is responsible for the success of the **LAUSON 15-25** Kerosene Burning Tractor. It is built with the same care and precision which has characterized the **LAUSON** Frost King Engine for twenty-three years.

The LAUSON 15-25

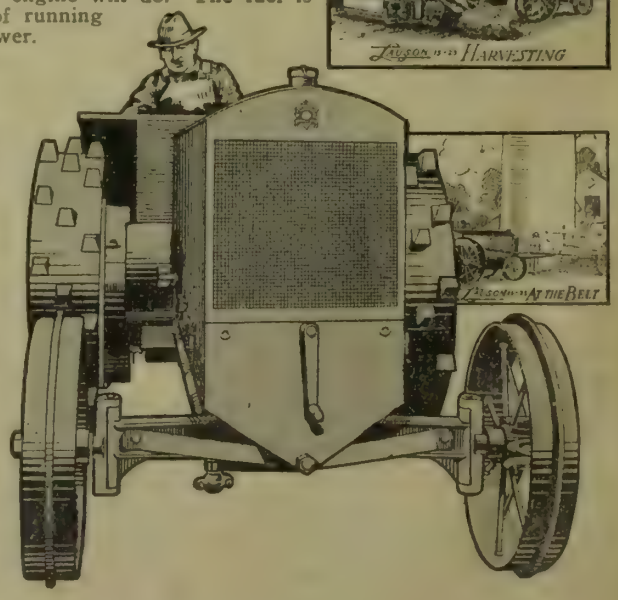
DUST PROOF-ALL GEARS ENCLOSED

The **LAUSON 15-25** insures better farm work and more of it. It will do all your plowing and do it better. It will do the discing and harrowing; heavy hauling or grading; pull stumps or manure spreader. Has a 30 per cent surplus capacity engine especially suited to belt work.

With the **LAUSON 15-25** you can afford to own your own ensilage cutter and fill the biggest silos in the shortest time when your corn is ready. You can grind feed, bale hay, do neighborhood threshing—everything and anything a small farm engine will do. The fuel is kerosene or distillate—half the cost of running gasoline engines of the same horsepower.

Check the Specifications.

RATING—Drawbar H. P. 15; Belt H. P. 25.
ENGINE—4½-inch bore by 6-inch stroke—Valve in head.
NUMBER CYLINDERS AND CYCLE—Four.
NORMAL SPEED—R. P. M. 950.
LUBRICATION SYSTEM—Splash and force feed.
IGNITION—Dixie Magneto.
CARBURETOR AND FUEL SYSTEM—Kingston Gravity Feed.
COOLING SYSTEM—Perfex Radiator.
BELT PULLEY—18-inch by 8-inch; 475 R. P. M.
TRANSMISSION—LAUSON Selective Type—sliding gear.
NUMBER SPEEDS FORWARD—Two.
SPEED, M. P. H.—Low, 1¾; plowing, 2½; high, 2½.
NUMBER WHEELS—Four.
DRIVE WHEELS—54-inch diameter; 12-inch face.
GUIDE WHEELS—32-inch diameter; 6-inch face.
WHEELBASE—86-inch.
TREAD—52-inch.
Total Weight, less fuel, water, oil and lugs—5,750 pounds.
Shipping Weight with Standard Equipment—6,000 pounds.

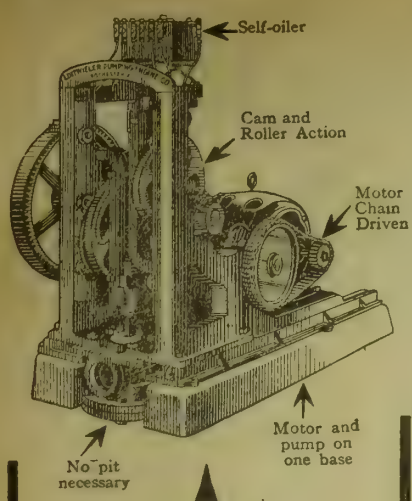


The **LAUSON** 15-25 will earn its way on any farm of 100 acres or more. It is a guaranteed three-plow tractor with four-plow capacity under favorable conditions.

Write for catalog and name of nearest **LAUSON** Sales and Service Station.

The John Lauson Manufacturing Company

1026 Monroe St., New Holstein, Wis.



LUITWIELER PUMPS

TYPES
Chain Driven.
Belt Driven.
Engine Driven.
Direct Gear Driven.

For Following Service
Irrigation.
Hydro-pneumatic pressure systems.
(Manual or automatic.)

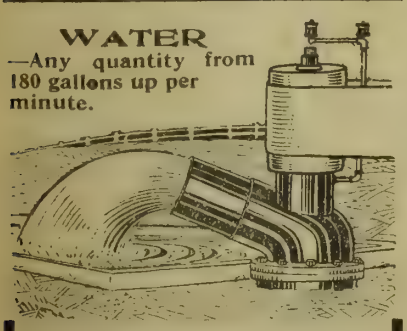
OPERATE ON 10 TO 25 PER CENT LESS POWER.

Owing to the great demand for Luitwieler Pumps orders should be placed at once. We still have a few sizes in stock for immediate delivery. Advance orders now accepted for delivery in near future.

ASK FOR PAMPHLET.

Luitwieler Pumping Engine Company
707-713 North Main St.,
Los Angeles.
A. A. BARTON, General Manager.

WATER
—Any quantity from 180 gallons up per minute.



Layne & Bowler PUMP Features

Efficient oiling system.
Enclosed shafting.
Slow speed roller bearings.
Centrifugal motion.
Steady even delivery.
Simple, accessible parts.
No intricate adjustments.
All parts in balance.
No pit required.

ASK FOR CATALOG No. 25

LAYNE & BOWLER CORPORATION
900 Santa Fe Ave., Los Angeles

SEPARATES VARIOUS GRAINS AT ONE OPERATION.

[Written for Pacific Rural Press.]

A wheat field was sown to barley by John Kilkenny of Solano county and the 400 sacks of grain that resulted was half and half, but able to be sold for neither. He was offered 80c for the mixture. He took it to a mill to get it separated and afterward counted 84 grains of barley in a gallon of wheat. That was not satisfactory. But John Lucas of Yolo county, just then had a machine of his own invention on wheels on the street at Dixon and Mr. Kilkenny found only four grains of barley after running it through this. He sold the wheat for $1.40 per sack and the barley for over $1. Mr. Lucas does not have any machines to sell, but he is proud of the work done after ten years of trials. He showed his latest machine at the Davis tractor demonstration. He said it would separate wheat, oats, and barley, going only once through. He separated red gyp corn from black for W. H. Gregory of Yolo county. He cleaned 1000 sacks of rice last year for J. H. Harlan, for whom he had done similar work for ten years.

The grain is elevated to a hopper, whence it drops from a force feed onto shaking screens. It is fanned and elevated onto a gravity cleaner, which takes wheat and weed seeds from oats and barley. A second gravity cleaner takes the weeds from the wheat. The single operation separates all the various grains remarkably clean and costs only six or seven cents per sack. The machine is operated by a small gas engine mounted on the same wagon truck.

CHEAP DAIRY REFRIGERATOR.

Ten cents a day for power keeps a cooler regulated wherever desired between 25 and 40 degrees F. in the dairy house of the Hidden Valley Farm, near Redwood City. The cooler is large enough to hold eight cans of cream with several cubic feet of space besides. The refrigerating apparatus is run by a ½-horsepower motor, which is automatically stopped at the desired temperature by a thermostat, which starts it again when the temperature goes higher. It is running about one-third of every hour, as told by Dairy Superintendent R. S. Adams.

CORN BINDER AND ELEVATOR.

Everywhere we go people are curtailing farm activities for lack of help. What shall we say, then, of the man who cuts corn for fodder or silage by hand when he could get a machine to cut it faster and bind it into bundles much more conveniently handled? And why should he dump the bundles on the ground when elevator attachments are available to load them direct from the harvester onto a wagon with no man lifting them?

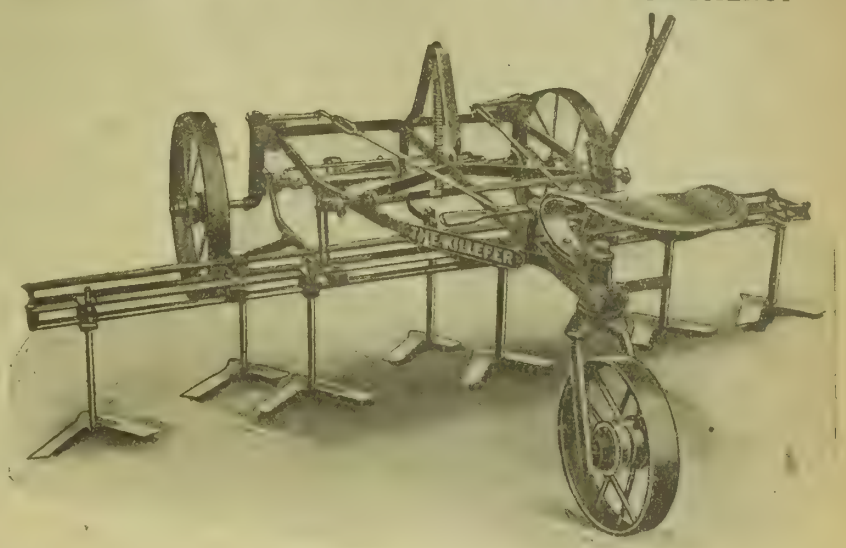
MOTOR TRUCKS HAUL FRUIT.

Motor trucks are hauling apricots and peaches to the Selma cannery from as far as Lindsay. They are loaded in the orchards and not handled again until they reach the factory, avoiding the usual handling onto and off the freight cars and relieving the railroads for more urgent war work.

KILLEFER QUALITY

4 Row Bean Cultivator

KILLEFER EFFICIENCY



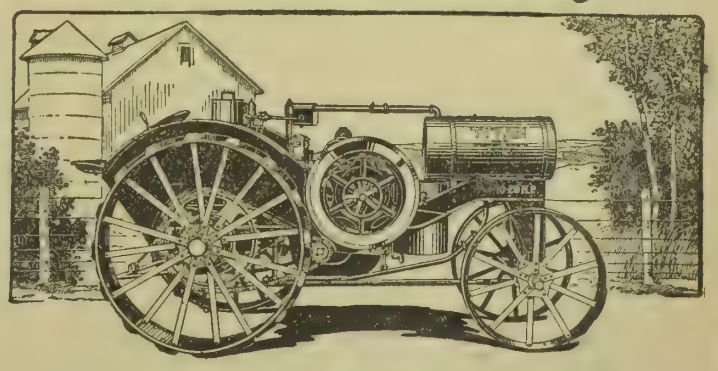
CONSERVE MAN POWER

One man will cultivate **four rows** of beans, perfectly, with this cultivator, which, like most of **our** implements, has been developed at the request of Dealers and Ranchers for a **strong, simply controlled** cultivator, capable of doing their work **better** than would be possible with a lighter tool. The frame is **one piece** of **high carbon steel**—no joints to work loose or sag—holds the wheels **always** true, and in line with the rest of the machine. The **double** frame bar gives ample **clearance** between the standards and **eliminates** the tendency to clog in trashy ground. This frame bar has a **double** lifting device which holds it **rigidly** on **both** sides. The steering device is **easily** operated and **very** accurate. Equipped with **KQ Sweeps** of **our own** design, and made to do the **best** work and **wear** the longest. Furnished with either **Tractor** or **Team Hitch**, and to cultivate rows of **any width**, from 20-inch to 36-inch.

ALSO BUILT TO CULTIVATE 2 ROWS

The Killefer Manufacturing Co.
2209-21 Santa Fe Ave. Box 156 Arcade P. O. Los Angeles, Cal.

Tractor Safety



FOR twelve years and more, shrewd and careful American farmers have kept us busy filling their orders for **International, Mogul,** and **Titan Kerosene Tractors.** In those twelve years our tractors have had to meet every possible combination of field and climate conditions. The types and sizes we sell today are the ones that have successfully met every test. Any one of them is a safe tractor to buy.

One great advantage to farmers who buy our tractors is the fact that we can also supply all the implements and machines that go with the tractor. We know farm needs. Buying from us, you get a complete, well balanced outfit for field or belt work.

Another advantage is our extensive dealer and branch house organization. A telephone call to a nearby dealer brings you promptly a repair, replacement, or adjustment for any machine we sell.

Look at it any way you will, you cannot make a safer tractor investment than to buy an **International, Mogul** or **Titan** kerosene tractor. See our dealer in your town, or write us for full information about a safe tractor for your farm.

International Harvester Company of America
(Incorporated)
Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Milk wholesales in Los Angeles at 12c a quart and 6c a pint. The retail prices are 13c and 7c, respectively.

Mrs. H. I. Marsh of Modesto reports the sale of two Holstein cows and two calves to Fred Hartsook of Lankershin.

J. A. Goodall of Keyes reports the sale of one bull calf to E. E. Greenough of Merced, also one to Mr. Cook of Turlock.

Guy Miller will show a herd of Jerseys at the State Fair. He recently sold two Duroc gilts to the Sanger Lumber Co. of Sanger.

Mrs. Jennie Strader of Ceres intends to show a fine herd of Dutch Belted cattle at the fair this fall unless the labor situation prevents.

A glass of milk from the $10,000 cow Oxford's Briar Flower, was sold recently for $5 and the money put in the Red Cross pail hanging before her stall.

D. F. Conant of Rancho Santa Marguerita of Modesto is doing some official testing and some interesting records are being made. The Jersey people will do well to watch this herd.

E. E. Freeman of Modesto has lots of quality in his herd of 22 Holsteins. His herd sire is Segis Pontiac De Kol Dutch, who is sired by Segis Pontiac De Kol Burk, and his dam is Miss Dutch.

Raphaella Johanna Aaggie 3d of Napa State Hospital dairy has produced 929.4 pounds of milk in seven consecutive days and 3795 pounds in 30 days. That is more than six times the record of the average cow.

The Oakdale creamery established a new record for butter making during June, the total output for the month being 134,000 pounds, or two and a quarter tons of butter per day.

The patriotic farmers of Bodega, members of the Bodega Co-operative Creamery, decided to give one per cent of their cream checks for the month of May to the Red Cross. The result was $300 to that cause.

J. M. Campbell of Escalon, a new breeder of Holsteins, has just finished his first experience in record making with Potoki Johanna 2nd, who is sired by Oak Fobes De Kol Burk, and whose dam is Potoki Johanna. Potoki Johanna 2nd had never been tested. Mr. Campbell reports the sale of two bulls to Leo Pencina of Soledad.

H. A. De Wolf of Ripon is fitting for show a young bull, Sir Skylark Ormsby Korndyke, who is by Sir Skylark Ormsby Hengerveld, who has had the misfortune of being kept in a grade herd for dairy purposes, but by chance 25 of his daughters have been tested and four out of 25, or 16 per cent, have made better than 31 pounds in seven days; 14 others made better than 20, which is considered by Mr. De Wolf as being very good.

Swine and Swinemen.

At the Farm Bureau auction sale of fat hogs, held last week at Hanford, one carload of hogs was consigned and was purchased by the Cudahy Packing Co. for $15.45 per hundred.

The Merced County Farm Adviser says that hog production in that county increased by 1049 head as a result of the recent "raise another pig" campaign conducted by the County Farm Bureau.

G. M. York of Modesto, breeder of Berkshires, sold two fine gilts to J. W. Lewis of Turlock. He has 50 pigs sired by Ring Leader 20th 239090. He expects to show Ring Leader 20th at the State Fair.

P. E. Mitchel of Atwater reports the sale of two Poland-China boars to J. F. Furtado of Merced and A. Hendricks of Merced. Mr. Mitchel donated a gilt to the Junior Red Cross, which was sold for $40.

The Castleview Ranch, Santa Rosa, recently sold two young sows and a boar to E. La Franchi of Sebastopol, also a bred sow to F. R. Bogner of Santa Rosa and a young sow to Leslie Hillis of Sebastopol. All of these animals were purebred Berkshires.

Fred M. Johnson of Napa had the misfortune recently to lose his fine Duroc-Jersey boar, junior and reserve grand champion at the State Fair in 1917. Mr. Johnson will go East immediately after the coming State Fair to get a new herd header and also pick up a few good sows.

H. I. Marsh of Modesto, breeder of B. T. P. C., reports the sale of 16 gilts last week, five going to Gatewood & Sons of Fresno, seven to Fred Hartsook of Lankershin, four to Elmer McCracken of Ripon. Mr. Marsh expects to show a nice herd and there is every evidence we will hear from him in several blue-ribbon classes.

The Highland Stock Farm of Fair Oaks, Sacramento county, recently purchased in the East a yearling Chester White boar, which promises to be the record boar of the breed on the Coast, as his sire and dam were both grand champions at Omaha, and at the recent auction of the Barr herd of Chester Whites the dam, Our Maid 3d, sold for $1,005.

Beef Cattle.

George Murphy & Sons of Perkins will have a nice show herd of Shorthorns at the State Fair.

A cattleman who feeds thousands of head had planned to ship a lot to Imperial Valley, but feed conditions there have restrained him.

Cattlemen from all over the State are donating stock to the California rodeo and Salinas big week committee to be auctioned for the benefit of the Red Cross during the rodeo, July 17 to 21.

White & Tarry of the Glenwood Ranch, Sacramento, pastured 60 head of Shorthorns for six months on 22½ acres of Bermuda grass. Looks almost impossible, but you can see for yourself.

W. H. Paulk of Lassen county insists that there are 10,000 beef cattle in Lassen and Modoc counties more than there will be hay for next winter and that these must be shipped out before snow flies.

A San Joaquin county stockman says his district has about the best feed conditions for beef cattle in the State, but none of his acquaintances are in the market for feeders. They are wondering what they will do with what they have.

Unrestricted use of the national forests for grazing purposes was urged by the cattlemen at their meeting at the State University Farm at Davis, who claimed that 700,000 acres could be added to the State's grazing lands in that manner.

A plan of organization of the California Cattlemen's Association has been decided upon which contemplates the division of the State into five districts, each of more or less allied conditions. Roughly the zones will be: No. 1, Southern California; District No. 2, San Joaquin Valley; District No. 3, coast counties south of San Francisco; District No. 4, Central California and Sacramento Valley; District No. 5, extreme northern counties of California.

Sheep.

L. V. Richardson of Byron recently sold his spring clip of wool for 52c per pound f. o. b. Stockton.

The next three months' supply of mutton for all State institutions will be furnished by the State Farm at Yountville, State Purchasing Agent McMillin has announced.

More wool was used by manufacturers in May than in any other

REGISTERED AND GRADE HOLSTEINS

AT AUCTION

On the W. A. GARVEY RANCH, 3 miles east of MODESTO, 1 mile west of EMPIRE, ½ mile north of Garner school house, on THURSDAY, JULY 18, 1918, I will sell Mr. Garvey's complete herd of dairy cattle, consisting of: 6 Registered Holstein Cows. 1 Registered Bull. 5 Calves eligible to register. One bull calf 11 mo. old. One bull calf 8 mo. old. 2 little fellows, and one little lady. 17 Grade Cows. 5 Heifers from one year to 18 months old. 6 Grade Calves. 13 of this herd are fresh cows, balance are heavy springers, several will be fresh before date of sale. This sale contains the following registered stock: Viola Pietertje Hengerveld De Kol, No. 257274, H. F. H. B. El Valle Imperial Duchess, No. 257274, H. F. H. B. Maid of Sleepy Hollow, No. 110831, H. F. H. B. Roxana Pieterthe De Kol. Vina De Kol Mechthilde, No. 211487, H. F. H. B. The bull: Toyon King Pontiac Boskadel, No. 190401. H. F. H. B. Gentlemen, look this herd up and examine them carefully. You will find some good cattle here. Both registered and grades are nicely marked, heavy producers and mostly young—as fine a bunch of calves as you would care to look at. It is worth the time and travel to see these calves out of this noted sire, for they are beauties. The cattle sell without limit or reserve, as Mr. Garvey's boys are drafted. We will also offer for sale with a reserve 100 tons of good, clean alfalfa hay and forty tons of ensilage. Parties purchasing this hay and ensilage will be furnished free corral and barn room. Don't fail to attend this sale, as it contains some of the best cattle listed this year. Free Lunch. Terms Cash. Sale begins at 11 a. m.

Col. CY. N. CLARK, Auctioneer MODESTO, CAL.

Money in Wool **Money in Lambs**

MERINO SHEEP · SHROPSHIRE SHEEP

Purebred Merino and purebred Shropshire sheep have been bred on our ranch since my father established the flocks in the early days with the best foundation stock. There is money for you in raising sheep of right breeding in your orchard, on your grain ranch, in your vineyard, in your potato and bean fields. On the range my stock will improve your flocks for whichever purpose you want them. Drop me a card, telling what you are interested in.

I have young service Shorthorn bulls also for sale.

Hillcrest Stock Farm

T. S. GLIDE, Prop. DAVIS, CAL.

CARRUTHERS FARMS

MAYFIELD, CAL.

City Address: HEARST BUILDING, SAN FRANCISCO

Shorthorns and Berkshires

At this time we are having a great demand for Berkshires, and while we are pretty well sold down, yet we can supply your wants. Write for prices.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1 REDWOOD CITY, CAL.

HOPLAND STOCK FARM

HOPLAND, CAL.

Shorthorns and Berkshires

WRITE FOR FULL PARTICULARS

San Francisco Office: 226 Southern Pacific Building

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

Fine Typey Young Milking Shorthorns.

Selected from my fathers herd, which was founded with Lewis & Clark exposition stock, including three bulls from Ladd of Portland, Oregon, and was increased with stock from Goethe of St. Helena.

A FEW YOUNG BULLS FOR SALE

W. T. ROBERTS, Prop. Willow Brook Farm PENN GROVE, CAL.

FOR SALE

13 Head Registered

Holsteins

3 cows, 3 three-year-olds and 1 twelve-year-old, all milking; 3 yearling heifers, 2 heifer calves, 1 fine herd bull, 31 months old.

J. G. Yerby,

HANFORD :: CALIFORNIA

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

Ben A. Rhoades, Auctioneer

1501-3-5 So. Main St., Los Angeles, Cal.

REDWOOD TANKS.

35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.

R. F. WILSON, Stockton, Cal.

month of this year, according to the monthly wool consumption report, just issued by the Bureau of Markets.

The number of sheep in the Imperial Valley has increased from 30,000 to 50,000 in 1916 to at least 160,000 this year. Imperial Valley lambs are bringing top prices in Kansas City.

The Clemens Horst Company announced the sale of 3437 acres of its famous Bear River Ranch, near here, to Price Blackford, an extensive wool grower of Yuba county. Blackford will use the tract as winter range for his flocks.

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW.

The classification committee of the California International Livestock Show has completed the premium list for the coming stock show. Besides the generous premiums offered in breeding classes of cattle, horses, sheep and swine, classes for fat cattle have been provided for in single animals, also pens and carloads.

One of the interesting features of the exhibition will be a slaughter test, this being an entirely new departure in connection with livestock exhibitions on the Pacific Coast. Animals entered in the carcass contest will first be judged on hoof and afterwards slaughtered, then judged in carcass and on the block. This is essentially an educational feature and demonstrates the quality of edible meat produced under certain conditions and feeds, the character and type of animals furnishing the ripest and best carcass in the shortest time, and feed consumed.

LIVESTOCK DIRECTORY.

SWINE.

Poland-Chinas.

HAVING RECEIVED SHIPMENT of several fine gilts from the East, will offer three fine gilts and one sow bred for late farrow. Good ones at fair prices. Booking orders now for spring farrow from the finest bunch of sows we ever owned, and the Great Big Bone Bob. Young & Clark, Lodi, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

POLAND-CHINAS, BIG TYPE—Have some exceptionally fine weanlings for sale from big-bone sows and Favorite Best, a wonderful boar. Write Grant Bros., R. R. K. B. 40, Fresno.

LAKESIDE STOCK FARM POLAND-CHINAS are money -makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings county, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES — The Easy Feeding Mellow Type. All bred sows and gilts are sold. I have 15 gilts that were farrowed in May, 1917. These will be bred for September farrow. All are sired by Billiken. One young service boar that is just 13 months old. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

BERKSHIRE GILT FOR SALE—An outstanding pig, just old enough to breed; guaranteed to please. Glenwood Acres Stock Farm, Paso Robles, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRE PIGS—A grand lot now ready for shipment; very best of breeding; $15 to $25 each. Twin Oaks Ranch, Linne, Cal., near Paso Robles.

BERKSHIRES—Only a few choice young boars and gilts offered for sale at present. R. J. Merrill & Son, Morgan Hill, Cal.

MODEL HERD BERKSHIRES — Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, Box 724, W. Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

FOR SALE—Two King Colonel yearling boars sired by King Colonel, dam Crimson Wonder. Good enough to head any breeder's herd. Price $200. Two very typey fall boars and several fall gilts. H. P. Slocum & Son, Willows, Cal.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

RANCHO DEL SUR DUROCS—An exceptionally good December boar. Also few spring boars and gilts. Donald Graham, Lancaster, Cal.

BOUDIER DUROCS sold out excepting some choice boars ready for service. Breeding and satisfaction guaranteed. H E Boudier, Napa.

HERD HEADED by Mandy 13's Taxpayer I am now booking orders for weaned pigs for June delivery. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY weanling sow pigs from champion stock. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal

DOS HERMANOS DUROCS—Boars, gilts and weanlings. Hans Duveneck, Ukiah, Cal

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

BREEDER OF REGISTERED HOLSTEINS—Choice young bulls and heifers by Prince Lunde Korndyke. E. R. Putz, Kingsburg, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

Costs less—

than wood or concrete

Calco Hog Troughs—ARMCO BUILT—rust-resisting, everlasting, cost less to install than to build your troughs with either wood or concrete. Many sizes of Calco Troughs for pigs or hogs. Round bottom and cross bars prevent waste of feed. Calco Troughs are absolutely sanitary.

Two popular sizes: (1) $3.25, length 40 inches, diameter 10¼ inches, depth 5 5/16 inches; (2) $8.30, length 120 inches, diameter 14 inches, depth 7 3/16 inches. Other lengths 24, 30 and 40 inches in either diameter or depth.

ORDER BY MAIL, state size and address.
Shipments made immediately.

California Corrugated Culvert Co.

Los Angeles, 417 Leroy St. — Berkeley, 406 Parker St.

Calco Hog Troughs

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

YOUNG HOLSTEINS—Hengerveld De Kol blood. T. B. King, Visalia.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

Jerseys.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

Guernseys.

49 HEAD OF REGISTERED GUERNSEYS—25 for sale; cows and heifers; May Rose breeding. We are selling all our show stuff that you have all seen at Washington State Fair and Spokane Interstate Fair. You have your pick out of the 45 head; all winners. Will mail you photos and pedigree on demand. Middledale Farms, Goshen, Ore.

FOUNDATION HERD A. R. GUERNSEYS—Two head A. R. cows and young bull; dam 654 b. f. and three-year-old sister 684 lbs. Address "Inquiries," 511 First National Bank Bldg., Berkeley, Cal.

HIDDEN VALLEY FARM GUERNSEYS—Herd headed by Argies Prince, first prize at Sacramento, 1917. Bull calves for sale A. J. Welch, Redwood City, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers, and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Mayfield, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—Two Toggenberg doe kids, 4½ months old. From a four-quart doe. Fifteen dollars each. Address, P. O. Box 344, Healdsburg.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

HORSES AND MARES for sale. Address Thos. C. Still, La Panza, San Luis Obispo county, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glen county, Cal. W. T. Dwyer and W. S. Guilford, owners.

HOGS FOR SALE—Several carloads of feeders, all sizes, from weaned pigs to 150 lbs. All this stock has been self-fed grain from weaning time and is in fine, thrifty growing condition. Box 239, Pacific Rural Press, Los Angeles, Cal.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

ELDERSLEY FARM—Grand champion Angus cattle—Poland-Chinas. Fall boars and weaned pigs, big type, breeding of the best; excellent individuals; prices reasonable. B. B. Ware, Live Oak.

FEED FOR STOCK may be had on 640-acre homestead and adjoining land or Indian land. For free particulars write Joseph Clark, Sacramento.

WANTED—Wolf Hounds. State price. Box 1180, Pacific Rural Press.

Locke Auction Sale Draws Good Crowd

[Written for Pacific Rural Press.]

The auction sale of Locke Jerseys held July 6, at Lockeford, was marked by low prices. There was a fairly good crowd and one would have thought there would have been some good prices paid, but only twice was there any spirited bidding and that was when G. A. Moore of Ripon and J. E. Thorpe of Lockeford became engaged in a bidders' battle over two cows, which resulted in Moore taking Emperis Lass 218446 for $510, the highest price of the sale, and Thorpe getting Valet's Golden Biddy of L. 259973 at $500, which was next highest.

The sale had been well advertised by the California Breeders Sale and Pedigree Co. and there were buyers from almost every part of the State. The auctioneers, Col. Perry of Columbus, Ohio, and Col. Rhoades of Los Angeles, did everything possible to make a better average, but the bidders were there to buy just as cheaply as possible and did so, with the cows averaging $150.50.

Mr. Locke was a game loser and took his loss with a smile. Only once did he raise a protest, and that was when he withdrew the unsold bulls from the sale. He said the bulls are not bringing beef prices and that he was willing to distribute them at beef prices, but would not stand to see the butcher buy them at one-half price.

Following is a list of the animals sold (as per catalogue number), together with the buyers and prices obtained. Unless otherwise designated, the animals sold were cows:

5	J. H. Sawyer, Galt	$120 00
30	J. H. Sawyer, Galt	175 00
39	J. H. Sawyer, Galt	125 00
53	J. H. Sawyer, Galt	100 00
54	J. H. Sawyer, Galt	165 00
67	J. H. Sawyer, Galt	165 00
81	J. H. Sawyer, Galt	100 00
84	J. H. Sawyer, Galt	125 00
11	M. A. Luce, Santa Rosa	195 00
23	M. A. Luce, Santa Rosa	235 00
43	M. A. Luce, Santa Rosa	105 00
60	M. A. Luce, Santa Rosa	95 00
76	M. A. Luce, Santa Rosa	130 00
77	M. A. Luce, Santa Rosa	105 00
85	M. A. Luce, Santa Rosa	105 00
86	M. A. Luce, Santa Rosa	195 00
13	J. R. Widrick, Modesto	295 00
29	J. R. Widrick, Modesto	115 00
32	J. R. Widrick, Modesto	105 00
49	J. R. Widrick, Modesto	125 00
58	J. R. Widrick, Modesto	100 00
70	J. R. Widrick, Modesto	100 00
15	Peter J. Shields, Sacramento	210 00
21	Peter J. Shields, Sacramento	130 00
75	Peter J. Shields, Sacramento	120 00
89	Peter J. Shields, Sacramento	120 00
7	W. B. Hauch, Riverdale	90 00
12	H. S. Smith, Modesto	175 00
17	H. S. Smith, Modesto	85 00
18	H. S. Smith, Modesto	155 00
48	H. S. Smith, Modesto	110 00
35	J. E. Thorpe, Lockeford	500 00
65	J. E. Thorpe, Lockeford	300 00
69	J. E. Thorpe, Lockeford	155 00
74	(bull) J. E. Thorpe, Lockeford	50 00
33	G. A. Moore, Ripon	510 00
38	G. A. Moore, Ripon	180 00
73	G. A. Moore, Ripon	140 00
88	G. A. Moore, Ripon	80 00
34	E. J. Wilson, Ripon	350 00
45	E. J. Wilson, Ripon	180 00
57	E. J. Wilson, Ripon	170 00
6	(calf) B. S. Trouth, Tracy	10 00
56	B. S. Trouth, Tracy	80 00
26	D. O. Lively, San Francisco	275 00
63	D. O. Lively, San Francisco	75 00
52	G. L. Futz, Riverdale	90 00
27	(bull) G. L. Futz, Riverdale	42 50
46	A. Nealson, Walnut Grove	170 00
87	Robert A. Wear, Sacramento	90 00
91	(bull) M. A. Andrew, Imperial	95 00
21	B. A. Goodwin, Ripon	120 00
20	J. R. Garrison, Lockeford	105 00
28	Arthur Eriekson, Orland	165 00
32	A. W. Noland, Santa Rosa	125 00
41	J. M. Goins, Stockton	85 00
61	(calf) J. M. Goins, Stockton	18 00
59	(calf) Morris Rucker, Sacramento	15 00
83½	(calf) Morris Rucker, Sac'to	10 00
37	(bull) P. Sanfer, Reedley	50 00
83	T. W. Olsen, Modesto	100 00
66	F. S. Darrow, Modesto	125 00
14	T. W. Elleby, Modesto	75 00
82	(bull) W. H. Du Frane, Escalon	47 50
51	S. E. Macks, Fair Oaks	90 00
78	Will Grieves, Davis	110 00
95	(bull) C. Jungeblute, Lodi	75 00
19	Burt Banta, Tracy	90 00
50	(bull) Burt Banta, Tracy	30 00
99	(bull) Wm Sayres Bolinas	300 00
72	D. L. Stevens, Lockeford	100 00
71	D. B. Horr, Oakley	80 00

Rare Dairy Breed in California

[Written for Pacific Rural Press.]

Californians have an opportunity to see a remarkably uniform pure-bred herd of a rare breed of dairy cows. There are only about 1500 registered Brown Swiss cattle in the United States, most of them being in Wisconsin. There is only one herd in California, that of M. Pedrotti of San Rafael, whose ranch is near Ignacio.

A few years ago Mr. Pedrotti had a common dairy herd. His cousin's Brown Swiss bull broke the fence and bred some of the Pedrotti cows. The calves that came and developed as a result of this made Mr. Pedrotti see a light. He went back to Wisconsin and bought 14 head of registered Brown Swiss for $5,200. He learned that a Brown Swiss cow had beaten all other breeds for economy of production in the University of Wisconsin herd in a year's test ending May 15, 1909. "Mernie" was one of two Brown Swiss cows in the herd of 35, including Holsteins, Jerseys, Guernseys, and Ayrshires. Mernie's record for 12 months at five years old was 13,653.7 pounds milk containing 554.49 pounds fat. Her cost of feed was $114.18. The net profit was $114.18. The record was a great one at that time, and though the breed has not been developed as other breeds have been, better records have since been made by Brown Swiss. The cow College Bravura has the highest Brown Swiss butterfat record in the United States—798.16 pounds from 19,460.6 pounds milk. A three-year bull owned by Mr. Pedrotti is by a son of this cow.

Brown Swiss cattle are not valueless when they are discarded from the milking herd. Mr. Pedrotti sold a half-breed weighing 810 pounds dressed this spring. He got $145 for it. The two bulls he is using on the herd would be broad and flat crosswise of their backs if they were not creased by the flesh built up high along each side of the backbone. They are not fat, being fed nothing but grain hay, but their hind quarters are built low and full like a beef animal. They are of a very dark fawn color. The cows and heifers, as we watched them parade down a path through the brown grass of the hills, gave first the impression of remarkable uniformity. Their back lines and rumps were well-nigh perfect, their frames smoothly covered with flesh, their skins moderately loose and fine, of a solid medium fawn color, not varying much in shade, their udders not meaty nor particularly large but all with four well-balanced quarters. Their heads seemed a trifle oversize to one accustomed to the other dairy breeds, but strictly feminine. The foreheads are wide and the muzzles notable for capacity. The ears are large and filled with long hair. The barrels are typey and capacious, though the animals are not generally as large as Holsteins. The shoulders are fine, the legs straight and short, with strong pasterns.

Mr. Petrotti's thirty-four registered females and calves are all but one descended from the original fourteen, many of which were from stock that have since made records. One of these, Rhoda, is one of the ten daughters of Swiss Wylie Girl 7th. The latter cow was grand champion at the 1917 National Dairy Show and has a record of 539 pounds fat. Rhoda has had three heifer calves for Mr. Pedrotti. She was 20 months old when he bought her in 1914. Two of her daughters have had heifer calves. If these latter have heifer calves, Mr. Pedrotti will feel that he has a family of heifer producers. The herd includes two daughters of Madame B. and the dam herself, whose two-year-old record is 363 pounds butterfat; a daughter of Madame Lachlan, 522 pounds fat; a daughter of Molly P., 512 pounds butterfat last year as a 15-year-old; a daughter of Lorelei, 491 pounds fat; two daughters of Nava 3rd, 425 pounds fat; a daughter of Myrtle, 412 pounds fat; and a three-year-old son of Lorelei, now used as one of the herd sires.

SAVE $12.00 A HOG

SEND for the "Fact Book". Tells how to raise premium quality milk-fed pork for 11 cents a pound. Talks common sense, proven facts, not theories. Packed with information, which you can turn into profit. Get your free copy today.

GROWING PIG FEED — A1 — FATTENING HOG FEED

More Hog for Less Money, and Quicker

FOR POULTRY Globe A1 Buttermilk mash will put your flock in glowing health, stop chicken funerals, produce more eggs. Sample and folder sent free

GLOBE MILLS
911 East 3rd St., Los Angeles, Cal.

The DRY BUTTERMILK DOES IT

PRINCE ALCARTRA KORNDYKE
Is a 40-lb. Bull

But that doesn't begin to tell the story. His sire is Korndyke De Kol's Prince, whose offspring rank with the offspring of any bull that ever lived in combined production and individuality. His dam is the one and only Tilly Alcartra, the cow that made a 40-pound record as an incident, not as a real objective, for she did it after five straight years of yearly test, during which she produced a volume of milk and butter unapproached by any other cow of any age or breed. And today at past nine years of age she is making the greatest record for milk and butter of her whole career.

We have only a few sons of Prince Alcartra on hand. We know if you could see them and find how moderately we price them that you would want one to head your herd. Come and see us, or write your wants.

The J. S. Gibson Co.
Box 97 WILLIAMS, CAL.

The only Bull in California

In service whose dam as a heifer made above 36 pounds butter in 7 days and above 1,100 pounds in one year. She is a daughter of Prince Gelsche Walker and of De Kol of Valley Mead 2nd, who formerly held the world's record for 2 years' product won by a heifer.

King Korndyke Pontiac 20th

His sire, King Korndyke Pontiac, is conceded to be the best individual son of King of the Pontiacs in the west, and he is out of a half sister to Prince Gelsche Walker.

Keep your eye on this breeding in our herd as well as others, and make up your mind early to have a son of this great young sire.

At present we have only a few young bulls on hand, sired by Prince Riverside Walker, our senior herd sire. Visit us or write your needs.

Our Entire Herd is Tuberculin Tested

Tulare Holstein Farm
W. J. Higdon, Owner TULARE, CAL. H. L. Redd, Herdsman

COWS WANTED

Would like to rent for few months a number of first-class Holstein or Durham cows. Have fine ranch and plenty of feed. Write to

OAKWOOD STOCK FARM Lathrop, California

Don't Let Tuberculosis Get Your Hogs

(Continued from page 28.)

not allowed to stand until putrefactive changes have taken place. If proper precautions are taken, it can be fed with safety and is of great economic value.

5. Tuberculous human beings. It has been proved that hogs can contract tuberculosis through eating the sputum of consumptives, and no caretaker affected with this disease should be allowed around them.

6. Tuberculous poultry. The frequent association of hogs and fowls make it important to see that tuberculosis does not exist among the fowls.

7. Tuberculous sows. The disease may be transmitted from a tuberculous sow to her pigs, but this manner of infection is quite infrequent as compared with the number of cases that can be traced to tuberculous cattle.

UNPASTEURIZED SKIM MILK MOST DANGEROUS.

All of the last five sources are of minor importance, and the vast majority of cases of tuberculosis will be found to result from feeding unpasteurized skim milk from untested cows, and allowing the hogs to run with them. When these methods of infection are controlled the disease will be greatly reduced.

Unfortunately there are no external symptoms of the disease, except in very advanced cases. Often hogs that prove tuberculous when slaughtered are the finest appearing animals in the herd. The intradermal test may be used to pick out the affected animals, but it is not infallible, and Dr. Hayes does not recommend it in the average case. However, he made the encouraging statement that even where tuberculosis is known to exist in a herd of hogs, if they are not fed raw milk from an untested herd, and if the other precautions mentioned are observed, the disease can be eradicated after a few generations of breeding.

HOW TO PASTEURIZE THE MILK.

So if we are feeding skim milk it it up to us to do one of two things for our own safety: either have the cows tested and feed only the skim milk from those that are found healthy, or pasteurize all skim milk before feeding it. To pasteurize the milk means to heat it to 145 degrees and hold it at that temperature for thirty minutes, or heat it to 175 degrees and hold it for one minute. The former method is generally used. If the pasteurized milk is not used at once it must be cooled quickly; otherwise chemical actions take place which cause digestive troubles.

How can the milk be pasteurized? Well, if you have only a few cows you can have a small tank made to place on top of your oil stove or whatever you use to warm water for washing the dairy utensils. If you have a large dairy it will pay you to put in a regular pasteurizing outfit, but don't let anybody talk you into buying one of the expensive outfits such as are used by creameries.

A PASTEURIZING OUTFIT.

At my ranch we have had a comparatively cheap outfit in operation for over a year, and it gives perfect satisfaction. For $225 I bought a second-hand 4-horsepower boiler and a new 200-gallon vat with a cover. Through this cover goes a ¾-inch pipe to about a foot from the bottom of the vat. Here it ends in a tee, with two long perforated pipe arms. The steam from the boiler, passing through these perforations, heats the milk in the vat very quickly.

Also we use the boiler for sterilizing the dairy utensils, and for furnishing hot water to the public bathroom located in one corner of the separator house, thus cutting down on the overhead expense.

More than you can afford to pay? Don't decide this too hastily. Some great man has said that 90 per cent of wisdom consists of being wise in time. The successful man studies carefully the conditions that will affect the future, and lays his plans accordingly. And if you study carefully the conditions affecting the future of hog raising you will decide that an investment of about $200 now will save you thousands of dollars later on.

DO IT, AND DO IT RIGHT AWAY.

True economy does not always mean saving money. Often it implies an expenditure instead, for it means the use of money in such a way that you will get the greatest ultimate benefit. And if you have an untested herd of cows you can hardly use money to better advantage than in installing a pasteurizing plant. It will prove a sound business investment—one that will pay big dividends.

Better put one in right away. Don't wait until after the horse is stolen before you lock the barn door.

SHEEP ON ALFALFA.

E. D. Dudley's sheep get nothing but green alfalfa or green grass while it is growing. He has 500 ewes, has bred Shropshires 22 years on one place. He also has Rambouillets and crossbred Shropshire-Merinos, as told us by Goodwin Horigan, who takes care of them. Ewes pregnant or with lambs are put on bush alfalfa, but are moved when they get it cleaned so it looks stemmy. Dry ewes are then put onto it or lambs which are to be kept thin for breeding. If none of these are ready for it, the stems are mowed off and nothing more is put on until it has grown high again. The alfalfa starts much sooner if not pastured too closely. After weaning time, the alfalfa is cut for hay; for Mr. Horigan says that the sheep get too fat if they have good alfalfa all the time. Mr. Dudley's sheep seem to have no trouble with bloat, possibly because they have been kept on alfalfa so many generations. But most people lose sheep by bloat, and it is well to follow the practice of Bullard Bros. of Woodland, who let the alfalfa for sheep get rather ripe. They have observed that young alfalfa and frosted alfalfa bloat sheep worst.

The Steinbeck Bros. of Bloomfield have 1000 head of Merino sheep on their place, which they bought last fall at $12 per head. They say they have just shipped 5200 pounds of wool, their first clip, to Boston and are well pleased with their purchase. The sheep are not much more trouble than twelve calves that they are feeding, they say.

We are selling a hog that a farmer will want to buy at a price a farmer can afford to pay.

Write for illustrated booklet telling about our Berkshire herd and

Star Leader.

ANCHORAGE FARM Orland California Quality Products

Big Type Poland-China Gilts

Fifteen open and bred gilts sired by Chieftan, son of Bernstein's President, and out of J. O. Orange sows. Also a few young service boars of the same blood.

DIXON **HEWITT & HEWITT,** CALIFORNIA

SPECIAL OFFERING:

Three Berkshire Boars

Ready for service. They are bred along Rival's Champion Best blood lines, and exceptionally good individuals. Price, $50.00, $60.00, and $75.00 each, resp. If interested, write us for further description.

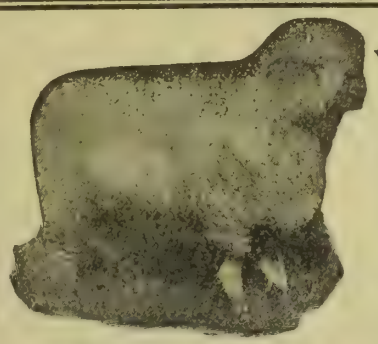
IMPERIAL STOCK FARM,

R. J. MERRILL & SON, Prop. Morgan Hill, California

KIMBLE RAMBOUILLETS

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots. Prices reasonable. Correspondence solicited.

CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.



Champion Ram, P. P I. E.

SAN RAMON SHROPSHIRES

WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.

Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON.

Contra Costa County, California.

SANTA ROSA

Shropshire Farm

We are establishing, on the old Taylor Ranch near Santa Rosa, a breeding herd of 2000 purebred Shropshires, all descended from the original importation of 200 by Gov. Sparks of Nevada and from registered rams. These are the pick of thirty years' breeding in connection with our father, G. C. Wheeler at Reno, Nev. Yearling and two-year rams for sale. Before the breeding season, we will sell a number of ewes.

WHEELER BROTHERS, Santa Rosa, Cal.

FOR SALE 1000 one and two-year old

Shropshire Rams

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

Phone No. 251-F-2 C. E. BARNHART Suisun, Cal.

FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM,

W. O. Pearson, Prop. Woodland, Cal.

B-K Bacili-Kl for **Abortion**

Write for evidence from users and our Trial Offer. Ask your dealer for our FREE BOOK "Contagious Abortion."

General Laboratories Madison, Wis. Dept. 3429.

Marketing Small Wool Clips

To the Editor: I have about 800 pounds of Shropshire and 300 pounds of Merino wool. A number of my neighbors have 300 to 1500 pounds. How is the best way for us to sell? We have not enough to consign and wait for our money. If we send to a dealer, who is to grade and inspect the wool so we get full Government price less legal deductions? —R. H. F., Modesto.

If you cannot wait for your money a little while, you will have to sell to a licensed local buyer, whose gross profits on the entire season's business must be not over two cents per pound, or the excess will be taken by the Government. He will ship to an approved dealer in one of the approved distributing centers. You could do the same if you could collect a minimum carload of 16,000 pounds. In that approved dealer's warehouses a "Government valuation committee" would as soon as possible inspect and certify the grade of each lot and would direct the dealer where to send it. The Government or the mills to whom the wool goes must pay this last dealer a percentage on the selling price. The dealers may advance to the growers up to 75 per cent of the value of the wool, but the growers must pay 6 per cent interest on such advance until the wool arrives at the distributing center. The growers are entitled to their money on the day the wool arrives; but as the work is so extensive there may be some delay in grading. For all such delay the grower gets 6 per cent interest on the money due him. The price as set by the Wool Division of the War Industries Board gives the amount that will be paid by the Government or the mills after scouring and on the Atlantic seaboard. For Western wool the price varies from $1.80 per pound to $1.03, there being "choice," "average," and "inferior" classifications of each of 16 grades and "twelve months" and "eight months" classes for California wool. From these prices will be deducted the amount of freight from point of origin to the Atlantic seaboard, regardless of which distributing center the wool is first sent to, and the cost of scouring will also be deducted. The distributing centers for Western wool are Portland, Ore.; Chicago, Ill., St. Louis, Philadelphia, New York, and Boston. Since we have no adequate scouring station in California, we pay high freight East on at least 50 per cent waste, and the Wool Growers' Association of California is working on this problem We can supply names of reputable wool dealers in these markets to whom car lots may be shipped under the above conditions, or we can supply names of San Francisco buyers who will handle the wool as noted above for not more than two cents per pound.

MOVING LIVESTOCK TO OTHER COUNTIES.

To the Editor: I want to move some cattle to the coast counties north. Is there any restriction or must permits be secured?—M. L., Mountain View.

[Answered by Dr. J. P. Iverson, State Cattle Protection Board.]

With the exception of a few counties in Southern California, there are no restrictions on the movement of livestock between the various counties unless a special quarantine has been issued by the Board of Supervisors, State Veterinarian, or others against such movements. We know of no reason why at present you could not move from Santa Clara to Mendocino without any restriction.

WESTERN STOCK FEED CONDITIONS.

Reports from delegates to a conference of Food Administration officials of the Western States recently showed, according to L. A. Nares of the California Food Administration that Washington State has feed enough for its own cattle; Oregon will be short of feed, but Idaho can take care of her surplus cattle; Utah can care for any Nevada cattle which may be shipped out for lack of feed. Arizona and California are both short of feed and the Administrators are making every effort to prevent cattle being shipped into these States, even into one from the other.

HOGS FATTENED ON WASTE RAISINS.

Thirty hogs, weighing about 110 pounds each, were bought one time by Glen Onstott of Sutter county and filled up a few days, then turned into a neighbor's 10-acre raisin dry-yard and 60 acres of vineyard. Thirty-two days later he sold them, weighing 185 pounds, having gained over 44 pounds each on the waste raisins and vine pasturage.

SAVE YOUR HOGS

Raise Your Hogs and Cattle at a Profit
Assist Nature by Feeding
ECONOMY STOCK POWDER
A general conditioner, a worm expeller and a disease preventive.
Send for FREE SAMPLE and our BOOK on LIVE STOCK.
ECONOMY HOG & CATTLE POWDER CO.
Hearst Bldg. San Francisco, Cal.

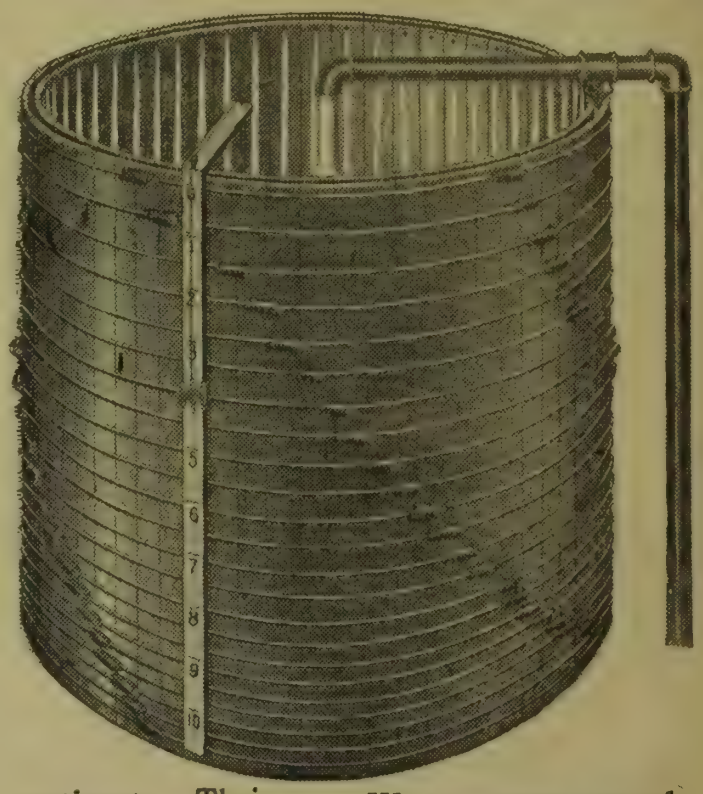
DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING COMPANY LOS ANGELES

Secret of their long life —special non-shrinking feature.

DURABLE REDWOOD

PACIFIC REDWOOD TANKS



are holding water on three continents. Their remarkable long life is due to non-shrinking—the patent feature found only in PACIFIC TANKS.

Pacific Redwood pipe is scientifically built of seasoned lumber, clear, dried wood free from knots, splits or deadwood.

The staves are tongued and grooved, wound with galvanized wire, and rolled into a preservative to protect the wire from corrosion and rust.

Our engineers, with a world of experience, are at your service.

A PACIFIC Redwood tank and pipe outfit costs less to install than any other, and lasts twice as long. *INVESTIGATE.*

Redwood is the most durable of woods for exposure to all climates.

Water preserves redwood. Keep the channel filled with water. Joints are kept tight by water flowing down inside.

PACIFIC TANK & PIPE CO.
THE STANDARD SINCE 88
15 Pine Street, San Francisco
911 Trust and Savings Bldg., Los Angeles

Pacific Tank and Pipe Co.
Address nearest office.

Gentlemen:
Please send promptly your catalogue of Water Tanks.

I need a tank to hold_____ gallons.

It should be mounted on a tower _____feet high.

The water to be delivered from _____

Pipe { Length_____ Size_____

Name_____

Address_____

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SUGGESTIONS ON FALL HATCHING.

It has been suggested that I give a series of papers on the subject of fall hatching. Now, there is nothing more need be said until mating time, provided those who intend to hatch are following instructions given about the male birds and the care of the hens.

FALL HATCHING NOT A NEW IDEA.

Fall hatching on this Coast is about as old as the poultry industry itself. There have always been enterprising men and women who were a little ambitious to get ahead of the crowd. It's hard to say who originated the idea, but I know it has been done for the last 25 years. The reason is that during August, September and October we have clear, warm weather, except for a few rains in early seasons that amount to little except to cool the earth and start the little green to coming—just everything that chicks need. I have seen chicks brooded and raised in a tent at Healdsburg—1600 of them in a big canvas tent. They were put in at one day old and never taken out—that is, at night—until the pullets were laying. That was a very rainy season, too, but the mortality was less than 7 per cent. The chicks ran out during the day. The tent was put on high ground and the short sweet grass nearly fed them.

TEACHING CHICKS TO ROOST.

When the chicks were eight weeks old the brooders were taken out and in their place a load of straw was put at one side of the tent, while at the other side a row of low perches were set up. The first night or two the chicks nested in the straw, but they soon discovered the perches and the most precocious went to roost and soon they were followed by others, until before they were three months old all were perching. There was not one case of roup or colds in that whole bunch, and the man who raised them was not an old chicken man either, but he paid strict attention to keeping them clean and feeding what was necessary to keep them growing. I don't suppose those chicks ever missed a day going outdoors. At night they had the same even temperature all over the tent; fresh air in abundance, without drafts.

FALL HATCHING TWENTY YEARS AGO.

Twenty years ago fall hatching was as common as spring hatching, because the one who had broilers in the early winter had a gold mine, while the one who had broilers in April might just as well knock them on the head and cook them up for the pullets—and that was done many times because there was simply no sale for Leghorn broilers in the spring. Any other kind could get a quotation, but not the Leghorn; he was too common. Now it is safe to predict that during the coming winter Leghorn broilers will bring 75 cents a pound and at 12 weeks old they ought surely to weigh 1¼ to 1½ pounds. You may figure it up for yourselves.

EGGS WILL BE HIGH.

Egg prices will also be up, but they have been so before when broilers did not bring the price they do now. I paid 45 cents a dozen for eggs once and went to Cloverdale for them myself so that they would not get jarred. I moved my bed into the basement so I could watch the incubator—and then got about 20 cents a pound for the broilers! We thought that price was big, too. The Pacific Coast poultryman is coming nearer to getting a square deal now than ever before, and the man who can't make money now never could do so. Take my word for it this once and fix up to get out one or two good fall hatches—one in September and one in November if you can accommodate two. If not, be satisfied with one and take extra care of them. When you start the incubator have a piece of ground ready and start a lettuce bed at the same time; then watch the chicks transmute lettuce into greenbacks.

RABBITS DIE IN CONVULSIONS.

To the Editor: My young rabbits, from ten weeks to three and a half months old, are dying. I think it's bowel trouble. I am feeding barley and red oat hay, also some greens. The rabbits are apparently well the night before and I find four or five dead in the morning. They have a little fever to start with, then they get bloated, run all around their pen for a few minutes, then die in convulsions.—Subscriber.

Feeding oat hay, barley grain and green feed is not really necessary, and is most likely the cause of the disturbance. Barley and green feed go well together, especially if the barley is rolled. There may be too much hull in the red oat hay that causes irritation somewhere. Anyway, the simple feed of two articles is best. Some rabbit breeders think green and dry feeds should not be served, believing it best to feed either all dry feed or all green feed. Try a change, anyway, because you could not hit it much worse. Leave out one of the articles and feed a little rock salt. Give plenty of fresh water.

TURKEYS AND FRUIT.

[Written for Pacific Rural Press by W. P. Brown.]

Otto Muller in the past two years has spent considerable money, time, and thought in the development of his ranch, a few miles south of Madera. He has 160 acres of young olives two years old, which show fine growth and represent good care. Every tree has had a dose of fertilizer from his poultry houses. Mr. Muller has set out 120 acres to figs, 30 to Kadota for early shipment, the balance to Calimyrnas. In addition to this, he has extensive brooders to take care of as many as he may get from 10,000 incubated turkey eggs. He obtained a large lot of his eggs from John Mee of St. Helena. He feeds clabbered milk and eggs first, then lettuce (two acres of which he now has growing), from that to alfalfa, then to a 3000-acre stubble range he has leased for them. There he will keep them in units of 400 to 500 with a herder to each unit. He plans to provide portable corrals with roosts and some kind of awning or covering for shade during the hours of intense heat. Mr. Muller says, so far as the poultry enterprise is concerned, there may be some losses and failures but no discouragement or quitting the game. In one way he will reap a large result from his poultry enterprise—that is the by-product in the way of fertilizer for his extensive orchards.

POULTRY NOTES.

H. F. Marsh, Santa Rosa, thinks a whole crop of troubles follow in the wake of inbreeding.

Black Minorcas are not desired on the table-fowl market, according to a big dealer, because of their black pin feathers and dark meat. Rhode Island Reds make the strongest demand.

Mr. Petersen of Petaluma, who keeps about 3000 hens, said that when they began to talk of taking the wheat away from the poultryman they all thought right there was the end of profitable poultry business, but that his chickens had never done better than now.

The most fortunate thing about the Pacific Duck Ranch at Petaluma is that the 15,000 ducks that make it their stopping place for a few weeks, more or less, do not all decide to quack at the same time. Mr. Ward, the manager, said they will hatch out about 30,000 this season. They feed the young ones from nine to eleven weeks and then market them.

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

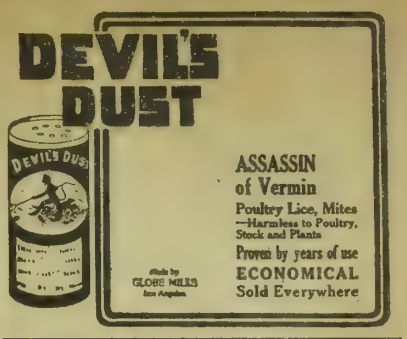
INCUBATORS—BROODERS—All the highest awards at the P.-P. I. E. Free catalogue. Victor Incubator Co., 1378 Market street, San Francisco.

EASTMAN'S BRED-TO-LAY, Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS. The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W Park St., Stockton, Cal. Stamps.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.



METHODS OF PREPARING DRIED FRUITS FOR THE TABLE

Ruth E. Cruess and William V. Cruess, University of California, Berkeley, Cal.

MOST HOUSEWIVES assume that the only way to serve dried fruits is in the stewed form. As a matter of fact, there are dozens of attractive ways in which they may be prepared. At the suggestion of Mr. F. T. Swett, we have collected from various sources a number of recipes for their preparation and have devised and tested several new recipes. The results of this work appear in the following pages. It is realized that many other recipes are possible and in use and the writers will greatly appreciate copies of such recipes that readers of this article would care to send us.

In most of the following recipes, peaches, prunes, pears and apricots may be used interchangeably. The fruit will be much more like fresh fruit if it is soaked for from 24 to 36 hours before cooking.

PEAR RECIPES.

Soak 24 hours, cook slowly 15 minutes in water to cover. Add sugar to taste.

PEAR SALAD.

Use these cooked pears with lemon juice over them and mayonnaise for salad.

BAKED PEARS.

Use the soaked pears. Put lemon juice and chopped nuts over them; sprinkle sugar on top; put a little water in pan and bake slowly ¾ of an hour.

PEAR TAPIOCA.

Four cups of scalded milk, 1/3 cup minute tapioca, 3 eggs, ½ cup sugar, 1 teaspoon salt, 1 tablespoon butter, 8 pears.

Soak tapioca 1 minute in milk. Cook in double boiler 30 minutes. Beat eggs slightly; add sugar and salt; pour on eggs gradually the hot mixture. Turn into buttered baking dish in which the soaked pears have been placed; add butter and bake 30 minutes in a slow oven.

BREAD PUDDING.

One small loaf stale bread, butter, 3 eggs, 6 pears, ½ cup sugar, ¼ teaspoon salt, 1 quart milk.

Grind bread to crumbs, soak in milk until soft. Beat eggs slightly; add sugar, salt, and combine with milk and crumbs. Cut pears in rather large pieces and mix with the first mixture. Place in buttered baking dish and bake slowly 1 hour.

PEAR PIE.

One and a half cups flour, ¼ cup fat, ¼ cup butter, ½ teaspoon salt, cold water, pears.

Line pie tin with rich pie crust and fill with pears. Sprinkle with sugar, dot with butter, and put on top crush. Bake in quick oven.

DRIED PEAR PUDDINGS.

Sweeten and season with nutmeg enough cold-cooked cereal to line the required number of custard cups. Three cupfuls will be needed for six servings. Fill the centers with chipped, cooked, dried pears, stewed with a little ginger root, heaping the mixture. Cover the edges of cereal with crumbled dried cake crumbs, dot with butterine or butter, and bake for 30 minutes.

If convenient, top each serving with half a nut meat, a raisin, a stewed cranberry or a bit of bright jelly, for there is no better way to make an every-day dessert uncommon than to dress it up.

PEACH RECIPES.

Soak peaches 24 hours. Add a little lemon juice. Cook till tender.

PEACH CUP.

Eight cooked dried peaches or apricots (16 halves), 2 eggs, ½ cup milk, 1½ cups flour, 3 tablespoons baking powder, ½ teaspoon salt, 1 tablespoon butter.

Slip the skins of the peaches, mash two of them and add the well-beaten egg yolks. Add the milk, then the dry ingredients (through the sifter). Melt the butter, add it to the flour mixture. Beat well, then cut and fold in the well-beaten whites. Put a layer of the mixture in the bottom of a custard cup; add half a peach or apricot, and cover with batter. Sprinkle granulated sugar over the top and bake in a moderate oven 20 minutes. Turn from the cups and serve hot with hard sauce or with plain or whipped cream.

DRIED PEACH PUDDING.

Boil 1 pint of milk and while hot turn it over a pint of bread crumbs. Stir in 1 tablespoon of butter and 1 pint of dried peaches, stewed until tender and put through a sieve. When cool, add 2 well-beaten eggs, half a cup of sugar and a pinch of salt. Put in a well-buttered baking dish and bake ½ hour.

CREAM PEACH PIE.

Wash the peaches, after soaking 24 hours. Put the peaches through a sieve.

One cup peach pulp, 1 cup thin cream, 2 egg yolks, 1 tablespoon corn starch, 2 tablespoons lemon juice, 1 teaspoon vanilla, ½ cup sugar.

Cook the cream and corn starch in a double boiler until thick. Add the rest of the ingredients, fill the pie crust with the above, bake in an oven of moderate temperature. When done, add the meringue made from the 2 whites of eggs to which has been added 3 tablespoons of sugar, brown a delicate brown in the oven. You may substitute either dried prunes or apricots instead of the peaches.

PEACH BAVARIAN.

One-half box gelatine, ½ dozen cooked peaches, ½ cup cold water, ½ cup sugar, whip from 3 cups of cream, 1 tablespoon lemon juice.

Soak gelatine in water. Heat peaches; add sugar, lemon juice and soaked gelatine. Chill in cold water, stirring constantly. When it begins to thicken, fold in the whip from cream. Mold and chill.

PEACH MOUSSE.

One quart thin cream, 10 cooked peaches, 1 cup sugar, 3 tablespoons hot water, 1¼ tablespoons granulated gelatine, 2 tablespoons cold water.

Soak the gelatine in cold water and then dissolve in hot. Add peaches, which have been put through sieve. Set in cold water and stir. When beginning to set, fold in the whip from the cream. Put in mold, cover, pack in salt and ice, and let stand 4 hours.

DRIED PEACH PIE.

Stew dried peaches that have been soaked over night in cold water. Sweeten to taste; add 1 teaspoon lemon juice for 1 cup dried fruit mashed fine. Dust with flour, add a bit of butter, and bake with an upper crust.

DRIED PEACH AND RICE CROQUETTES.

One-half cup rice, ½ cup boiling water, ½ cup sweetened dried peach pulp and ¾ cup liquid in which it was cooked, ½ teaspoon salt, grating of lemon rind.

Wash the rice; add it to the water, with the salt; cover and steam until the rice has absorbed the water, then add the fruit, fruit juice and lemon rind; steam until the rice is done. Cool; shape into balls, brush over with milk, roll in fine, dry bread crumbs; fry in deep fat till golden brown, and garnish the top of each with a marshmallow. Serve with a sauce made of extra stewed peaches thickened with a little corn starch.

As fish needs the combination of an acid dessert, it was found that the two could often be prepared and used at the same time.

APRICOT RECIPES.

APRICOT CONSERVE.

One pound dried apricots, 1 quart cold water, 1 cup raisins, 2 pounds walnuts, juice 1 orange, juice 1 lemon, 1 whole orange, 1 pound sugar.

Add water to carefully washed apricots; cover and let stand over night. In the morning add seeded raisins and nut meats, cut into pieces and the fruit juice and orange cut into slices. Add sugar, bring to boiling point, and let simmer for 1¼ hours, stirring occasionally to prevent burning.

APRICOT CONSERVE.

One pound dried apricots, 1½ quarts water, 2 cans shredded pineapple, sugar.

Wash the dried apricots and soak them in the water. Cook the apricots until tender in the water in which they were soaked. Press through a strainer. Combine the cooked fruits and measure. Add one-half as much sugar. Cook until thick. Pour into sterilized glasses. When cool, seal and cover as directed for jams.

APRICOT SOUFFLE.

Drain and reserve syrup from 1 quart cooked apricots and cut fruit into quarters and then put closely together on bottom of a buttered baking dish. Pour over custard souffle mixture. Bake from 35 to 40 minutes in a slow oven. Serve with apricot syrup and whipped cream sweetened and flavored with vanilla or vanilla ice cream. Canned peaches may be used instead of apricots.

STEAMED FRUIT PUDDING.

Two-thirds cup bread or cracker crumbs, 2/3 cup flour, 2 teaspoons baking powder, 1/3 cup fine suet, 2/3 cup sugar, 2 eggs beaten till light, 2/3 cup prune or apricot juice from cooked dried fruit, ½ teaspoon salt, 2/3 cup milk.

Mix first five ingredients; mix rest; blend the two. Steam 2 hours in a tightly closed mold. Give plenty of room to swell. Serve with liquid or hard sauce.

APRICOT OR PEACH SPONGE.

Make a pint of jelly with gelatine from cooked dried fruit strained. When cool, beat in the whites of 2 eggs or 1 cup thick whipped cream, or the white of 1 egg and ½ cup whipped cream.

APRICOT ICE CREAM.

One cup dried apricots cooked and run through a coarse strainer, 1½ cups cold water, 1 cup sugar, 4 tablespoons lemon juice, 1¼ cups heavy cream, 1½ teaspoons salt.

Mix and freeze.

APRICOT SHERBERT.

Two-thirds cup orange juice, 1¼ tablespoons lemon juice, 1 cup apricot pulp, 1 teaspoon gelatine, 1 cup water, 1¼ cups sugar, 1 teaspoon vanilla.

Put cooked apricots through sieve. Boil the sugar and water together five minutes, making a thin syrup. Soak the gelatine in a tablespoonful of cold water until swollen and dissolve in hot syrup. Then put all the ingredients together and freeze. This will make ten servings. Dried peaches may be substituted in this recipe for apricots.

APRICOT MERINGUE.

One pound apricots or other dried fruits, ½ cup sugar, 1 tablespoon lemon juice, yolks of 2 eggs, whites of 2 eggs, 2 tablespoons sugar.

Stew fruit; rub through a coarse sieve; add sugar, lemon juice, and yolks of eggs. Pour into buttered baking dish. Beat the whites very stiff; fold in the sugar; put on top. Bake in a very moderate oven 15 or 20 minutes. Should be just brown on top and hot throughout.

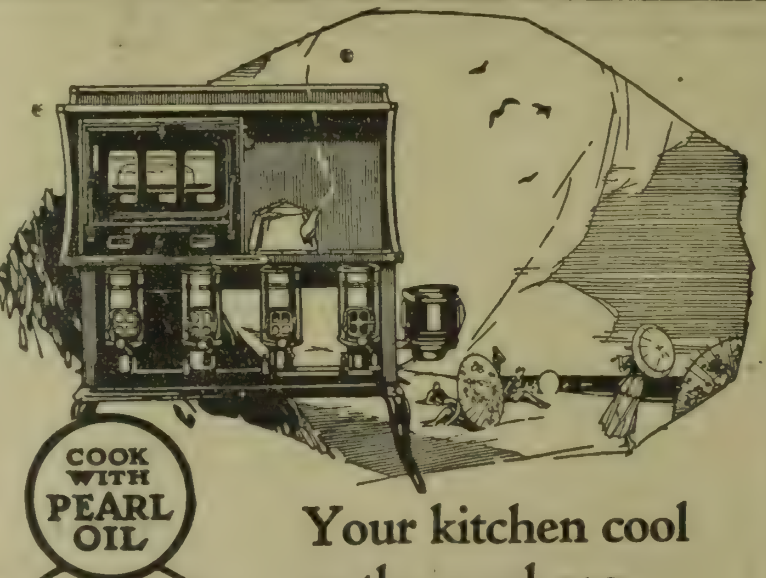
PRUNE RECIPES.

Pick over, wash and soak several hours in cold water. Cook slowly until soft.

NORWEGIAN PRUNE PUDDING.

One-half pound prunes (22 prunes), 2 cups cold water, 1 inch piece stick cinnamon, 1 1/3 cups boiling water, 1/3 cup corn starch, 1 tablespoon lemon juice.

Obtain meat from stones and add



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to prunes and water, then add sugar, cinnamon, boiling water, and simmer 10 minutes. Dilute corn starch with enough cold water to pour easily, add prune mixture, and cook 5 minutes. Remove cinnamon, add lemon juice, mould, then chill. Serve with cream.

PRUNE PIE.

One-half pound prunes, ½ cup sugar (scant), 1 tablespoon lemon juice, 1½ teaspoons butter.

Remove stones, cut cooked prunes in quarters and mix with sugar and lemon juice. Reduce liquor to 1½ tablespoons. Line plate with paste, cover with prunes, pour over liquor, dot over with butter, and dredge with flour. Put on an upper crust and bake in a moderate oven.

PRUNE WHIP.

One-third pound prunes, whites of 5 eggs, ½ cup sugar, ½ tablespoon lemon juice.

Remove stones and rub prunes through strainer; add sugar and cook 5 minutes. The mixture should be of the consistency of marmalade. Beat whites of eggs until stiff, add prune mixture gradually when cold; and add lemon juice. Pile lightly on buttered pudding dish; bake 20 minutes in a slow oven. Serve cold with boiled custard.

STEWED PRUNES.

One pound prunes, ½ cup sugar, 1 quart cold water, 4 thin slices of lemon.

Wash the prunes thoroughly, put them into a saucepan, and cover them with cold water. Soak them over night and cook them next morning in the same water until they are soft. When they are nearly cooked add slices of lemon and sugar and cook them 5 minutes longer. Let the lemon remain in the juice until the prunes are ready for serving.

PRUNES STUFFED WITH DRIED APRICOTS.

Two cups large soft prunes, 2 cups dried apricots, 1 cup powdered sugar, ¼ cup fresh grated cocoanut.

Soak the prunes for one hour and dry. With a sharp knife, remove the stones. Fill with apricots which have been thoroughly washed, dried, and put through a food chopper. Form into natural shape of fresh prune, mix sugar and cocoanut and roll the prunes in it. Spread on a platter to dry.

JELLIED PRUNES.

One-third pound prunes, soaked and cooked, boiling water, ½ cup cold water, ½ box gelatine or 2½ tablespoons granulated gelatine, 1 cup sugar, ¼ cup lemon juice.

Remove prunes; stone, and cut in quarters. To prune water add enough boiling water to make two cups. Soak gelatine in ½ cup cold water, dissolve in hot liquid, add sugar, lemon juice, then strain and add prunes. Mold and chill. Stir twice while cooling to prevent the prunes from settling. Serve with cream and sugar.

PRUNE AND FIG SANDWICHES.

One-half cup minced cooked prunes, ¼ cup chopped figs, ¼ tablepoon lemon juice.

Remove the stones from the prunes; chop the figs. Mash and mix the prunes, figs and lemon juice, using a silver fork. Spread the mixture on thin slices of graham or whole wheat bread and press two slices together.

PRUNES FILLED WITH MARSHMALLOW.

Cook prunes that are good size until tender; sweeten slightly, then cool; remove pits and insert half a marshmallow. Place filled prunes on a buttered baking sheet, put in oven until marshmallows become soft. Remove and serve either hot or cold with whipped cream or melted marshmallows.

PRUNE LOAF.

Cut cooked prunes into quarters and add ½ cup sugar to prunes not using the juice. For the dough use:

Two cups flour, 1 tablespoon sugar, 1 tablespoon butter, ½ teaspoon salt, 2 teaspoons baking powder, 1 egg, 1 cup milk.

Beat the egg and add the milk; baking powder, flour and other ingredients being combined with them as for biscuits. Roll out thin so that the length is twice its width; spread prunes over this, keeping within an inch of the edge. Roll like jelly cake, pressing the ends firmly so that the prunes will not escape. Place roll in one side of the baking pan, pour over and around it ½ cup sugar, 2 cups of hot water (the water in which prunes were cooked may be used), 1 tablespoon butter. Bake, basting frequently. Add more water as needed. Serve with its own sauce or additional cream. Any dried fruit may be substituted in this loaf.

PRUNE ICE CREAM.

One quart cream, 1 cup prunes, 1 1/3 tablespoons lemon juice, 1 cup sugar.

Soak prunes 24 hours; cook until tender in water in which they were soaked. Force through sieve, combine all the ingredients. Freeze.

JELLIED PRUNES.

One envelope gelatine, 1/3 pound prunes, 2½ cups water, ½ cup lemon juice, 1 cup sugar.

Quarter prunes, add water to make two cups. Soak gelatine in ½ cup cold water, dissolve in hot water; add sugar and lemon, strain, add prunes and chill.

FROZEN PRUNE FLUFF.

Two cups prunes, 1 cup sugar, 3 pints water, 2 egg whites, ½ cup finely chopped walnuts, rind of ½ orange.

Cook prunes, add the sugar and orange rind and simmer until tender. Strain off the juice and remove orange peel. Stone the prunes, rub through a sieve into the juice; chill; add walnuts and egg whites unbeaten.

Freeze in three parts ice to one of salt. Other dried fruits may be substituted.

FIG RECIPES.

SWEET PICKLED FIGS.

Soak in water and boil till soft. Then add spiced vinegar prepared as directed below.

One quart vinegar, 2 pounds sugar, ½ ounce cinnamon, ½ ounce mace.

Grind and tie in a muslin bag. Boil spices, sugar and vinegar and pour hot over the fruit. Add whole cloves to taste.

Other fruits can be prepared similarly.

FIG PUDDING.

Three ounces suet, ½ pound chopped figs, 2 1/3 cups stale bread crumbs, ½ cup milk, 2 eggs, 1 cup sugar, ¾ teaspoon salt.

Chop suet, then cream. Add figs. Soak bread crumbs in milk, add eggs, well beaten, sugar and salt. Combine mixtures; turn into a buttered mold and steam 3 hours. Serve hot with a sauce.

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Agricultural Summary

The Barley Riddle.

The barley crop throughout the State is turning out well, notwithstanding fears were felt that the high temperatures prevailing about June 10 and 11 might catch some of the grain in the soft dough and materially diminish the yield. Reports so far as received have been quite favorable as to volume and quality, the crop averaging perhaps 75 per cent of normal. Following the formal announcement of the refusal of the Government to fix a price on barley or take over the crop, growers are somewhat at sea as to the market for this grain. The price is to be left evidently to the law of supply and demand, and inasmuch as conditions are such that there will be little call for our barley from foreign or Eastern buyers the demand must be largely local. This being the case, some of our conservative farmers have apprehended a slump in price. The trend of the barley market, however, since harvesting began does not bear out this fear. From a price as low as $2, at which some few sales were early reported, the price has shown a tendency to advance steadily. In the Byron and Brentwood district $2.10 has been offered, in the Imperial Valley $2.15 and $2.25, and at this writing we hear of a sale at $2.52. This developing strength of the barley situation is both a surprise and a puzzle to those interested. We are harvesting a good crop, the grain in many sections running as high as 20 sacks to the acre. The California Development Board estimates the total production of the State at about 800,000 tons. Other estimates from well-informed sources fall somewhat below this. But in any event a large output is now assured. Now with a fairly heavy crop and a much restricted market in sight, barley is seemingly more than holding its own. Explain the situation as you may, it seems pretty well settled that the barley grower is in for another prosperous year.

As we go to press, the United States Department of Agriculture has just issued its July forecast of crop production, in which it predicts a crop of barley to exceed all previous yearly production.

Wheat Price Unchanged.

The deadlock in Congress over the effort to raise the price of wheat to $2.50 or over was broken by a compromise on $2.40, the measure fixing this price having been passed up to the President for his signature. The President vetoed the measure, however, which is essentially an important appropriation bill, on the ground that the price-fixing provision is a "rider" and therefore not proper legislation, and that he is opposed to going over the heads of the Food Administration. Unfavorable weather conditions in the country have cut down the previously estimated harvest of wheat by about 40,000,000 bushels, according to the July forecast of the United States Department of Agriculture. The June estimate was 931,000,000; the July estimate is 891,000,000 bushels.

Apricot Prices Announced.

The Prune and Apricot Growers' Association met in San Jose last Wednesday and fixed the prices on apricots as follows:

Grade—	1918	1917
Standards	9½	13¾
Choice	13	14½
Extra choice	14½	15
Fancy	16	16
Extra fancy	17½	17
Extra Fancy Moorparks	19	18
Slabs	11	12

Prices set on small sizes are lower than last year, while on the bigger sizes they are higher. Standards are 3¼c lower this year. Choice cots are 1½c lower. Except for standards and slabs, a half cent comes off grades on cots not of the "Sunsweet" brand. The association will pay $6 a ton on delivery for standards and slabs and $8 a ton on all other grades.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, July 10, 1918.

WHEAT.

Congress has not changed the price to be paid for wheat from that set by the Food Administration.

Hard White—
No. 1 .... $2.20
No. 2 .... 2.17
No. 3 .... 2.13

Soft White—
No. 1 .... 2.18
No. 2 .... 2.15
No. 3 .... 2.11

Club and Sonora—
No. 1 .... 2.16
No. 2 .... 2.13
No. 3 .... 2.09

BARLEY.

Much of the barley offered for sale here is not "choice," and dealers are hard put to it to say what it is worth. Anywhere from $1.75 to $2.40 was suggested as the figure that this barley should bring. Dealers say they will willingly pay $2.45 to $2.50 for "choice feed."

Choice feed, per ctl .... $2.45@2.50

OATS.

New oats are just beginning to come into the market. A lot of red feed is reported to have sold for $2.52½; and $2.50 to $2.55 will be freely offered for large shipments.

White feed, per ctl .... Nominal
Red feed, per ctl .... $2.50@2.55
Red seed, per ctl .... None

CORN.

There has been more inquiry for corn during the week than for some time past, and Egyptian was stronger in consequence.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked .... $3.85@3.90
Milo maize .... 3.85@3.90
Egyptian .... 3.95@4.10

HAY.

Hay receipts in San Francisco for the past week were 1483 tons, as against 1457 tons the previous week. The arrivals continue much below the normal for this time of the season and consequently the market is firmer. Reports from the interior, however, intimate that while baling is still backward next week will show more activity in these operations in many sections, and the next few weeks should show increased arrivals. While arrivals are light, they are sufficient to care for present demands. Hay accessible to the river and bay landings is now beginning to arrive and several cargoes of Red Oat hay have been received during the week, the quality being good.

Wheat No. 1 .... $22.00@24.00
do, No. 2 .... 19.00@21.00
Choice tame oat .... 24.00@26.00
Wild oat, new .... 17.00@20.00
Barley, new .... 18.00@21.00
Alfalfa, first cutting .... 16.00@20.00
do, second cutting .... 22.00@24.00
Stock .... 15.00@17.00
Barley straw .... 50@80c

FEEDSTUFFS.

The market for feedstuffs was firm, with upward tendencies. Alfalfa meal was advanced with the stiffening up in the price of alfalfa hay. Rolled barley and coconut cake were advanced a dollar, while rolled oats showed a tendency to weakness.

Beet pulp, per ton .... None offering
New alfalfa meal, per ton .... $30.00@31.00
Coconut cake or meal 44.50
Cracked corn .... 86.00@88.00
Middlings .... Nominal
Oilcake .... $75.00@76.00
Rolled barley .... 55.00@57.00
Rolled oats .... 56.00@58.00

POTATOES, ONIONS, ETC.

Both potatoes and onions were stronger this week. It is now believed that the stagnancy in these markets is a thing of the past. Tomatoes are no longer coming in from Los Angeles, but a good supply is reaching market from Merced. The supply of asparagus is about exhausted. Peas and beans are weaker.

Peas .... 6@7c
String beans, per lb .... 7@8c
Wax beans, per lb .... 7@8c
do, garden .... 9@16c
Asparagus, per lb .... None
Carrots, per sack .... 50c@$1.00
Rhubarb, San Jose, per box .... $1.00@1.25
do, Strawberry, per box .... None
Summer squash .... 75c@$1.00
Cucumbers (hothouse), per box $1.00
do, Los Angeles, lugs .... $1.00@1.25
Eggplant .... 5@6c
Lettuce, Sacramento, crate .... $1.00@1.25
Tomatoes, per crate—
Merced .... 90c@$1.25
Potatoes—
Garnet Chile .... 1.75@2.00
Whites .... 1.75@2.00
Onions, Australian browns .... Nominal
River Reds .... $1.00@1.25
do, Yellows .... 1.35@1.60
Garlic .... 3@4c
Green corn, Alameda, per sack .... $2.50@2.75

BEANS.

A demand for limas increased the price of that description by 35c to 40c. Bayos and blackeyes were weaker, but otherwise the market was unchanged. A recent statement that the Army and Navy may be in the market for more of last year's crop is regarded as erroneous by the best informed bean men, who say the new crop will begin to be available in October and there is little likelihood that the Government will be in the market again before that date.

Bayos, per ctl .... $8.00@8.25
Blackeyes .... 7.00@7.25
Cranberry beans .... 11.50@12.00
Limas (south, recleaned) .... 11.40@11.60
Pinks .... 6.90@7.00
Red kidneys .... 11.50@12.00
Mexican reds .... 7.75@8.00
Tepary beans .... 8.50@9.00
Garbanzos .... 7.50@7.75

POULTRY.

The market for broilers is strong, which are quoted somewhat higher. The depressed Belgian hare prices last week caused a stoppage of shipments and a strengthening of prices.

Turkeys, live, per lb., young .... 28@30c
do, dressed .... 32@34c
Broilers, 1½ to 2 lbs 37c
do, 1¼ lbs 38c
do, ¾ to 1¼ lbs 38c
Fryers .... 36@45c
Hens, extra, per lb., colored 30c
do, Leghorn .... 26@28c
Smooth young roosters, per lb. (3 lbs. and over) .... 45@48c
Old roosters, colored, per lb .... 20@21c
Geese, young, per lb .... 25@27c
do, old, per lb 22c
Squabs, per lb .... 38@40c
Ducks .... 25@27c
do, old .... 23@24c
Belgian hares (live) .... 16@18c
do, dressed .... 20@22c

BUTTER.

Butter continued strong throughout the week and closed at 49½c. The prediction is made that it will pass the 50c mark in a short time and go higher.

In making comparisons of the present prices of butter and eggs with the prices a year ago it should be borne in mind that these prices are net to the retailer, while last year something like 8 per cent was added to the exchange prices as a commission of sale. As now quoted, this commission must be deducted to arrive at the price received by the dairies and poultrymen.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	49	48½	48½	49	49½	
Prime 1st	47	47	47	47	47	
Firsts	46½	46½	46½	47	47	

EGGS.

Eggs also were very strong this week and extras closed at the same price as the close of extra butter.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	48	47½	48	48½	49½	
Extra 1sts		Nominal				
Firsts	41	41	41	Nominal		
Extra pullets	45½	46	46½	46½	46½	
do, Firsts	38½		Nominal			

CHEESE.

California flats, both fancy and firsts, advanced in quotations this week. Otherwise the cheese market was unchanged.

Y. A.'s 25c
do, Firsts 24½c
Fancy, California Flats, per lb 26c
First, California Flats 24½
Oregon triplets, fancy 25½c
Oregon Y. A. fancy 26c
C. S. Oregon triplets, fancy 26c
do, Oregon Y. A. fancy 25c
Monterey cheese .... 21@23c

FRESH FRUITS.

Practically all last year's apples are now off the market, and this year's crop is coming in in variety. A price of from $2 to $3 is given to cover all descriptions. The cantaloupe market is strong. Some arrivals from the Turlock district are on the market and these will dominate in another week. Shipments from Imperial Valley have about stopped. Strawberries, blackberries and raspberries are arriving in good quantity and quality.

Apples .... $2.00@3.00
Apricots, per crate .... 1.00@1.25
Peaches, 4-box crate .... .75@1.00
Figs, black, per box .... .60@.75
do, white, per box .... .75
Strawberries, per chest .... 7.00@9.00
Blackberries, per chest .... 7.00@9.00
Raspberries, per chest .... 7.00@9.00
Loganberries, per chest .... 5.50@7.00
Currants, per drawer .... 75@80c
Gooseberries .... 5@8c
Cherries, black, flats .... $1.00@1.25
do, do, bulk .... 6@12c
do, white, bulk .... 8@10c
Royal Anne .... 12@15c
Plums .... $1.50@2.00
Cantaloupes, flats .... 75c@$1.00
do, ponies .... $2.25@2.75
do, standard .... 2.50@3.00
Watermelons, per lb. .... 2@2½c
Pears, box .... 75c@$1.00
Grapes, Seedless .... $2.00@2.50
do, Muscat .... 2.25@2.50

CITRUS FRUITS.

The citrus fruits are steady and unchanged in quotations with the exception of lemonettes which are higher priced.

Oranges:
Valencias, fancy .... 5.00@7.00
Valencias, choice .... 4.50@5.50

Lemons:
Fancy, per box .... $8.00@9.00
Choice .... 5.50@7.00
Standard .... 3.50@4.00

Lemonettes .... 6.50@8.00
Grapefruit, fancy, new .... 2.00@3.00

DRIED FRUITS.

The United States Food Administration for California sent out notices on July 10 which authorized the packers to begin to buy fruit for drying. The packers had expected to commence buying on July 8, but the Administration delayed them until the 10th. The selling date remains unchanged at July 15. With this permission buyers were put in the field at once and they will buy on the basis of prices quoted below. No decision has been reached on what will be offered for apples or pears.

Peaches 11c
Prunes, base 8½c
Apricots .... 9½@19c
Figs .... 12@16c
Raisins—
Muscats 5½c
Thompsons 6½c
Sultanas 6½c

HONEY.

There is little change in the honey situation. Local dealers are now buying extracted honey on the basis of prices quoted.

White, extracted 21c
Light amber .... 18@20c
Amber .... 16@18c

RICE.

The matter of price for rice for this year's crop has not yet been settled.

LOS ANGELES

BUTTER.

Los Angeles, July 9, 1918.

There was a further firming up of this market the past week due to a falling off in the milk production owing to a shortage and high price of feed, and the reduction of many dairy herds through the sale of cows to the butcher. The receipts for the past week were 302,350 pounds against 343,190 pounds the same week last year. There was withdrawn from cold storage during the week 23,693 pounds, while there was taken into cold storage the same week last year 51,424 pounds. The cold storage holdings now are 393,306 pounds against 267,985 pounds this time last year.

We quote:

California extra creamery 48c
do, prime first 47c
do, first 46c

Daily quotations—

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	47	47	47	48	48	48
1917						
Extra	37	37	37	37	37	37

EGGS.

There was a further falling off in the receipts the past week and a higher market. The arrivals by rail were 1337 cases against 2543 cases the same week last year, a falling off of 1206 cases. The receipts by truck continue to run about double as large as the arrivals by rail, making the supply for the week about 4000 cases against 7600 cases the same week last year. There was withdrawn from cold storage during the week 1617 cases, while there was taken into cold storage 3419 cases the same week last year. The cold storage holdings now are 95,157 cases against 83,608 cases this time last year. Demand good both from the home trade and the outside.

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	44	45	45	45	45	46
Case count	41	43	43	43	43	43
Pullets	40	41	41	42	42	43
1917						
Extra	34½	35	35	35	36	36
Case count	33½	34	34	34	35	35
Pullets	31	31	31	31	32½	32

POULTRY.

There was a further slight improvement in this market the past week. Heavy broilers, hens, and fryers were all in very good demand and broilers and hens are higher. Ducks and turkeys slow sale as usual this time last year.

We quote from growers:

Broilers, 1¼ to 2 lbs 30c
Broilers, under 1¼ lbs 26c
Fryers, 2½ to 3 lbs 29c
Hens, over 4 lbs 25c
Hens, under 4 lbs 19c
Ducks .... 24@25c
Geese 18c
Roosters, 3 lbs. up (soft bone) 29c
Old roosters, per lb 15c
Turkeys, heavy, 12 lbs. and up 30c
Turkeys, light .... 27@28c
Squabs, live, per lb 30c
do, dressed, per lb 35c

FRUITS.

Receipts were hardly so good the past week and the tone of the market was firmer. Cherries coming in less freely. Only Royal Anne and Bings are now arriving. Apricots a little higher and selling more freely. Peaches steady and in fair demand. Plums hardly so firm, but demand good. Black figs steady and in fair demand. A few Malaga grapes in from the Imperial Valley and selling very well.

We quote from growers:

Cherries, Royal Anne, per lb .... 15@18c
Apricots, per lb .... 3@4c
Figs, Black Spanish, per lb .... 10@12c
Peaches, per lb .... 5@6c
Gooseberries, per lb .... 10@12c
Beauty plums, per lb .... 7@8c
Prunes, Sonoma, per lb .... 4@5c
Climax, per lb .... 5@6c
Tragedy, per lb .... 7@8c
Grapes—Imperial Valley Malagas, per lb .... 8@10c
Apples—Red Astrachans, per lb .... 2@3c

Special Citrus Market Report

Los Angeles, July 9, 1918.

The citrus market in the principal selling centers of the East is extremely strong. The New York market was higher on Valencias the early part of this week, though the lemon situation eased off owing to the arrival of several good consignments from Europe. The Boston market is holding up well with a slight advance in prices obtained for oranges. In Pittsburgh and Cleveland the market is better on both oranges and lemons. Only in St. Louis is any dullness in the citrus trade noted, and this is believed to be only temporary.

The citrus market is still strong locally, and tiptop prices are obtained for both oranges and lemons. The stiff prices, however, seem to be curtailing demand. Supplies are not plentiful. The arrivals of lemonettes do not meet the demand.

BERRIES.

Receipts were again good the past week and demand fair. Strawberries show no change, but blackberries were a little higher, while raspberries were lower. Loganberries steady.

We quote from growers:

Strawberries—
- Fancy, per 30-basket crate....$1.65@1.75
- Poor to choice, per 30-basket crate ..... 1.40@1.50

Blackberries, per 30-basket crate 2.00@2.20
Raspberries, per 30-basket crate 1.75@1.90
Loganberries, per 30-basket crate 1.80@2.00

MELONS.

A steady and rather firm market was had the past week. Offerings were fairly good and sales slow. Some local Tip Top were also in, which detracted from shipped-in stock. Honey Dew melons steady and firm. Not many watermelons.

We quote from growers:

Cantaloupes—
- Standard crates $2.25
- Pony crates .....$1.75@2.00
- Tip Top, jumbo crate $3.50

Watermelons, per 100 lbs. .....$1.50@1.75
Honey Dew melons—special 2.00
do, do, flats..... 1.25

VEGETABLES.

While there was no real snap to the market the past week all good fresh stuff sold fairly well. New potatoes were in lighter supply and good demand. Old potatoes all gone. Onions were rather scarce. Summer squash dull and lower. Cucumbers sold off under freer offerings. String beans steady, but slow sale. Asparagus out of the market. Cabbage higher but little offering. Bell peppers steady and in fair demand and chiles moving better. Corn in good supply and lower, but demand fair. Tomatoes coming in more freely and less active. Peas scarce and firm.

Potatoes, new, per lug.....50@55c
New potatoes, per cwt. .....$1.40@1.60
Garlic, per lb. .....5@6c
Cabbage, per 100 lbs. .....$1.25@1.50
Bell peppers, per lb. .....8@12c
Chile peppers, per lb. .....7@9c
Peas, Northern, per lb. .....10@12c
Summer squash, local, per lug.....30@40c
String beans, per lb. .....4@4½c
Tomatoes, home-grown, per lug..50c@$1.25
Eggplant, Imperial Valley, per lb....5@6c
Cucumbers, home-grown, per lug..60@75c
Corn, per lug of 3 doz. .....60@80c

BEANS.

There was some little doing in limas the past week and prices were a little higher. All others dull.

Limas, per cwt. $10.50
Large white, per cwt. 12.50
Small white, per cwt. 12.50
Pink, per cwt. 7.50
Blackeyes, per cwt. 7.00
Tepary, per cwt. 8.50

HAY.

The past week was another quiet one in this market. Receipts were fairly good but buyers held back and only took such lots as they had to have.

We quote f. o. b. Los Angeles—

Barley hay, per ton .....$24.00@26.00
Oat hay, per ton ..... 25.00@27.00
Alfalfa, northern, per ton .... 21.00@22.00
Alfalfa, local, per ton ..... 22.00@24.00
Straw, per ton ..... 9.00@10.00

COTTON.

The market braced up a little the past week under better buying on Liverpool account and continued dry weather in Texas. There was more speculation in New York than for some time and last Saturday July sold up to 28c and October 25.27c. With the opening of the current week the market eased off a little. In New Orleans Spot remains the same as a week ago. Spot middling 30c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, Cal., July 8, 1918.

Owing to transportation delays and the inability of the auction companies in most of the larger auction markets to secure sufficient experienced labor to unload cars, the offerings during the past week have been much lighter. This condition, coupled with the pre-holiday demand, developed a higher market. Even stock not up to standard sold to better advantage than fruit in sound condition the week previous.

The cherry season is about finished, and the last of the shipments arriving in the markets are showing up weak. This applies also to Royal apricots, though Moorpark and Blenheims are still arriving sound. The market on these latter varieties can be considered good.

There is very little improvement on the week previous on peaches, as Eastern stock seems to have the preference with the trade. Western markets show a decided improvement on peaches. California peaches have during the past week moved east of Chicago.

There is still a very brisk demand for plums from all sections of the country. Shipments will be light for the next three weeks from all sections except Placer county.

Bartlett pears are moving in car lots, but shipments will not be heavy before the 12th. Growers are asking $70.00 a ton for canning stock, but there does not seem to be any tendency on the part of the canners, at this time, to pay the price. Some contracts, however, have been made at $60.00. What proportion of the crop will be sold to the canners is problematical, and this naturally will affect Eastern shipments. There is a feeling, however, among Bartlett pear growers that indicates a large proportion of the crop will be moved East on account of the indications for high prices. Eastern speculators have indicated this by purchases already made on futures.

Valley Elbertas will move about the 15th or 17th of this month and though the crop is not in excess of 60 per cent of normal, fruit will be of good quality. Placer County Elbertas will be ready to move in car lots between the 20th and 25th. The fruit will be of good quality.

Average for the week:

New York—Royal apricots, $1.33; Formosa plums, $2.78; Beauty, $2.21; Shiro, $2.37; Clyman, $1.87; Climax, $2.54; Burbank, $2.39; Santa Rosa, $2.18; Tragedy, $3.02; Comet pears H/B, $2.65; Lawson H/B, $2.77; Wilder H/B, $2.28; Royal Anne cherries, $1.41; Oregon, $1.22; Bing, $1.76; Lambert, $1.56.

Boston—Republican, $1.61; Bing, $2.17; Oregon, $1.07; Tartarian, $1.40; Royal Anne, $1.52; Royal apricots, $1.18; Formosa, $2.24; Beauty, $2.31; Climax, $2.15; Burbank, $2.16; Maynard, $2.35; Tragedy, $3.40; Santa Rosa, $2.67.

Chicago—Clyman plums, $1.56; Burbank, $1.78; Climax, $1.77; Maynard, $2.26; Shiro, $2.00; Tragedy plums, $2.68; Santa Rosa, $2.02; Formosa, $2.20; Red June, $1.89; Beauty, $1.99; Lawson pears H/B, $2.32; Comet H/B, $2.66; Oregon cherries, $1.15; Republican, $1.65; Bing, $1.54; Royal Anne, $1.40.

Shipments, by cars, from June 29th to July 4th, inclusive, as follows: 4 cherries, 40 cots, 25 peaches, 390 plums, 4 pears.

Total shipments to date, 1918—1347 cars.
Total shipments to date, 1917—1415 cars.

Special Livestock Market Report

San Francisco, July 10, 1918.

CATTLE—Quite a large number of cattle are still being offered, but principally in small lots of one to six carloads. Most of the slaughterers are still oversupplied, and are not anxious to take on more until the present supply is materially reduced. Good-weight, fat steers, however, are holding up well in price, but light-weight steers and cow stuff are very weak. There is a slight drop in quotations.

Grass Steers—
- No. 1, weighing 1000 to 1200 lbs.....11½c
- No. 1, weighing 1200 to 1400 lbs..11½@12c
- Second quality .....10@11c
- Thin .....8@9c

Cows and heifers—
- No. 1 .....8@8¼c
- Second quality .....7@7½c
- Common to thin .....4@5½c

Bulls and stags—
- Good .....6@6½c
- Fair .....5@5½c
- Thin .....4@4½c

Calves—
- Lightweight .....10@10¼c
- Medium .....9@9¼c
- Heavy .....7@8c

Sheep and lambs are steady, with sufficient supplies being marketed to meet the somewhat limited demand.

Lambs—
- Yearlings .....11½@12c
- Milk .....14@14½c

Sheep—
- Wethers .....11@11½c
- Ewes .....9½@10c

Hogs are rather scarce this week and of mixed quality. However, prices are steady and demand good.

Hogs—
- Hard, grain-fed, 100@140.....15½c
- do, do, 140@300 .....16c
- do, do, 300@400 .....15½c

Los Angeles, July 9, 1918.

CATTLE—The past week brought no improvement. Few choice fed steers were in and they met with a fair demand at steady prices. Poor and medium again made up most of the offerings. Calves are coming in less freely and sell well. California furnished most of the supply.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs..$10.00@12.00
Prime cows and heifers..... 8.50@ 9.50
Good cows and heifers..... 8.00@ 8.50
Canners, per cwt..... 5.50@ 6.00
Calves, per cwt..... 8.50@ 9.50

SHEEP—There was a little better tone to this market the past week. With the coming of hot weather the demand has improved a little, both for sheep and lambs, though prices are not quotably higher.

Per cwt. f. o. b. Los Angeles:

Prime wethers .....$9.00@10.00
Prime ewes ..... 8.50@ 9.50
Yearlings ..... 9.50@10.50
Lambs .....12.50@13.50

HOGS—Not many in the past week and what arrive from California are in rather poor condition. The light offerings, however, caused killers to pay steady prices, the fresh meat trade taking what few arriving.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs..$14.00@14.50
Mixed, 225@275 lbs..... 14.50@15.50
Light, 175@220 lbs..... 14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

Portland, July 8, 1918.

Cattle—Strong; receipts, 1779. Steers, prime, $12.00@13.00; good to choice, $11.00@12.00; medium to good, $9.00@10.00; fair to medium, $8.00@9.00; common to fair, $5.00@8.00; cows and heifers, choice $8.50@9.00; medium to good cows and heifers, $6.00@7.50; fair to medium, $4.50@5.50; canners, $3.00@3.50; bulls, $5.00@6.00; calves, $8.50@11.50; stockers and feeders, $7.00@9.00.

Hogs—Receipts, 1068; 50c higher. Prime mixed, $17.00@17.50; medium mixed, $16.75@17.25; rough heavies, $16.25@16.50; pigs, $15.75@16.25; bulk of sales, $16.85@17.00.

Sheep—Dragging; receipts, 3107. East of mountain lambs, $13.00@13.50; valley lambs, $12.00@12.75; yearlings, $8.00@9.50; wethers, $7.50@8.50; ewes, $5.00@7.50.

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400-ACRE STOCK AND GRAIN RANCH—3 miles Pleasant Valley R. R. station, Mariposa county, Cal. 100 acres cleared and tillable. Nearly all of the ranch could be farmed if cleared of the large oak and other trees. Wood sells for $12 per cord, R. R. station. 3 and 6 room house, large barn and outbuildings; blacksmith shop and tools; ranch fenced and cross fenced, part hog tight. No alkali or hard pan. Family orchard and garden, irrigated from springs. Average rainfall, 29.88 inches. Grapes, olives, almonds, etc., grow without irrigation. Feed in pasture and free range adjoining, knee high. Elevation, 1500 feet; ½ mile school and church. Hogs and other stock fatten on acorns. Hogs never have cholera here. $30 per acre, including 300 goats, 3 horses, 3 head cattle, turkeys and chickens and all farm implements. $3000 cash, balance long time, 7 per cent. Fred B. Palmer, owner, Coulterville, Calif.

A FINE OPPORTUNITY.—I own an alfalfa and dairy property near Modesto, also some very fine Holstein cows that have been selected with great care. Owing to pressure of my large law practice I am unable to give the matter attention. In order to make a quick sale of the property and dispose of the land and cattle I will offer the land in full stand of alfalfa at $250 an acre in parcels to suit purchasers; 10 per cent cash, balance 3, 4, or 5 years; low rate of interest to bona fide purchasers who will go on the land. I will sell them the cows on the same basis and loan purchasers the necessary farming implements. Under these conditions a man can go right on the place and make a good living at once, be independent and make money and pay for the land out of the land. Address box 1170, Pacific Rural Press.

ALFALFA RANCH—320-acre alfalfa ranch, all under irrigation, together with good substantial improvements, work stock and farm machinery. 250 acres in alfalfa, balance in grain. Price, $80,000. $45,000 cash, balance in 3 years at 6 per cent. No exchanges considered. Box 239 Pacific Rural Press, Los Angeles, Cal.

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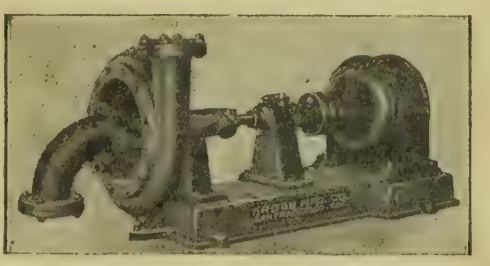

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YOU HEARD the story about the Red Cross official who sold a sweater knitted for the soldiers?

Did you believe it? Did you repeat it?

Do you know that stories like that are lies started by German spies? Do you know that you are helping the Kaiser and *hurting our soldiers* every time you repeat such rumors?

Oh, they are clever stories—interesting stories—they make splendid gossip whenever women gather. Of course they are! The Kaiser pays his spies to make them clever so that people will repeat them.

That's how they spread and spread and grow and grow until a lot of people hear them. Discontent is sowed. The very national unity of this country is attacked.

That's how German agents are trying to slow up our preparations. That's how, unless these lies are nailed, they will prolong the war, impede the transport of our food, supplies and soldiers—yes, that is how these lies will kill our boys in France!

Of course you do not realize these consequences when you pass along a story you have heard. But you owe it to yourself to get "THE KAISERITE IN AMERICA"—101 German Lies—the newest publication of the Committee on Public Information in Washington. See how the German agents have invented lies—even to giving names and dates and places.

HAVE YOU HEARD LIES LIKE THESE?

THAT President Wilson's Secretary, Mr. Tumulty, was shot for treason at Fort Leavenworth.

THAT a sweater knit in St. Louis for the soldiers in France was sold by Red Cross workers.

THAT no soldier or sailor, after leaving American soil, can write home.

THAT Red Cross officials receive exorbitant salaries.

THAT homes displaying Food Pledge cards will be searched by Government agents.

THAT this is a "business man's war."

THAT there are 10,000 Englishmen in Utah waiting to seize America for Great Britain.

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Vol. XCVI—No. 3 Forty-eighth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO JULY 20, 1918 LOS ANGELES

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Are You Getting Ready for the Fall Shows?

Written for Pacific Rural Press by R. H. Whitten, Los Angeles

Going to show at the Fairs this fall? You should decide this question right now, for competition will be keen and the best fitted animals will stand the best chance of winning the coveted prizes.

EVERY YEAR animals are shown that are good enough individuals to win, but they do not get in the money because they were not properly conditioned. Explaining to the judge that the animals have not been fitted—that they were taken right out of the field and brought to the show—is a worthless excuse. In most cases the judge knows this, for it is very apparent. But it is not for him to prophesy that the animals would be as good as those that appear better had they been given better care. It is his duty to judge the animals as they stand before him.

The true showman has his stock in the pink of condition. The judge is instinctively pleased with its appearance and he cannot but be favorably influenced by such conditioning. The breeder has done his part and he finds the judge ready to do his. So now is the time for you to recognize the fact that if you wish to win at the shows next fall you should pick out your animals at once and begin to condition them.

Perhaps you haven't taken much interest in the shows this year, feeling that the proper wartime spirit should cause you to withhold your support. If so, you are wrong, for the Government officials, including Mr. Hoover of the Food Administration, have set their seal of approval on agricultural fairs and livestock shows and have publicly announced that they should be encouraged and supported. In this connection an article on "Fairs in Wartime," appearing in the catalog of the Missouri State Fair, is of special interest. It is written by F. B. Mumford, dean of agriculture at the University of Missouri, State Food Administrator, and a member of the National Defense Board. Dean Mumford says:

"The most serious problem faced by a modern nation in wartime is the food supply of its armies and civil population, and any activity which tends to increase the supply of food or conserve the available supply is a war measure of the highest importance. Consequently, agricultural fairs must be regarded as important activities during the war."

Gala day when the best stock shown at the State Fair is paraded before thousands of visitors.

Main entrance to State Fair Grounds two years ago. A $300,000 agricultural building now replacing the one shown in center.

Show Up California's Livestock Possibilities.

This applies even more to California than to the States east of the Rockies, for, although our State is one of tremendous livestock possibilities, and although we swept the deck at the Chicago International on steers and sheep, still the quality of our livestock, the benefits of breeding purebred stock and our vast resources in connection with stock-raising have never been properly brought to the attention of our people. No development will add more to the prosperity of the State than an increased output of purebred milk- and meat-making animals, and no other method will do as much to develop the industry as livestock shows. Every effort should be made to this end.

So to remedy this situation we are to have this fall the greatest series of shows that this State has ever witnessed. The ball will be started a-rolling with the State Fair, which will be held at Sacramento from August 31 to September 8. New buildings have been erected, new features have been planned, and the wideawake secretary, Chas. W. Paine, promises us a bigger and better fair than ever. He always makes good, so you can expect some big doings. Then the California Liberty Fair will be staged at Los Angeles October 20 to 26. Livestock is to be the chief feature of this show. Approximately $35,000 will be offered in cash prizes. Nearly all of the different breed associations have offered special prizes. Those in the cattle class will reach $3,600, and prizes for carload lots of cattle will be the largest ever offered in the United States—first premium, $500; second, $400; third, $300; fourth, $200.

Few places in the United States are so well equipped to hold a show as Los Angeles, which has a beautiful Exposition Park, with its handsome brick buildings, its concrete grandstand, one-mile race track, large barns, walks and drives. The entire park is a flower garden, and in the buildings all kinds of California products are displayed throughout the year. The park is almost in the heart of the city and is easy of access.

California International Livestock Show.

The California International Livestock Show Corporation has been incorporated for the purpose of holding an annual show at San Francisco, and the first show will be held November 2 to 10, thus giving the exhibitors at Los Angeles just the right amount of time to ship to San

(Continued on page 56.)

PACIFIC RURAL PRESS

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R. H. WHITTEN - - - - Livestock

EDITORIALS

MIDSUMMER MUSINGS.

AS WE take up our pen on Tuesday morning news comes that the Germans had started toward Paris with a drive fifty miles wide but came quickly upon a conglomerate rock of defense—including a few American boulders which rolled over and crushed the impetus out of them; which is a polite way of saying that they hit one of Dante's most famous creations. And the reports also say that the Americans flopped over upon an entire brigade staff and might possibly have legged the kaiser himself if the influenza had not previously gripped and sent him back to Potsdam. However, this particular spasm of autocracy may work out, all the war critics outside of Germany seem to agree that the allies are over the divide and no matter what pitfalls there may be on the down grade toward complete victory over inhumanity, there can be no doubt of the attainment thereof. More than a million Americans are already on or very near the allied fronts, another million will be there in time to shoot tyrants out of the next German Christmas tree, and other millions ready for the campaigns of 1919. Meantime Uncle Sam has rallied many thousands of his near-sighted and short-breathed nephews to dodge falling spruces and chase I. W. W.s out of the forests of the Northwest, to the end that an aerial army, such as the world has never dreamed of before, may float on its own wings across the Atlantic to drop the retribution of heaven upon the last lair of the dragon of human oppression and to approve the belief that when mankind gets right with God there will be hell enough on earth for evil-doers!

And while war-like things, upon which we hold no license to preach, seem to be going thus well for the relief of the invaded countries and for the building up of free nations from peoples who have undergone centuries of oppression and outrage, we may muse upon smaller affairs which underlie our own development and build up the strength of our own country for the duties of world-leadership which come to it unsought and unforeseen and yet almost universally conceded.

PACIFIC SELF-CONSCIOUSNESS.

IT IS our conviction that this generation of dwellers in the Pacific States should awaken more fully to self-consciousness of their national duty and opportunity. We should all take courage and incentive from most recent events. The most significant facts and suggestions which came to public notice during the observances of Independence Day in this State had relation to that most pressing of national needs—the immediate building of ships. California, the land of romantic ancestry, of the lure of gold, of the beauty of fruits and of the perfume of flowers: the land of the dolce far niente—arose to world recognition and to her own self-consciousness: yes, even

> —in flowering June
> When brooks send up a cheerful tune
> And groves a joyous sound,

California assailed the sky with the continuous roar of riveting machines and the shrill cries of caulking irons, and built more ships both of iron and wood and built them faster than all the shipyards of the country—receiving all the six pennants which Uncle Sam offered for best service to meet his requirements! There is a fly in this ointment, it is true, for this supreme patriotic achievement of our workmen was almost immediately followed by a strike of the boilermakers, which does not look well in a patriotic score—but pass that now as a human infirmity—merely illustrative of the truth of Hudibras:

> Ay me! what perils do environ
> The man that meddles with cold iron.

The general lesson of the shipbuilding achievement is that California has the spirit and the natural endowment and situation for wonderful marine development. Nowhere on the shores of the greatest industrial nations is there a spot on great marine highways where a year's work includes so many comfortable working days in the open air—in which great ships can be most quickly and cheaply built. We are building ships now for activity on the Atlantic, but that is an accident of war. When that has passed we shall be building ships to traverse all oceans and to properly correlate our young giant the Pacific with its older and more decrepit brother oceans, and of course its traffic will come nigh to equalling the sum of theirs—for it will be the sphere of the Pacific to interlock the Occident and the Orient; ministering to the maturity of one and renewing the youth of the other for the greater, newer life of the world. And it is for California not only to build carriers but to load them with the best we can produce for the souls, minds and material advancement of mankind.

OUR END OF THE RAILS.

OF COURSE, California's achievements cannot be realized by endowments of climate and geography—though these are great, as indicated. Nor can we live by oceanography alone. We need, most of all, people to plan, direct and capitalize and people also to obey—within the limits of human rights and democratic ideals. Just at the moment there is reason to believe that our needs in this line may need to be emphasized. Although no patriot can object to the present assumption of railroad direction and operation by the Government, and though most persons perhaps will never desire to see these great arteries of national life and trade returned to private ownership, it is very important to remember that these avenues of transportation were built for the development of the Far West as a national asset and their management should never lose this creative purpose and point of view. Unavoidably perhaps, but nonetheless unfortunately, as the Western point of view disappears from their operation their main industrial purpose is obscured. We must always have, of course, the long end of the rail, and it has been desirable and well used for leverage, as it was designed to be, but when the long end is apportioned for carriage it becomes crushingly heavy. It is an interesting fact that for alleged economy in operation the Government is now doing with the roads almost everything which the private builders and operators were commanded not to do, and the economists will need to write several books before we shall know whether we are helped or hurt by the operation. So far as we can now see, we are hurt by increased cost of freights and fares and by reduced train service—all of which are burdens chiefly of producers—and the presumably increased income is applied as an anti-strike salve to the jaws of operatives. Is this a necessity of war or of politics, or is it economic justice? We doubt if anyone can at this moment exactly demonstrate that: it is a coming question. But however that may be, the operation is against the present prosperity and the outlook of Far Western industry and development. Different groups of producers and business men are almost daily bringing forward claims of hardship to their activities and many of these are being recognized as just and provided for, as in the case of the recent increase of wheat prices. People are willing to suffer if it is a patriotic need: if otherwise, they reasonably object. One can get a broad view of the problem from statements made at the great assembly of advertising men who held a world convention in this city recently. Here are a few catches from this stream as poured out by Herbert Cuthbert, an expert on touring, in his address before this convention:

The tourist industry represents an expenditure of $700,000,000 a year in the United States in normal times, and of this amount California gets $1,000,000 a day.

These figures should make the average person stop and think before suggesting that anything should be done to seriously interfere with this business. They indicate to some extent the vast amount of capital that must be invested in the hotels, resorts, sightseeing cars, local transportation companies, ranchers and producers who serve almost exclusively the large hotels and resorts and all the other adjuncts to the development of vacation travel. These people have just as much right to have interest on their investments as the owners of stock in railway companies, express companies and in manufacturing enterprises during these abnormal times.

The Government has eliminated pleasure travel as a non-essential; before they are done they will realize the necessity of it. War travel will keep up the spirits of the people, will keep despondency from eating the hearts out of thousands upon whom fortunes of war have laid hands of sorrow and bereavement. They should be encouraged to seek amusement and relaxation in the free open air, in the great places of nature, in our national parks and forests, and on our inland seas and lakes, from which they will derive permanent benefit and be reinvigorated with a vitality that will carry them through all the arduous tasks of the future.

This strikes us as a forceful sermon upon a very unique theme and when we add to Mr. Cuthbert's propositions the more common and fundamental ones that tourist travel is really a picture show from which people get suggestion and inspiration for contribution to the development and production forces of the country, one is really led to wonder whether dividend payments and pay-roll extensions are really a function of government at all. When Uncle Sam wants a soldier he takes him, and that is right. When he wants a capitalist or a workman he buys him, and we are not sure that that is either right or democratic.

STRAIGHT ORDERS FOR CANNING.

WE ARE not convinced that we fully enjoy the short cuts to efficiency which are characteristic of the current era in domestic economy. We rather enjoy the old style recipes, which ambled along toward results, cluttering up the pathway thereto with nodules of humanistic philosophy and painting the sky with flashes of decorative art. This was the way that ladies of the olden time exchanged their most charming domestic secrets—appealing constantly to the reciprocating intelligence of the recipient by significant smiles, frowns and arm-length gestures and never descending to debasing details nearer than to prescribe a "pinch" of this or a "cupful or two" of that and finally "flavor to suit the taste" as the proper finale to all their impressionistic formularies. But it does not matter how much we enjoyed the grace and freedom of the old method of suggestive communication of domestic confidences: nothing now remains but to bemoan the passing of it, for it can never come back. Modern efficiency has erected over its grave an entanglement of thermometers, scales and other gravimetric and quantometric devices through which not even the spirit of the sweet old thing can ever return to float again in boudoir or kitchen atmosphere.

For this reason we mourn over the demise of the old "rule of thumb" as one without hope and make ready our worship for the new goddess of domestic efficiency who strikes out from the shoulder, looks straight into the center of things and gives orders like a drill sergeant. Our first genuflection at the altar of this goddess appears on another page of this issue and consists of unequivocal commands to our lady readers as to the way in which they must do their home canning, which is now a seasonable operation. Professor W. V. Cruess of the College of Agriculture, who has written enough pages about home canning during the last few years to fill a two-volume cook book, finds now that the military spirit of the time requires straight orders to be obeyed and not general suggestions to be dreamed over. In a note to the editor he writes:

We have published the methods of sterilization for the various fruits and vegetables in our sta-

tion publications, but these data are scattered through a number of pages and in some instances require considerable effort on the part of the canner to get the information. I have thought that it would be a good plan to have published in the columns of the Pacific Rural Press a brief table containing all of the needed information. I have therefore arranged a table in several columns giving the time of sterilization, blanching, etc., for the various fruits and vegetables where the three or four standard types of sterilizing apparatus are employed.

Now, therefore, we, the official journal of the dominant military spirit in California farm and home life, do publish the above as General Order No. 1 (new series) and do warn any recalcitrant female of our division that disobedience will incur the penalty of being drummed out of her war kitchen and compelled to spend the balance of the season with white-blooded slackers at a summer resort—unless orders on page 68 are obeyed.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Tomato and Eggplant Pests.

To the Editor: Kindly tell me what to do for large green worms that eat tomato vines and also tomatoes. Would ants kill eggplants or is there some worm that works on them? The roots are strong and I can find no worms, but they continue to die.—B. B., Parlier.

Those large green worms can be killed by spraying with arsenate of lead, but as they are so easily seen and it is dangerous to consumers to cover tomatoes with poison, it is better to pick off and smash the worms.

Eggplants are subject to several small pests which can knock out the top without being noticed unless one is well informed about them. Preventive treatment consists in spraying with lead arsenate or with tobacco or kerosene washes. Of course, we cannot tell which to use without seeing which pest you have. The ants do not injure the plants, but they do indicate that the remedy for aphis given on page 723 of our issue of June 8 is probably what you need. But it must be used before the plant collapses. You must always watch for the first signs of trouble and not expect to snatch back the victim from the doors of the crematory.

Killing Borers.

To the Editor: Will you kindly tell me what strength of concentrated lye will kill twig borers? I have been told that they could be eradicated from an orchard by washing the trunk of the trees and also pouring the wash around the roots of the trees.—Reader, Mendocino.

We would as soon tell a man to soak his feet to remove a wart from his ear. There are several twig borers, but none of them can be reached by medicating the trunk and roots. If you catch a borer in his hole in a twig, send him along and we will tell you what we can about his weak points. Soft soap and lye solution (one pound to six gallons of water) have been prescribed for borers which work near the root crown, but they never tackle a twig. They work in the rough bark at the base of the tree or wherever on the stem and larger branches the bark is sunburned. Whitewash is a good preventive and after they get in the best treatment is to cut open the black spot which their work generally causes on the bark, find the opening of the burrow in the wood underneath and punch into the end of that burrow with a small wire. Wire hairpins opened flat are good tools for it. The sooner you get at it now the less the trees will be hurt.

Prune Parting from Almond?

To the Editor: I have some two- to three-year-old French prune trees grafted on almond root. These trees are planted in heavy, rich soil and seem to do well except on some the bark on the graft keeps cracking apart until there is a distinct groove around the trunk between the root and top. The bark ridges up on each side of this groove and I am afraid if nothing is done the trees will fall over. One already fell over this spring. What causes this and is there any treatment for it?—E. J. A., St. Helena.

There is often some upsetting of the bark at the union, but it is unusual for the French prune to fall off the almond. It generally likes it too well. It is more apt to fall off the apricot root that way and for that reason the apricot is seldom used. Are you sure you have the almond root? It has been claimed that a disposition of the barks to stand off each other can be overcome by making a few cuts up and down, or lengthwise, through the union which causes the two growths to inter-knit better. We have nothing else to suggest.

Killing Devil Grass.

To the Editor: What is good to kill devil grass which is something like morning glory. I have it all over the place and mostly in the beans. I hoe it regularly, but it still comes just the same.—W. G., Arroyo Grande.

You will never get it out of the beans. If you can get the beans off early so you can plow up dry and let the stuff bake in the sun for a couple of months and then harrow and rake out roots, you may reduce it somewhat—enough perhaps so that you can grow beans with the devil in them profitably. To make a cleaner job you will have to give up one year's crop and clean the land by a persistent summer-fallow through which you run a flat-toothed weed cutter every Monday, so as to cut shoots under the surface and never give them a chance to see the light or yourself a chance to see them. All other hoeing or cultivating simply spreads the pest. There are also two prescriptions for killing by chemicals, one of which is described in the publications by Wheeler, Reynolds & Stauffer, 624 California street, San Francisco, and the other in Circular 168 of the College of Agriculture at Berkeley.

Follies of the Fellenberg.

To the Editor: We have some Fellenberg prunes six years old. Last year we noticed that the foliage dropped quite early. The fruit was not up to size. This year most of it is now dropping off. It gets a little red, the stem dries up, and that is the end of it. We irrigate once during the season. Three weeks ago we gave a good irrigation and, even so, the fruit drops. What is the cause? Is it too hot in the San Joaquin Valley for the Fellenbergs? Would you advise us to graft them over or give them some treatment? Our Robes, Silvers, Green Gages and Washingtons do well under the same conditions.—M., Stockton.

We should cut out the Fellenbergs, just as other growers have been doing for the last thirty years. There seems little occasion to consider it at all unless you have a shipping demand which makes it profitable. It has always acted contrarily in this State and has been generally disregarded in planting. It hardly seems worth while to speculate upon the reasons for its perversity. We would graft over.

Painting Pear Blight Cuts.

To the Editor: Is it possible, in painting over a cut on a blighted limb of a pear tree, that the blight can be transmitted from one blighted cut to another tree by the paint brush?—W. H., Rialto.

It may be considered practically impossible (1) if the cuts are properly made, that is usually about a foot below visible appearances of blight on the bark; (2) tools are disinfected before making the cut; (3) the wound immediately after the cutting is sponged with a disinfectant—of which the best and most available is one part of corrosive sublimate to 1000 parts of water by weight; which is one ordinary tablet of corrosive to one pint of water. If these things are done subsequent painting of the wound can be safely done because there should be no living germs to transfer by the paint brush—without relying upon the other fact that probably the paint itself would render innocuous any germ which might be taken on the brush.

Too Many Toads?

To the Editor: Will you kindly give information about toads. The place is alive with them and the flower beds around the house all undermined. I should like very much to be rid of them unless they have some virtue of which I am ignorant.—L. B., Lakeport.

Toads have an enviable reputation as friends of the plant grower. They are ravenous eaters of slugs, snails, and various creeping and low-flying insects. In Europe children are taught in the schools to have high regard for toads and not to molest them. We cannot exhort you to love toads, for we find it impossible to do it ourselves, but we do respect and protect them. Still there may be too many toads in one place. We should lift them up tenderly on the blade of a hoe and put them out in the fields.

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Elizabeth McHugh, Subscription Clerk

Killing Moles.

To the Editor: I would like to know how to get rid of moles. I have tried poisoned raisins and other poisons, but it doesn't seem to kill them at all.—W. G., Arroyo Grande.

You cannot poison moles as you can gophers because the mole does not eat vegetable substances but subsists on earth worms, ground insects, etc. If he would learn to do this without upsetting plants in his drive to get bugs, the mole would be an ally in your gardening; but he never will learn to work your way, so you have to kill him—if you can. This can be done by buying mole traps and learning to set them properly. They are different from gopher traps. The only other way known to us is to watch for his disturbance of the surface and jab him with a spading fork or throw him out with a quick plunge of the shovel and kill him on the surface.

Removing Root Knots.

To the Editor: My four- and five-year-old prune trees are affected with black knot (I think you call it)—big lumps at foot of trunk and on the roots. Kindly tell me if you know of any cure.—G. A., Calistoga.

Remove the knots with a chisel or gouge without injury to adjacent bark. Paint the wound with Bordeaux mixture and allow it to dry before replacing the earth. If a young tree is seriously dwarfed by root knot, we would dig it out now and allow the hole to remain open and bake in the sun until time to plant a new tree—filling in around the new tree with good soil from a distance. If a tree is found to have knots and is still growing well, we would take off the knots as first suggested.

Non-Podding Bean Plants.

To the Editor: What shall I do for my beans? They have been blooming now for about six weeks, but no beans. The ground has been well manured and well watered. If anything can be done, let me know, and if not I will take them out and plant something else.—G. A. R., Glenn.

We do not find anything on your specimen which accounts for non-setting of pods. The plants seem healthy. If the stand is good, we would keep them along on the chance of setting later. Possibly you have pushed too vigorous growth by irrigation and manuring. Let them get a little drier.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 16, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.12	.14	.11	68	48
Red Bluff	...	....	....	96	58
Sacramento	...	....	....	94	52
San Francisco	...	....	.01	72	51
San Jose	...	....	....	84	46
Fresno	...	....	....	98	60
San Luis Obispo	...	....	.01	84	48
Los Angeles	...	.68	....	84	60
San Diego	...	....	....	74	60

Lupines as Orchard Cover Crops

To the Editor: Please tell me what the name of the plant I send is. Is it of benefit to orchards as a help for growing trees if plowed under in the spring? Can the seed be bought?—M. D., Forestville.

[Answer by Prof. P. B. Kennedy.]

The plant is one of the native lupines (Lupinus nanus). It is an annual and a very beautiful flower, frequent in patches on the coast. No seed of it can be secured on the market and I doubt very much the wisdom of gathering it.

To be sure, it will greatly improve the soil both by the nitrogen containing nodules on its roots and by the humus formed by the plowing under of the leafy growth. It is most likely, however, that some other legume would produce a greater growth to plow under. Direct experimental evidence on a practical scale, however, is not at hand to prove this, although many small trials with similar lupines have been conducted, with the result that they are not promising. Possibly on light, poor, sandy soils the lupines may find a place. Your correspondent will be able to secure the following kinds on the market: White lupine (Lupinus albus), blue (hirsutus), yellow (luteus), Egyptian (termis). In addition a number are grown for ornamental purposes and seed offered under the flower list. These, however, are likely to be just as valuable from a cover crop standpoint.

The seed may be sown broadcast or drilled at the rate of about two bushels per acre. As much as 20 tons of green matter per acre are known in Europe, or 25 bushels of seed.

The ripe seeds of many of our species are very harmful to stock, but the seed of some of the European species are ground into meal and found excellent for young calves.

The seed are sometimes boiled and then washed in water, which takes out the dangerous substances, but it also takes with it much of the valuable protein substances. Much investigation is needed with both our native species and those of Europe before definite recommendations regarding them for range, cover crop, hay, concentrates from the seed, or any other purpose can be given.

There are probably 80 or more species in California, from small, delicate annuals to large, shrubby, long-lived perennials.

San Joaquin Grape Growers Prosperous

[Written for Pacific Rural Press by J. C. Johnson, Fresno.]

Prosperity will smile on the table grape producer of San Joaquin Valley, according to all indications. Judging from the prices paid for Imperial Valley grapes in Eastern markets, the growers of San Joaquin Valley will make a good profit on a tremendous crop that is expected to be harvested this season. A reliable fruit shipper predicts that 4000 cars will be shipped from this valley. The profit the growers will receive, he said, will be equivalent to what they paid for their acreage one year ago. The average of prices growers are receiving are as follows: Thompsons, $40; Malaga, $45; Cornichons, $50; and Emperors, $60. One shipper predicts that the great grape industry of the valley would yield a total profit between $2,000,000 and $3,000,000.

FRUIT MARKETS NEED REGULATION.

A plea is made in fruit circles for a more regulated market. It is the consensus of opinion among the fruit interests that the shipping of green fruits should be regulated in this locality, as it is in Imperial Valley. Strongly illustrative of the harm done by irregular marketing, the failure on the markets of the final apricot production is cited. The transportation was too slow, markets became glutted and other causes that grew out of the excitement of the grower to ship by consignment and unload his crop on the market too hurriedly served to make an absolute failure of the marketing of the last apricots of the season. Apricots, for instance, sold as high as $3,000 per car three weeks ago. Latest reports from Eastern markets show that apricots are selling for freight charges. They are bringing as low as $400 per car and even at that rate growers are experiencing some difficulty in making sales. Packers and shippers are warning growers that the same condition may develop in the table grape shipping unless better judgment is exercised.

Women in Vacaville Orchards

[Written for Pacific Rural Press.]

Can our women do field work? The Women's Land Army says that they can. But the question still hangs, and Vacaville is trying for the answer. For Vacaville is a forward-looking community, and a number of its men—seven they were—had a vision. They looked five years ahead and saw what the labor shortage was likely to be. Who could fill it? They consulted, built a camp and called on the Women's Land Army. The camp is a model, and the women are on trial. The girls have been in camp about three weeks and to date the answer to the "can they do it?" query runs something like this:

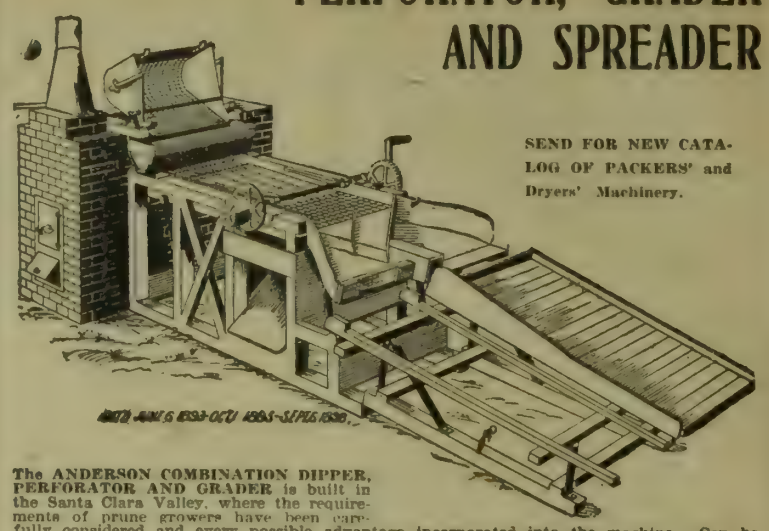
Charles McQuaid, Federal Labor Agent, says the girls have more than fulfilled his expectations — which were high. They have worked steadily and their courage seems of the matter-of-fact sort that comes to stay. They have satisfied their employers. Yes, Mr. McQuaid, who watches this experiment as a chemist his crucible, nods his head and says the girls have made good.

Henry Bassford, with three hundred acres of ripening fruit on his hands, gives his verdict over his signature: "The girls are all right seven days in the week." He has used them in picking, packing, etc.

Mr. Rogers, another large grower, says: "Use them next year? Why, of course." And he has tried out some of the girls in irrigating as well as in the fruit, and decides that women can not only call a spade a spade, but use it as one.

These are samples. Other growers tell much the same story. Practically all of the employers and girls are already talking of "next year."

ANDERSON COMBINATION DIPPER, PERFORATOR, GRADER AND SPREADER



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☐ Stump Blasting ☐ Ditch Blasting ☐ Subsoil Blasting
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Name _____ Address _____

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Whole-Dried Apricots.

To the Editor: Are whole-dried apricots salable? Is it advisable to check by dipping in lye before sulphuring?—E. G. M., Cupertino.

[Answered by H. C. Dunlap, California Prune and Apricot Growers, Inc.]

With regard to whole-dried apricots: Our Association is assuring all growers that we will accept delivery of same. We are not giving them absolute advice in the matter of handling this product, but suggesting to all that they experiment with the first few apricots they can secure. A number of growers who have had experience state that the fruit should be dipped before sulphuring. They differ as to the proper solution to be used; some use a weak lye solution, as with silver prunes; others a salt solution. Even plain water should assist the sulphur in the bleaching process. The apricots will not stand anywhere near the dipping that prunes will. Since we are liable to have a considerable quantity of this product delivered to us, we are going to require good standards of color and sugar. There was a lack of good color with some last year.

Grape Mealybug Spreading.

Mealybug is invading vineyards in four of the most important grape counties of the State and is spreading rapidly, according to R. L. Nougaret of the U. S. Department of Agriculture. Bunches of grapes showing honeydew or other marks of infestation should not be moved from the vineyard. Boxes which have carried infected grapes should be fumigated with hydrocyanic acid gas or carbon bisulphide or should be steamed or dipped in scalding water before removal to another vineyard. It was agreed at the grape standardization meeting that all infested grapes offered for shipment should be condemned.

Myrobalan for Moist Soil.

Prune trees ten years old on bottom soil, where the water table is six or eight feet down but moisture appears on the surface every morning through summer, have borne only one good crop for E. C. Spear of Napa county and have not made sufficient growth. They bloomed regularly, but what little fruit set would drop. They are on peach root. A few trees on myrobalan in the wettest corner are much bigger and thriftier. Mr. Spear is horticultural inspector. All but two or three of the prune tree orders received in his district last season were on myrobalan root.

County Fruit Exhibits at State Fair.

No other State in the Union can show the variety of products found in California; and people look to our State Fair for exhibits of the best in fruits and other products. The fine new $300,000 building will be ready for them, and State Horticultural Commissioner G. H. Hecke is urging County Commissioners and fruit growers to boost for the best county exhibits ever put out. Prizes are so numerous that there will be keen competition.

Home-Made Orange Vinegar.

Orange vinegar is fully as good as cider or grain vinegar and can be made by citrus growers themselves at slight cost from cull oranges, per an announcement from the Citrus By-Products Laboratory of the United States Department of Agriculture at Los Angeles, who will furnish detailed directions to all applicants.

For Split and Sour Figs.

Where figs are likely to split and sour, the best and quickest remedy, as recommended by Henry Markarian of Fresno, is to apply hydrated lime, as much as three tons per acre, and withhold irrigation after July 15.

POLLINATION OF CHERRIES.

To the Editor: Referring to sterility of cherries, which you discuss in your issue of June 29, may I make a suggestion or two?

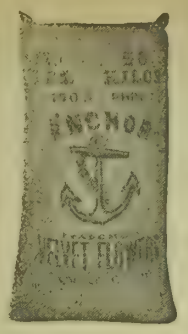
We have found that the Royal Ann, Bing and Lambert cherries in this locality are practically sterile. They do not pollenize themselves or each other and without a good pollenizer we get practically no crops. However, occasionally good, healthy Lambert trees will throw about 50 per cent of a crop. We are using the Black Tartarian, Black Republican, Waterhouse and Governor Wood as pollenizers, and find that it unquestionably pays. Occasionally we find a seedling that is a good pollenizer. We have also found that it pays to pollenize artificially; that is, to cut the blossoms from the fertile trees and put them in pails of water and hang them in the sterile trees. This more than pays us for our trouble while we are getting the sterile trees pollenized.

In planting out an orchard we arrange to plant the pollenizers so that the pollen will not have to be carried by the insects more than four trees away and in many cases we reduce it to two trees. Where the orchard has been planted and has reached the bearing age before we realized that we had to have pollenizers, we use two methods of putting in the pollenizers. One is to saw off as many trees as necessary, in order that the pollen may not be carried over four trees in any direction, from four to six feet from the ground, and put on grafts from good pollenizers. I have seen two-year-old wood from this work producing blossoms. Another method is to cut back sufficiently during the winter, that vigorous shoots will grow the following summer, and then go in in July or August and put buds from the pollenizers in these shoots. At the end of two years I have seen these buds bloom nicely and produce a heavy crop of fruit in the vicinity of the trees in which they are located.

Prosser, Wash. LUKE POWELL.

[Thank you: the observations are very interesting.—Editor.]

SULPHUR



Fleur de Soufre, Anchor Brand; Velvet Flowers of Sulphur and Eagle Brand.

Packed in barrels and double sacks; are the fluffiest and purest Sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, leaving no ash.

Try our new brand of sublimed 100 per cent pure Ventilated Sulphur for making Paste — Atomic Sulphur.

For Lime Sulphur Solution, use our "S" Brand Refined Flour Sulphur, which we will furnish at a price so cheap that you cannot afford to purchase ready-made solutions.

We are equipped to make immediate shipment. Send for illustrated booklet; also price list and samples.

SAN FRANCISCO SULPHUR CO.
624 California St., San Francisco, Cal.

Fertilize all Crops
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Nitrate of Soda

Small quantity per acre will increase your production and income.

Write or call for particulars.

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Wetproof Steel Lined Shot Shells

A WET day is indeed a good day for ducks to the hunter who has the *right* shotshells in his pockets. Remington UMC Smokeless "Arrow" and "Nitro Club" Wetproof Shotshells do not require fair weather to keep in good condition and work *right* through the gun. They may be exposed to wet for hours but will not soak through—the water can not get in, can not swell them, soften the turned-over end or bulge the top wad. Mauling them around in the wettest coat pocket can not scuff them. Remington UMC makes them *right*.

This is something every farmer who loves duck hunting will learn with profit — it will make those idle wet days in the Fall welcome ones.

Remington UMC for Shooting Right

The result is virtually a new type of shell, embodying the most important improvement in shotshell manufacture in over a decade.

These are the first *completely* wetproof shotshells—an exclusive feature of the Remington UMC "Arrow" and "Nitro Club" brands for shooting *right*.

You just buy the same old favorite Remington UMC "Arrow" or "Nitro Club" Steel Lined Speed Shells, at the regular price, and you get the new Wetproof feature thrown in besides. A shell that is sure fire, gives top speed, best pattern and most penetration, and has in addition the wonderful quality of staying dry as dust inside and hard and smooth as glass outside even when subjected to the wettest weather conditions.

It took three years to perfect this waterproofing process. Special paper had to be produced for the shell bodies, a special formula discovered for compounding the *right* combinations of waxes and oils, new machinery developed for applying the waterproofing so as to work it *into* the shell as a part of it, positively sealing it against hours of wet, and new methods devised for giving the shell the same *right* finish as before.

In *black powder*, buy the old reliable "New Club," now Wetproof sealed at turnover and top wad.

Sold by Hardware and Sporting Goods Dealers in Your Nearest Town

Keep your gun in best condition with REM OIL, the combination Powder Solvent, Lubricant and Rust Preventive

THE REMINGTON ARMS UNION METALLIC CARTRIDGE COMPANY, Inc.
Largest Manufacturers of Firearms and Ammunition in the World
WOOLWORTH BUILDING NEW YORK CITY

California's Place in the Seed Trade

[Written for Pacific Rural Press.]

In view of the meeting soon to be held in San Luis Obispo to start a drive for a pure seed law at the next session of the Legislature, and in view of the importance of commercial seed growing in California, as outlined on page 804 of our issue of June 29, it seems timely and interesting to present the latest phases of the subject.

During last week many of the seed farms in the leading producing districts of California were personally visited by W. A. Wheeler, who is in charge of the "seed reporting service" of the Bureau of Markets of the United States Department of Agriculture at Washington. Mr. Wheeler came to California to get into personal touch with those engaged in seed production and trade in this State, to assure them of the patriotic and promotive desires of his branch of Government service toward development of American seed production and to inform himself more definitely of the capacity of California to contribute to the national seed supply, not only to help win the war but to figure in the world's trade after the war is won.

Mr. Wheeler is surely wide awake and masterful in his important line of effort. He came to California from Chicago, where he delivered an address at the convention of the American Seed Trade Association upon "Seed Reporting as a Public Service," in the course of which he said:

The object of a seed reporting service is to obtain useful information relative to seed in a manner that will be of service to the public. Broadly speaking, the object is to make all kinds of general seed information available to every activity connected with production, distribution and consumption of seed.

Under normal conditions the benefits of seed reporting are quite apparent, but it is obvious that a decided advantage to the country under war conditions accrues through a thorough and complete knowledge of seed stocks, movements and prices. War conditions have suddenly thrown the American seedsman on his own resources in the supply of many seeds formerly obtained in foreign countries. This, coupled with an unusually heavy demand from farmers and home gardeners, has brought about unusual conditions in many lines of seed business. Normal agencies are all upset; imports are cut off, and shortage of labor has created conditions conducive to low production in certain regions. If we are to produce the large crops which the war demands, we must have seed. Seed growers must be informed as to the probable demands of planters so that their acreage may be planted intelligently. Exports must be regulated to prevent seed being shipped abroad that is needed at home. These things all make necessary the most careful study of all factors affecting seed production and distribution.

WHAT IS TO BE SEEN IN CALIFORNIA.

With such purposes in view, Mr. Wheeler came to California, which is the chief State in the production of vegetable seeds, to visualize the local aspects of the industry, and he has surely caught some notable things in his eye. He has seen in one locality 500 acres of onion seed balls approaching maturity and calculated that it would yield perhaps one-fifth of all the onion seed usually required in the United States. At another place he saw enough spinach going to seed to furnish one-half of the annual national demand. And he saw other things perhaps even more notable and made the personal acquaintance of the growers and infused them with his own spirit and with fuller realization that they are contributing finely to the achievement of an honorable "big business" for world welfare—the production of good seed from which good things must grow for the service of humanity.

A popular idea of the relative importance of California and other States in the production of "vegetable seeds" can be had from the fact that the official publication of Mr. Wheeler's branch of the public service, the Seed Reporter, a monthly publication of the Department of Agriculture, contains in its issue for July a full page of reports on the growing crops of the vegetable class. These reports are State summaries from individual reports of growers and they cover fifteen different vegetables and in ten of these California prospects are named first, indicating leadership in their production in this State. These vegetables are beans, beets, carrots, celery, lettuce, onion, pea, radish, spinach, and tomato. Mention is made of Oregon and Washington as leading producers of cabbage and turnip seeds. Thus three Pacific Coast States dominate the production of four-fifths of the classes of vegetable seeds commercially produced in this country.

SAN FRANCISCO OFFICE OF SEED REPORTING.

As predicted in our issue of June 29, an office of the seed reporting service of the United States Department has been opened in San Francisco at room 1131 of the Merchants Exchange, on California street, and S. S. Lawrence, who is experienced in California seed growing and trade, is in charge. Mr. Lawrence is at the service of all who are interested in the seed industry in ways which are for the public benefit.

The apple trees around Watsonville are loaded to the limit, a correspondent writes.

WHAT DO YOU GET IN YOUR MILL FEEDS?

Do you want to know how much of chaff and hulls and straw, etc., that are valueless are in the mill feeds you buy? Do you want to know its protein, carbohydrate, and fat content? Do you want the State to inspect mill feeds and do you want their composition stamped on the outside of sacks so you can know what you are buying? California and not more than seven other States are at the tail end of the procession. Some forty-odd States in the Union have such inspection laws, and those that do not have them of necessity become the dumping ground for poor, low grade stuff that cannot be sold elsewhere. While this is not true to the same extent in California as in the Middle Western tail-enders, the danger is ever present and the many proprietary mixed feeds that have sprung up of late render it doubly important that manufacturers be required by law to guarantee the quality of their feeds by minimum protein and fat contents and maximum fiber. Such a law was defeated at the last Legislature for want of interest in it by farmers. Pledge your candidates to boost it the coming session and let us hear from you.

Voters Attention!

In November another "Single Tax" bill comes up.

It has been defeated three times in our State.

It removes all taxes from buildings, bonds, stocks, franchises, corporations and all other personal property, placing the entire burden on LAND.

Farmers beware. Vote NO.

Write for free booklet "Single Tax and the Farmer."

Anti Single Tax Ass'n of California
Mills Building, San Francisco

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

FRUIT CROP BY COUNTIES.

Following is the estimated per cent of the normal fruit crop grown in each of the main producing counties. The table was compiled in cooperation with the United States Bureau of Crop Estimates, San Francisco, from reports of county horticultural commissioners and Government crop reporters, and was prepared by George P. Weldon, chief deputy, and O. W. Newman, field deputy. Blank spaces indicate that the crop is not grown at all or is grown to so small an extent as not to be of commercial importance.

County—	Almonds	Apples	Apricots	Cherries	Figs	Lemons	Olives	Oranges	Peaches	Pears	Plums	Prunes	Walnuts
Alameda	1		8	8						2	1	1	
Butte	13	1		1	2		14		3	1		3	
Colusa	4											3	
Contra Costa	10		1	3			1		1	6		1	
El Dorado				1						3	1		
Fresno			4		60		3		25		1	1	
Glenn	1		1									1	
Humboldt		2											
Imperial													
Inyo		1											
Kern			1						1	1		1	
Kings			8						7			2	
Lake	1									7		1	
Los Angeles	1	2	5		2	31	10	26	4	2	3		30
Madera			1		2		2		1				
Marin													
Mendocino		1		1						1		1	
Merced	2		1		10		1		4				
Modoc													
Monterey		12	1										
Napa	1	1	1	4			1		1	3	1	5	
Nevada		3		1						2	1		
Orange			3			7	1	10					36
Placer	1	1		10			1		7	12	39		
Riverside	4	1	8	2		16	10	14	3	1			1
Sac'to	8		1	6			5		1	20	8	1	
San Benito	1	1	5	1						1		1	
San Bernardino		4	6	1		13	6	31	5				1
San Diego		1	1			10	6						
San Joaquin	14		2	15	1		3		6	3	2	1	1
San Luis Obispo	1												1
Santa Barbara				1			2						10
Santa Clara	1		20	24			6		5	8	18	47	1
Santa Cruz		51	2	2					1				
Shasta							1					1	
Siskiyou		1		1									
Solano	5		3	9					3	8	16	4	
Sonoma		16	1	7			4		1	6	1	13	1
Stanislaus	7		1	1	5		1		6	1			
Sutter	8			1	3				5	1		2	
Tehama	1	1	1				6		2	1	1	1	
Tulare			1		10	5	6	13	7		2	7	
Ventura			10			15	4	2					18
Yolo	14		3		3		3		2	6	4	2	
Yuba	1				2		3			3	1		

NATIONAL POWER SHOW.

More exhibitors are already signed up for the national exposition of motor trucks, tractors, and accessories in Chicago, September 14 to 21, than the total number at the 1917 show which was held in the Coliseum. Manager Buelow believes that before that time there will be twice as many exhibitors. The space already contracted for is so much greater than the total floor space of the famous Coliseum that the Coliseum would seem small if set down in the area reserved for the Automotive and Accessories Exposition, Inc., which is the official name of this national exhibition. On Thursday and Friday will be held a threshermen's convention on the floor of the show auditorium.

CALIFORNIA CROP ESTIMATES.

According to preliminary figures prepared by the Bureau of Crop Reports, based on conditions July 1, the principal California crops are estimated as follows, compared with 1917 (all crops are stated in bushels, except hay, in tons):

	1918	1917
Corn	2,429,000	2,400,000
Wheat	6,378,000	7,425,000
Oats	5,695,000	6,860,000
Barley	32,914,000	39,150,000
Potatoes (Irish)	8,314,000	15,225,000
Potatoes (sweet)	938,000	1,002,000
Rice	6,318,000	5,600,000
Hay, tons	4,074,000	4,819,000

The hay crop in Shasta county this season is only one-third the average. This is due to the light fall of snow last winter and the consequent extremely dry summer.

What Will Prunes and Apricots Bring?

[Written for Pacific Rural Press.]

Last week we published the prices for dried apricots set by the California Prune and Apricot Growers' Association, and on June 18th the prices for prunes. The books of the Association for last year show the following record of sizes for various localities. Readers will notice the sum of the percentages in each case do not total a 100 per cent, for the reason that in the record slabs and No. 2 fruit are included. This is probably the first publication of such comparisons. Only the chief localities where the fruit is grown commercially are considered.

PRUNE SIZES IN PERCENTAGES OF CROP IN EACH LOCALITY.

Districts—	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100	100–120	120 up
Santa Clara Valley	.013	.027	.125	.211	.197	.153	.098	.076	.06	.031
Hollister	.001	.009	.07	.13	.20	.16	.13	.12	.10	.08
Napa Valley	.01	.03	.09	.18	.21	.16	.12	.09	.07	.033
Sonoma	.027	.033	.14	.20	.16	.14	.10	.09	.07	.04
Sacramento Valley	.004	.015	.033	.084	.16	.205	.16	.12	.129	.08
San Joaquin Valley	.001	.014	.066	.09	.175	.195	.17	.137	.07	.074

APRICOT SIZES IN PERCENTAGES OF CROP IN EACH LOCALITY.

Districts—	Standards	Choice	Ex. Choice	Fancy	Ex. Fancy	Jumbo
Santa Clara Valley	.075	.176	.293	.199	.123	.056
Hollister	.13	.22	.256	.12	.10	.003
Ventura County	.35	.36	.16	.054	....	....
Riverside County	.07	.50	.17	.18	.002	....
Orange County	.363	.30	.231	.06	.004	....
Alameda County	.07	.24	.32	.20	.09	.007

This year's prices figured on last year's sizes would give the following averages for the various localities and for the State.

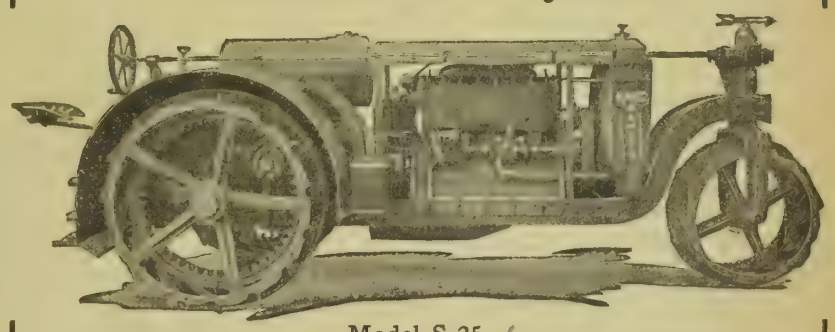
Prunes—Santa Clara Valley, 8c; Hollister, 7.7c; Napa, 8.2c; Sonoma, 8.3c; Sacramento Valley, 7.5c; San Joaquin, 7.8c; State, 8c.

Apricots—Santa Clara Valley, 14c; Hollister, 14c; Ventura, 12c; Riverside, 13c; Orange, 12c; Alameda, 14c; State, 13.5c.

Immediately upon the announcement of apricot prices by the Association, independent packers offered to sell at prices one-half cent or more lower. The purpose is evidently to demoralize the market. The only way to maintain prices and stabilize the market is for the growers to stick together.

Your Problem is Solved

When You Buy a



Model S-25.

SAMSON GMC TRACTORS SIEVE-GRIP GMC TRACTORS TRACTOR

10 HP ON THE DRAW BAR—25 HP ON THE PULLEY

The Samson Sieve-Grip Tractor embodies all the features which years of painstaking effort and experience have approved. It is not an experiment. It is a demonstrated success of years' standing. Its enthusiastic owners are numbered among nearly all civilized nations on the globe.

In construction, it is very simple. In strength, all that its name implies. Built to meet the most exacting demands, day in and day out.

Its Sieve-Grip Steel Wheels, skeleton-like in construction, give greatest traction with least weight. They do not slip. They do not pack the soil. They assist cultivation.

Its Nodust-Moisto-Rizer cleanses all air entering carbureter and crank case vent. All working parts of the motor are protected from dust and grit.

Its lubricated roller pinions reduce friction to a minimum. They deliver maximum power to the draw bar.

Its ball and disc type Governor assures simplicity of operation and prevents racing of the motor. Adjustment, made from the driver's seat, secures any desired set speed, regardless of load, to the tractor's maximum capacity.

We court the most rigid investigation.

It will be our pleasure to give you a demonstration at any time, without obligation on your part.

Ask any customer or write for information.

Samson Sieve-Grip Tractor Co.

Division of

GENERAL MOTORS CORPORATION

STOCKTON, CAL.

Are You Getting Ready for the Fall Shows

(Continued from first page.)

Francisco and get their stock in shape. For that matter, these dates have been set with a much larger circuit in view, and with the idea of attracting Eastern exhibitors. Those showing at the American Royal Show at Kansas City can ship to Los Angeles, thence to San Francisco, thence to the Pacific International at Portland, and thence to the International at Chicago, a week intervening between each of these shows.

LIBERAL PREMIUMS OFFERED AT ALL COAST SHOWS.

The San Francisco officials have secured a site of ample size, well adapted to the purpose, with railroad tracks and loading platforms. They offer a premium list of approximately $30,000, and with the premiums offered at the other Coast shows the livestock men throughout the Middle West can well afford to send high-class exhibits here. Many have already agreed to do this, and it is expected that competition will be much more keen than at the Panama-Pacific Exposition, where so many Middle West herds were prevented from showing on account of the foot-and-mouth disease. If you want a premium list or further information about any of these California fairs write to Chas. W. Paine, secretary of the State Agricultural Society, Sacramento; C. R. Thomas, manager Livestock Department, California Liberty Fair, Central Park, Los Angeles; Joseph E. Painter, manager California International Livestock Show Corporation, 818 Merchants Exchange Building, San Francisco.

SHOW UP YOUR SAMPLES AND GET PUBLICITY.

Of course there will be the usual number of county and district fairs, and you ought to plan to exhibit at those near your home, as well as at the larger shows. The more the better—not only for the good of the shows but for you personally. For the best advertising your herd can have is the winnings it makes and the publicity it receives at these shows.

The modern fair or show is a direct descendant of the old-time sales or market day. It dates back of the Grecian democracy and the Roman republic and has been handed down from generation to generation. The progress of civilization has wrought changes in form, but underlying all is the same basic idea—publicity for our wares.

"THE SHOW RING IS THE SHOW WINDOW OF THE PUREBRED BUSINESS."

A store that is successful places in its show windows fair representations of the goods it has to offer, and customers entering the store find the same grade of stock, although perhaps not quite so attractively displayed. In the same way, at the show the breeder exhibits samples of the stock he has at home and acquaints people with his strain. The practical element of the present show ring has taken from it the character of a sporting game and made it over into a definite phase of the breeding business that promotes confidence and acts as a true barometer of the development of the purebred industry.

You may say that you are only a small breeder and cannot afford to show your stock yet, but the chances are that you never will become a big breeder until after you establish a reputation for your stock through the show ring. The farmer's standard and the show ring standard are now practically the same, and farmers are now clamoring for stock of championship blood, believing in the old adage that "like produces like." In every line of the purebred industry you will find that the stock which commands the highest prices is from the herds that have made good in the show ring.

BEGIN EARLY AND LEARN THE "ROPES."

Perhaps you won't win enough prizes or make enough direct sales the first season to warrant the expenditure, but there is a cumulating advertising value that you must take into consideration. To illustrate, one of the most successful hog breeders in the United States recently said of his early experiences: "The first year in business I sold only one hog. But I was busy getting a show herd ready, and I made my debut at the state fair. I did not expect to win, but went with the intention of learning the "ins" and "outs" of the game. I brought one blue and one red ribbon home and much wisdom in the art of showing hogs. Since then I have been more or less successful in the show ring, but learning new things every year—things that count and things that make me money.

"In 1916 I brought home about $5,000 in cash prizes. I had made many valuable sales while on the circuit, and had received advertising value 500 per cent in excess of the expense of showing my herd. In 1917 I repeated the 1916 winnings and went a little further. My mail orders came in rapidly, my business increased, my public sales were well attended, and my stock sold at record prices. My sales for 1918 promise to reach $100,000.

"I attribute this success to the free advertising I secured from the fair circuit. I figure that on the 1917 circuit, at the eight fairs I attended, over 100,000 people viewed my hogs. A list of the prizes I won was published in practically every farm paper in the territory which the fair represented. In this way my name, the farm name and my winnings received free publicity."

SHOW RING PUTS YOU ON THE MAP.

The show ring will do as much for you, Mr. Reader, in building up a profitable business. It will give the public an opportunity to see the kind of stock you are raising, and if your animals are of the right type and quality, and make good in the ring, it will bring you orders and build up a business that cannot be established in any other way. It will "put you on the map," give you a standing as a breeder, and a recognition that the fellows who stay at home will find hard to overcome when it comes to getting the business. For that matter, even if you do not win, you cannot make a creditable showing without being greatly benefited by it.

INSTRUCTIVE TO THE BREEDER WITH GRADE STOCK.

But perhaps you are only an intending breeder, or a young breeder with grade stock, and consequently have nothing to exhibit. If so, you certainly should plan to attend as many of these shows and fairs as possible, for you will be given an

(Continued on page 57.)

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50 per cent increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

HAUSER PACKING COMPANY

9th and Mateo Sts. PHONES 10336 Bdw. 5600 Los Angeles, Cal.

TOMATOES

We have contracted all the tomatoes being grown by our 1200 members to the canneries for Eighteen Dollars ($18) per ton. Our contracts call for delivery to the nearest cannery or shipping point for the grower.

TO OUR MEMBERS

Our representatives will call on you to secure corrected estimates of crop, so that we may be in position to notify the canneries who have purchased your tomatoes the quantity we will deliver. This is important, so please give the representative all the assistance possible.

TO NON MEMBERS

This Association is organized by the growers for their protection. We cover the entire State. If you have not sold your tomatoes, apply to our office at once. The good price this year is due entirely to the efforts of this organization. Protect yourself and help the Association by becoming a member.

CALIFORNIA TOMATO GROWERS ASSOCIATION

510 Battery Street.....San Francisco, Cal.
104 North Spring Street.....Los Angeles, Cal.

MARK GRIMES, General Manager.

MADEWELL SURFACE PIPE
ROBINSON HARDWARE CO.
GILROY, CAL.

Lock Seamed and Soldered

There is a tremendous difference in surface pipe. This is appreciated most by the man who has wasted time and money on inferior makes. If you want absolutely the strongest and best surface pipe you can buy, select

Madewell Surface Pipe

It has many distinctive important advantages you can't afford to overlook.

The Madewell Long Lock Seam is made doubly sure and strong by soldering the entire length. A better seam can't be made. The Madewell Lock Seam Sleeve—used in Madewell pipe only—is decidedly stronger and smoother than the old fashioned lap and riveted seam used in other pipe. This feature alone puts Madewell Pipe in a class by itself.

Send for Free Booklet—which tells just how Madewell Pipe is constructed

Robinson Hardware Co. Box B Gilroy, Cal.

If you want to see

How to Grow More Grain per Acre and Plant Less Seed

visit the Showrooms of the

Western Soil Bacteria Co.

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631 So. Spring Street

SAN FRANCISCO
442 Sansome Street

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For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped

Second Hand and NEW Screw Casing

Fittings and Valves Special Fittings Made to Order

TESTED AND GUARANTEED.

PACIFIC PIPE CO.

MAIN AND HOWARD STS. SAN FRANCISCO, CAL.

Garden Vegetable Planting

[Written for Pacific Rural Press.]

Summer Planting in Gardens.

"Late" vegetables should be planted early. Late vegetables are late principally because they require a long growing season. Late in the season, early sorts must be planted because there is only a short growing season left. In California there is a complication in the form of the hot dryness of our summer, which precludes the planting of certain vegetables at that time. All vegetables require adequate moisture, but some of them thrive at higher temperatures than others. Among the vegetables recommended for July planting by A. J. Nevraumont of the California Seed Co. are those mentioned in following paragraphs.

Sweet Corn.

Sweet corn of early varieties thrives in summer heat if it has reasonable moisture around its roots. Golden Bantam is a standard sort and much relished as used from the writer's garden, though the ears are small.

Peas.

Garden peas, being a cool weather crop may not make good growth in our interior valleys, but will do well in foggy coast valleys if planted this month. It is not necessary to use early varieties, as they stand the light frosts of early California winters. Early varieties will help in keeping a continual supply, however.

Lettuce.

Lettuce in hot, sunny climates needs some shade and the quality is much better when plants are protected from direct rays of the sun.

Beets.

Garden beets will mature before killing frosts and will help keep the dietary fresh through the winter months if stored in a place ventilated with the naturally moist air of winter or if left in the ground.

Radishes.

Rich, moist ground is needed by radishes, which must make rapid growth or they become tough, fibrous, pithy, and strong. They are good if sown until September.

Plant Fall Potatoes Now.

For a late crop of commercial potatoes, Arthur Swall of Tulare county has for three years planted Burbanks grown in the spring on his own place from Oregon seed. They mature when planted between July 10 and August 5. The fall crop produces more than the spring crop.

Kohl Rabi.

Kohl rabi is a "turnip-rooted cabbage," the roots of which are eaten like turnips. Sow the seed from July to October, ½ inch deep in rows 18 inches apart. When large enough to insure a stand, thin the plants to eight or ten inches apart.

Table Pumpkins.

In a garden space which has persistently refused to grow several kinds of vegetables, the writer now has a magnificent patch of table pumpkins. The hills were prepared by mixing liquified hen manure well with the dirt and soaking the ground well before planting.

Turnips and Rutabagas.

These root crops are similar, though rutabagas require a longer season. They are hardy against frost, however, and both will mature well for winter use if planted in July.

Carrots.

Carrots are delicious when properly cooked, and the writer's boyhood appetite for them, uncooked, has come back with compelling force due to the early sorts grown in his own garden this spring. All varieties will yet mature before frost, in most California locations.

Cabbage, Kale, Etc.

For winter growing greens, including cabbage, kale, cauliflower, brussels sprouts, endive, chard, broccoli, collards, etc., the seeds should be sown in a shady, moist place this month. The plants can later be put in the garden, where earlier crops have been taken out.

ARE YOU GETTING READY FOR THE FALL SHOWS?

(Continued from page 56.)

opportunity to get facts and make observations that will be worth thousands of dollars to you in building up your herds and flocks.

You will find each show like a short course in animal husbandry—a concentrated, brief, but convincing presentation of the vital points of livestock breeding. The teaching is done in these cases by observation and comparison, not by lecture and lesson. You will have before you the best of the different breeds—the best specimens from great herds. It would be impossible for you to travel to all the different points to see these animals, but in the show ring they are brought before you, just as much as they are brought before the judge, and you have a grand opportunity for studying size, type, conformation, finish and breed characteristics.

TAKE THE STEP TOWARD PUREBRED BREEDING.

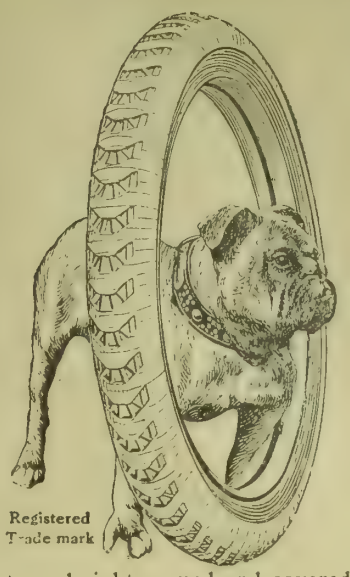
The sight of a purebred herd at a fair has been the turning point in the career of many a man. He begins to see stock raising in a new light. He becomes proud of the fact that he is a farmer and livestock breeder, for he learns that no business on earth is more important or honorable, or offers him greater opportunities.

This change of spirit comes not only from seeing the exhibits of high-class stock but also from talking about livestock matters and swapping ideas with others. Sticking right to his own work day after day a farmer is apt to get into a rut, and nothing will put new life into him or increase his ability more than hearing the experiences of others—of the leaders in different lines.

GIVES INSPIRATION FOR THE YEAR AHEAD.

The successful business man is constantly studying the products and methods of others, and he knows that new ideas are worth going a long way to get, for without them his business would soon be going backward. It's the same with farming and stock raising, so economize elsewhere if necessary but put by enough money to take you to one or more of the fall shows.

From Coast to Coast on BRAENDER



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Bull Dog Grip, Non-skid

TIRES

without a change!

BRAENDER Tires made an astonishing record for tire endurance in the first Official Smith Trophy Coast-to-Coast Run over the Lincoln Highway. Mr. Raoul F. LeMat and Mr. Stanley James left New York in a Stutz and a National equipped with BRAENDER Tires. They finished the 5,286-mile run at Los Angeles without a tire change.

No harder test of tire quality, no stronger proof of sound construction could be conceived, and yet the Stutz turned right around and covered the return journey on the same set of BRAENDERS—without a tire change.

It is not only in racing and road events of national importance that BRAENDER Tires have proven their ability to give extra mileage. They are just as dependable for satisfactory service to the average car owner.

Here is what one user writes:

Whittier, California, Aug. 18, 1917

"Some time ago I bought a Ford runabout and it had two Braender casings on it. I drove them 15,000 miles and never had a blow-out and one of them looks like it would run two or three thousand miles more without any trouble * * * I can sell several of them, so please send me prices, etc."

(Signed) G. F. ARNETT, 343 S. Newlin

We have received similar satisfactory testimony from all parts of the United States.

Write for particulars.—Dealers, write for proposition and secure your share of territory.

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Factory and General Offices: RUTHERFORD, N. J.

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Save $5.00 a Day

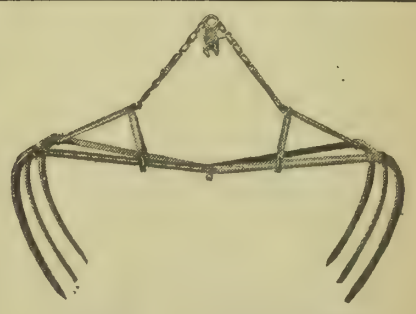
When help is scarce and wages high, you can save money by using a

Louden Power Hoist

A plain, common-sense machine, built to handle big loads easily. Saves time and money. Can be used with any kind of power. Anybody can operate it. Does the work of both a team and a man, and does it in half the time.

Free Book of Barn Plans.

112 pages of practical barn plans. Also, complete catalog of Louden Barn Equipment. Both books free.



THE LOUDEN Balance Grapple Hayfork

With its five-foot spread and its 24-inch tines, this fork lifts an enormous load, binds it tight, drops it clean, and spreads it well in the mow. Leaves no litterings to be cleaned up with a pitchfork. Three or four forkfuls clean the rack.

California Hydraulic Engineering and Supply Co.

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BEAN THRESHERS THE TWO STANDARDS

Built Especially for California Conditions

THE FARQUHAR VIBRATOR SEPARATOR

Guaranteed by "The House of ARNOTT"

Ask The Grower Who Owns One

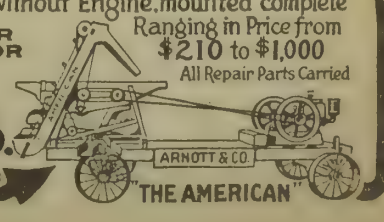
Write for Folder, Specifications, Prices Etc.

Past the Experimental Stage

Eleven different models, with or without Engine, mounted complete

Ranging in Price from $210 to $1,000

All Repair Parts Carried



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"THE AMERICAN"

QUALITY ARNOTT GUARANTEED

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BEAN THRESHER HEADQUARTERS

112-118 So. Los Angeles St. Los Angeles

General Agricultural Review

FAIR DATES.

Monterey county—Salinas, July 30 to August 3.
Mendocino county—Ukiah, August 5 to 10.
Humboldt county—Ferndale, August 19 to 24.
Napa county—Napa, August 22 to 24.
State Fair—Sacramento, August 31 to September 8.
Exposition—Oakland, September 9 to October 6.
Glenn county—Orland, September 15 to 21.
Kings county—Hanford, September 23 to 28.
Fresno county—Fresno, October 1 to 5.
Southern California Fair—Riverside, October 8 to 13.
Liberty Fair—Los Angeles, October 12 to 26.
Livestock Show—San Francisco, November 2 to 10.
Indio—Indio Fair, auspices Board of Trade, November 15-16.

Field Crops.

Bean fields in Monterey county never looked better.

Alfalfa is selling at Hopland for $30 per ton in the field baled.

The hay and grain crops in the Sierra Valley are the shortest for several years.

Bean growers have started a movement to organize branches of the State association.

The recent rain meant an average increase of the bean crop in Ventura county of from two to three sacks to the acre.

The rice growing industry in Glenn county has within six years risen from an experiment of a half dozen acres to a crop which this year is estimated at $5,000,000.

The cantaloupe market at Turlock opened last week. The top price for standards was $3.75 a crate and for ponies $3. The average price paid was around $3 and $2.50.

California will have to pay $9.62½ per 100 pounds for rice for the State institutions for the next three months, according to bids recently submitted. The former price was $8.10.

Averaging more than 225 sacks of potatoes to the acre. George H. Peters, potato king of Kern county, turned out approximately 32,000 sacks on 149 acres of his place near Arvin.

Cotton consumed during June amounted to 527,464 running bales, and for the eleven months ending June 30 it was 6,049,544 bales, the Census Bureau has just announced—slightly in excess of last year.

The farmers in the Two Rock Valley and about Bloomfield do not find the sudan grass a successful crop with them, except where protected by a high fence or a windbreak of some sort against the cool winds.

Farmers of the Clarksburg district, Yolo county, are making plans to combat the red spider pest that destroyed a large volume of the bean crop last season. The Farm Adviser is urging the use of dry sulphur.

The ruling price for which tomatoes in the Porterville district have been contracted is $15 per ton. Packers say that practically their entire output has been contracted for delivery to buyers for the United States Army.

N. T. Cory and F. W. Herbert, who have 300 acres five miles west of Lincoln planted to beans, will arrange for the irrigation of the beans with the waste water of the P. G. and E. Co.'s electric power plants near Auburn.

J. Rose, who has a large dairy in Byron-Bethany Irrigation District, has a large acreage of alfalfa, but before he could irrigate he bought 700 tons of hay for his cows. This year, with irrigation and without increasing his alfalfa acreage, he will not have to buy any.

Melon growers and truck gardeners have asked the State Fish and Game Commission for relief against Chinese pheasants, which are doing serious damage to melons and garden truck generally. Under the terms of the State laws the pheasants are protected at all seasons and shooting is prohibited.

The waters of Lake Almanor are to be used, by order of the State Railroad Commission, to save 25,000 acres of growing crops in Butte and Sutter counties from perishing. The lake is of artificial construction and is intended for power purposes exclusively, but a part of the water has now been requisitioned for irrigating.

The farmers about Bloomville, Mendocino county, and down the Anderson Valley have usually cut nearly the entire acreage for hay, but this year they are cutting only enough for their own use keeping the balance for grain. Ernest L. Whipple of Philo, Mendocino county, says he has never had a better hay crop, though at one time he would gladly have sold it for a ton and a half per acre.

Deciduous Fruits.

Plum picking began in the Porterville district this week.

The organization of the Sonoma apple growers has been completed.

It is thought that apricot growers will dry much of their small fruit this year.

The Government of Tasmania is sending its pomologist, J. W. Ward, to study fruit culture in California and other Pacific Coast States.

Commercial driers in the vicinity of San Jose have this season fixed a charge of $6.50 a ton for drying prunes and $14 for drying apricots.

This year's crop of Gravenstein apples in Sonoma county will be large, it is thought. The apples will be packed and shipped green for the most part.

The plum crop of the Sacramento river district is one of the lightest of recent years. The yield will not be above 50 per cent of normal, owing to the cold spring.

Two dry years following each other have been hard on the almond orchards of the Oakley and Antioch districts. Many trees will not mature their crop this year.

The community packing house of the Mount Vernon district fruit growers near San Bernardino has proved a success and given satisfaction to the fourteen members of the association.

Although the crop of Tuscan peaches throughout the Yuba section is late this year, it is believed the local plant of the California Packing Corporation will commence operation about July 20.

Three orchard crops—prunes, almonds and peaches—will bring between $700,000 and $750,000 into the Chico-Durham district in 1918, despite the fact that this has been a poor year for the production of fruit and nuts, an exchange reports.

A vigorous effort is being made by the fruit growers and farmers to reach an agreement with the farm workers in the Watsonville district with regard to a labor wage to be paid during the present season in order to assure the handling of the apricot and apple crops. A scale of 35c an hour has been tentatively set by a number of farm centers.

The San Francisco Sealer of Weights and Measures seized a large quantity of berries in the wholesale market last week because of short weight. Shippers should remember that it is not the weight of the crate's contents when it leaves the country that counts. It is the number of pounds in the box when the inspector sees it in the wholesale market.

Citrus and Semi-Tropical.

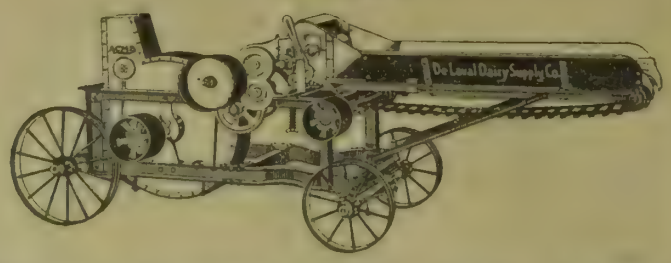
Fumigating season in the Lindsay district opened this week. There is comparative freedom of the local groves from scale and other insect pests as compared with previous years.

Hawaii will have a record-breaking pineapple crop this year, with a total of 3,500,000 cases of the fruit. The best previous pineapple record was in 1915, when 2,669,616 cases were packed.

Dr. Kelly of the University of California is to be sent to the Porterville district to make a study of proper cultural methods in orange groves. A portion of the expense is borne by the University and the remainder by the orange growers.

In an announcement made last week by Manager L. D. Palmer of the Orange County Fruit Exchange he says that the exchange shipments

ACME



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THE knives of the Acme produce a clean cut silage of even lengths that packs well in the silo. The ALL STEEL FRAME adds strength and durability to the machine: Prevents wear and vibration by holding all bearings in perfect alignment. Can't warp or sag. Strongly riveted—no bolts to jar loose.

A size for every Dairy—Catalog on Request.

De Laval Dairy Supply Co.

IDEAL GREEN FEED SILOS ALPHA ENGINES

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"Piatt's Wonder Pumps"

Grand Gold Medal Awarded California State Fair September, 1916.

WILL PUMP WATER AND AIR AT THE SAME TIME—NEEDS NO PRIMING

Any kind of power may be used, which is an advantage in many cases. It weighs less than any other pump, and takes up less room. It is wonderfully elastic in operation. Will pump either a large or small amount of water without decreasing speed.

PIATT'S WONDER PUMP is the most economical pump manufactured for irrigation purposes.

Write for catalogue and prices.

Immediate delivery guaranteed.

CONSULT US REGARDING YOUR PUMPING PROBLEMS

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High School, Lower School. Accredited best colleges East and West. Strong French, music and home economics courses. Comfortable buildings. Favorable climate and large grounds permit outdoor life all year. Physical culture. All sports. Resident nurse. 17th year opens September 16th. For illustrated booklet, write

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PALO ALTO :: CALIFORNIA

will total nearly 1500 cars, which represents in the neighborhood of 75 per cent of the 2000-car crop of the district. It is estimated that this crop will bring in excess of $4,000,000.

Grapes.

Plans are being made at Lodi for the building of a community camp to accommodate women and girls working in the orchards and table-grape packing sheds.

Wine grape growers are protesting vigorously against the bone-dry measure now before Congress. They claim that this year's crop is worth $14,000,000, and that to pass the bill would bankrupt them.

Miscellaneous.

Sacramento and San Joaquin river boats have petitioned for authorization to increase their freight rates.

The Nevada County Farm Bureau will open its free school of fruit packing here the first week in August.

The San Joaquin Valley has appealed to the Women's Land Army of California for a volunteer unit of 200 workers to assist in saving the crops.

Volunteer fire-fighting parties successfully ended an all-day struggle to extinguish a forest fire which burned approximately 1300 acres of timber north of Nevada City on Sunday last.

Wheat cutting is now in progress in the Western wheat belt, and reports received by the employment service indicate that there has been no shortage at any point where the harvest had actually begun.

An unusual storm broke in the Vallecitos recently. Out of a cloudless sky a heavy deluge of water fell. The storm did no damage, as practically no grain has been cut in that vicinity as yet.

The California Packing Corporation cannery at Yuba City begins about July 20 to 25, and from the large crop in that section they will have a long run. New additions have been made to the plant.

California Nursery Company, having its plant at Niles, Alameda county, has secured a permit from the State Corporation Commissioner to issue to George C. Roeding all of its capital stock ($400,000, par value $100) in exchange for a certain nursery business at Niles.

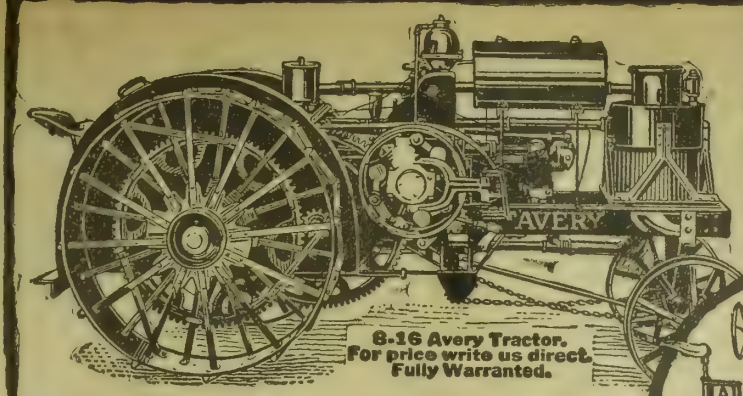
Secretary of the Interior Franklin K. Lane has approved of the reconstruction of a weir in the Colorado river, which was removed by the Government during the last floods. At the time of the high water, the weir was thought to be adding to the flood damage. The light rainfall this season, however, has been a menace to crops and the Imperial Valley sought to have the weir reinstalled to impound what water there is.

The intimation that the Government might establish parcel post service via motor trucks throughout the San Joaquin Valley, on the same lines as the service is carried out successfully in portions of the East, has aroused interest among farmers and fruit growers of the district. A Fresno motor truck firm has received word from its Washington headquarters to investigate the possibilities of a parcel post service in the San Joaquin Valley.

The Food Products Inspection Service is now available to shippers in the markets named below. Applications for inspection in any market should be addressed to the inspector in charge of that market or to the Bureau of Markets, Washington, D. C. Inspectors in charge of California markets are: S. H. Boddinghouse, inspector, 315 Consular Building, 510 Battery street, San Francisco, Cal.; O. W. Schleussner, supervising inspector, and H. H. Warner, inspector, 204 Wholesale Terminal Office Building, Los Angeles, Cal.

DO NOT BURN STRAW.—FOOD ADMINISTRATION.

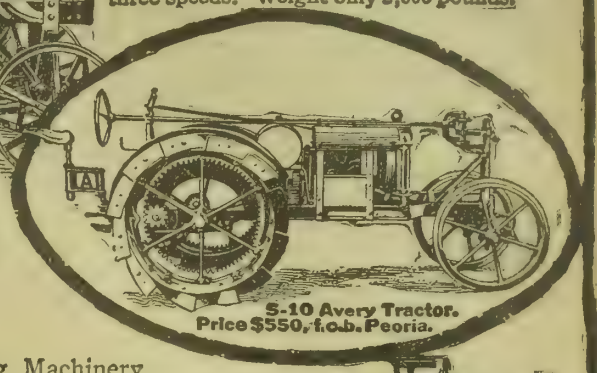
Burning grain straw or other straw or feedstuff is a crime under the President's proclamation unless a permit is first obtained from the Food Administration. A great feed shortage exists. Grain or rice straw will prevent starvation of cattle and should be saved even where it cannot be handled at a profit; for cattle can be brought to it. Bean straw is still more valuable for feed, as proved by wide experience in California. Orchardists must not use bean straw or alfalfa for mulch or fertilizer this year. Cattle men are urged to reciprocate by buying these products and, wherever feasible, by furnishing manure to take their place.



8-16 Avery Tractor. For price write us direct. Fully Warranted.

The wonderful Avery 8-16 Tractor (to the left) pulls 2 or 3 plows and drives 19-inch threshers, etc. Fully warranted. Price includes a reasonable profit to dealers **who are obligated to supply Avery Service.**

The 5-10 Model B Avery Tractor (below) is **just the tractor for small farming, fifty acres or less.** Just the thing for truck gardening, fruit growing, etc. Gear driven selective type, three speeds. Weight only 2,000 pounds.


5-10 Avery Tractor. Price $550, f.o.b. Peoria.

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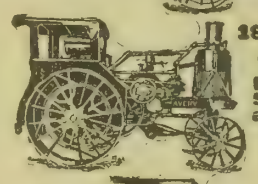
THE complete line of Avery Motor Farming Machinery fills all power farming requirements for every size farm in the world. The Avery is the **one standardized, thoroughly proved complete line of motor farming machinery.**

With one of the sizes of Avery Tractors, you can plow, prepare your seed bed, and plant **and harvest your grain crop.** With an Avery Motor Cultivator you can cultivate your corn, cotton, beans or any crop planted in rows. With one of the eight sizes of Avery "Grain-Saving" Separators, you can thresh all kinds of grain, kaffir corn, clover and other seeds. Every size Avery is a one-man outfit. For any kind of field work, belt work, or road work there is an Avery motor power machine that can be used safely, successfully and profitably.

Avery Tractors are entirely built in our own big factories and every part of an Avery Tractor (motor, radiator, transmission, etc.) is built **especially** for tractor work and **only** for the Avery Tractor. The Avery Company are builders—not assemblers. They specialize in motor farming machinery. Don't confuse the Avery Tractor and other Avery machinery with the ordinary assembled machine.

12-25 H.P. Avery Tractor For 3 or 4 plows and 22 in. Threshers


18-36 H.P. Avery Tractor For 4 or 5 plows and 26 or 28 in. Threshers

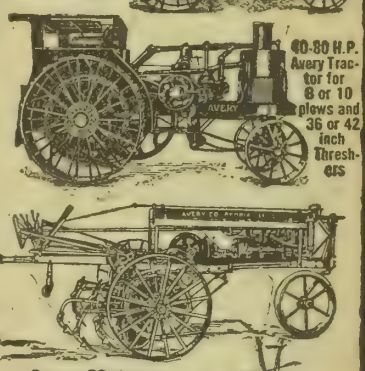
25-50 H.P. Avery Tractor For 5 or 6 plows and 32 inch Threshers

Some Special Avery Features

With the Avery Tractor you can unhitch from one machine and instantaneously hitch to another at the drawbar, or apply belt power. And you don't have to use a wrench to do either—the coupler is automatic and the belt pulley is always in place.

Avery Tractors are the only make with a Duplex Gasifier. It does the trick—turns kerosene or distillate into gas.

The Avery motor is low speed. Main bearings are adjustable from the outside. Patented inner cylinder walls are removable. All parts are accessible and every part renewable. With the three or four-plow Avery Tractor and an Avery Motor Cultivator, one man can prepare and cultivate two and one-half times the acreage of corn that can be raised with horses.


40-80 H.P. Avery Tractor for 8 or 10 plows and 36 or 42 inch Threshers

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Go to the Avery dealer and select and buy the size tractor and equipment to meet your requirements (no matter how small or how large the acreage you cultivate) or write direct for complete Motor Farming Catalog.

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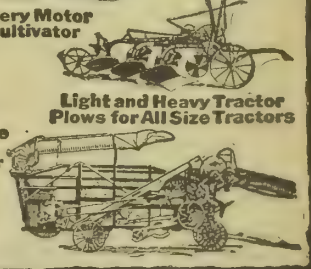
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Kills Prairie Dogs and Gophers of all kinds. Endorsed by State Experimental Stations. 1000 tablets prepaid for $1.25. Warranted. Raticide Tablets, 25c. Ask druggist or send direct. Booklet Free. F. D. Chemical Co., Ft. Dodge, Ia.

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Autoist, Machinist and Carpenter
When in the city, call and see if
We can save you money
19th and Folsom Sts., San Francisco
—Skat Hand Soap for 25c—

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meets the requirements of the rancher and is within easy reach of all.
Ask your dealer about it, or send direct to factory.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

HOW TO KNOW A GOOD BELT.

[Written for Pacific Rural Press.]

There is a remarkable difference in wearing quality of various brands of rubber belts on the market. The value of a rubber belt depends on the grade of cotton fabric used, the grade of rubber cement used, the way the rubber is impregnated into the fabric, and the flexibility, which depends on these factors. Cotton fabric used in belting varies from a tensile strength of 2000 pounds down to 1400 pounds or less per inch width of a six-ply belt, according to A. H. Gregory of the New York Belting Co.; and the best fabric for this purpose weighs 32 ounces per 40-inch square. Its greatest strength is lengthwise of the belt. In belt talk the rubber in and between the plies is called the "rubber friction." How strong and elastic it is and how persistently it binds the plies together determines the number of times the belt can be bent or twisted before it pulls to pieces, provided the duck is full weight and full tensile strength. No belt is properly flexible with a poor grade of "friction." Only the best belts can long stand the twisting they get on vertical centrifugal pumps and similar installations.

TESTING BELTS EASILY.

Mr. Gregory tells an easy way to test the grade of rubber belting as to its "rubber friction." This should be the same whether a section is cut crosswise or lengthwise of the belt. Cut a section an inch wide across the end of each belt to be compared. Cut off the selvedge so one ply can be peeled off a half inch. Punch a hole through the remaining plies and hang it on the hook of a reliable spring scale. Then pull the loosened ply just so that it peels off at the rate of one inch per minute. The scales will read about six pounds for very poor belting and 25 pounds for the best grade of belting. It will require a pair of pliers and two hands to strip the ply from a good belt.

Another point, and a very important one, is that rubber friction usually withstands the effect of age in proportion to the strength it possesses as determined by the test above noted. A rubber belt of poor rubber friction usually ages and goes to pieces in a very short while, while a rubber belt of high grade rubber friction may last for years, dependent, of course, upon its usage.

TRACTORS INCREASE MAN POWER.

The advantage of the tractor, like that of most other improved farm machinery, lies not only in the reduction of the cost of performing a unit of work but also in that it permits one man to do considerably more work in a given time.

This has been true of practically all improved farm machines, says the U. S. Dept. of Agriculture. Even the grain binder, generally considered as one of the greatest agricultural inventions of the century, which has increased about eight-fold the acreage one man could handle, has not resulted in decreasing materially the cost of producing grain.

Judging by the experience of tractor users, it is not only safe to expect a material reduction in the cost of farm operations per acre through the use of the tractor, but it is safe to expect to be able to increase the crop acreage to a very considerable extent, and, at the same time, the amount of crops which one man can raise.

Furthermore, it should be remembered that the cost of doing the work with a tractor in most cases can not be directly compared with the cost of doing it with horses, since on farms where tractors are used a number of horses generally are retained, and any comparison, therefore, must be made between the cost of operating the farm with horses alone and the cost of operating with the tractor and a certain number of horses. Not infrequently horses stand idle while the tractor is being used for field work, because there is not sufficient help available to use them at the same time, and in such cases part of the cost of their maintenance must be considered when figuring the cost of farm operations, since they are still a part of the farm plant.

Not only should the relative expense of operation with the two methods be considered, but also the relative results. The increased crop acreage and consequent increase in incomes which the purchase of the tractor will usually make possible may in war times make the difference between idle acres and food producing acres.

BIG STATE FAIR FARM POWER EXHIBIT.

To the Editor: We decided at our last meeting to exhibit at the State Fair, all members of the California Tractor and Implement Association who will exhibit doing so under the auspices of the Association and making a big collective exhibit, much like last year's, but bigger and better. We will have one or two large tents filled with exhibits in the same location as last year and there will be other tents in the same field containing exhibits of pumps, stationary gas engines and other sorts of power farming machinery and farming equipments.

As our annual demonstration provides the means of seeing tractors and plows at work and as the space available on the State Fair grounds does not permit doing anything further than stirring up the dust, we have decided to have an exhibit in which none of the machines will be in motion.

J. M. Perry of Stockton, who was last year president of the State Agricultural Society, is now chairman of the machinery department at the Fair. He and the other directors fully appreciate the immense importance of tractors and other power farming machinery, particularly at the present time, when maximum production and saving of man labor and horse labor are essential. This department, therefore, will be given special prominence at the 1918 State Fair.—The California Tractor and Implement Association, G. M. Walker, Secretary-Treasurer.

ADVANTAGE OF TRACTOR HARROWS.

An advantage of a 50-foot harrow over several of less width totaling the same is that each of several harrows must lap the last one slightly in order to cover all the ground. This loss is not encountered with the 18-35 tractor and 50-foot harrow used by W. T. Roberts of Sonoma county.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

of the "Giant" Type

WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth-moving machines.

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Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

Three Operations Finished In Once Over the Field

JOHN DEERE

VAN BRUNT

Single Disc Grain Drill

It is war time thrift to use a Van Brunt Grain Drill. In one trip over the field it pulverizes the soil, makes the seed furrows, drops and covers the seed. The Van Brunt Grain Drill makes horse power and man power available for other purposes—it helps solve the labor problem. Besides saving labor, a Van Brunt Drill will increase your crop yield because it does better seeding.

Patented Adjustable Gate Force Feed—Insures Even Seeding

All the seed is planted at the same depth—evenly, uniformly from every feed. All the seed reaches the bottom of the furrow. It matures evenly. No seed is wasted. Thorough seeding, you know, means much towards increasing your crop production. Van Brunt Drills do first class work in any soil capable of being seeded and do not choke up in mud, gumbo, sticky or trashy ground. Save labor, save seed and increase your crop yield by using a "Van Brunt" Grain Drill.

These Books Free for the Asking

"Better Grain Yields From the Same Fields"—32 pages beautifully illustrated, telling how to select, test and plant seed. Also *"Better Farm Implements and How to Use Them"*—a 156 page text book on farm implements. Worth dollars.

To get these books just state the implements in which you are interested and ask for package B P 4 24.

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The Real Test

—of gasoline is in its boiling points. In "Red Crown" they form a continuous, uniform chain,—giving easy starting, quick acceleration, power and mileage. Look for the Red Crown sign.

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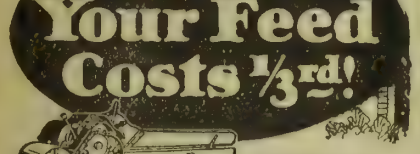
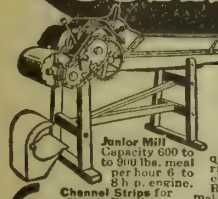
RED CROWN GASOLINE

The Gasoline of Quality



Cut Your Feed Costs 1/3rd!



Junior Mill
Capacity 600 to to 900 lbs. meal per hour 6 to 8 h. p. engine.

Channel Strips for Slicing Ear Corn.

Write For Amazing NEW SMALLEY Book FREE!

Thousands are filling their Silos quicker! easier! cheaper!—with richer, better cut ensilage than ever! With the famous patented Recutting Attachment, they're making dandy feeds, turning rough-age into tempting meal, fattening hogs, cattle, sheep, poultry, at a 16% to 30% cost-reduction! Think of it!

Makes wonderful combination meal-feeds from clover, corn stalks, snapped corn, bean straw, pea vines, oats, rye—Cracks peas, corn, beans!—Handles leaves, stem and all! Saves waste—doesn't injure color of hay!

Meal capacities range from 1080 to 2340 lbs. per hour (600 to 900 lbs. meal per hour with *Junior Mill* driven by 6 to 8 h. p. engine).

Meal Recutting Attachment

Smalley Silo Filler Seven Sizes

Grip Hook Feed Table

Makes silo filling as easy as A B C! Grip-hook Force-feed TABLE and paddle roller automatically feeds the powerful, swiftly revolving, lawn-mower-like knives!—turns out fine cut ensilage of unbeatable richness—increases silo tonnage—pays for itself—quickly. Patented low-speed one-pulley CHAIN DRIVE Blower. Saves 1-6 to 1-4 power costs. Ends belt slippage, belt troubles—is faster, cleaner—saves time, money, trouble. Blower and cutter work independently. Speed up fan—or slow it down!—Speed of knife shaft remains the same. Four sizes of Alfalfa cutters with top apron. Book explains all. It's FREE—with samples of meal. Write

Pacific Implement Co., Gen. Agts.
San Francisco, Cal.
Smalley Mfg. Co., Dept. 63 Manitowoc, Wis.

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

Write AERMOTOR CO., 2500 Twelfth St., Chicago

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Blake, Moffitt & Towne
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Blake, McFall Co., Portland, Ore.

WHY FARMERS NEED ORGANIZATION.

To the Editor: Without going into the ethics (or lack of them) of class organization, I will state what I believe to be a fact. Farmers do not function best as capitalists, but the great majority, the ordinary mill-run farmer, is first a laborer and secondly a capitalist. This is proved by the long hours farmers work and the small interest, if any, which their capital earns them. This I have learned by observation, experience and from some United States Bulletins on the subject.

Whether we like it or not, the tendency of the times is toward more Government control and ownership and more political organization by the labor unions, and if the farmers do not organize they will find themselves ground between the upper and nether millstones of organized capital, seeking cheap raw products, and organized labor, demanding cheap food.

And if war patriotism is not sufficient to prevent profiteering and discrimination in Government control, a little organization would go a long way toward preventing profiteering on farmers.

I am not connected with the Nonpartisan League.—K. S. Harlow, Imperial.

COMPOSITE CONDITION OF CALIFORNIA CROP, JULY 1, 1918.

The composite condition of all crops of California on July 1 as compiled by the Bureau of Crop Estimates, and transmitted through the office of the California Field Agents was about 6 per cent below their 10-year average condition on that date. Last year the condition of all crops in California on July 1 was .3 per cent above their 10-year average and 4.8 per cent below their 10-year average in 1916. The condition of the various crops on July 1, expressed in percentage of their seven and ten-year averages (not the normal) was as follows:

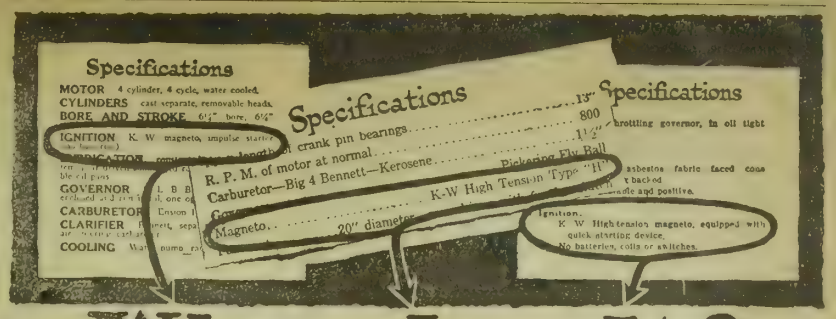
Apricots	114.7	Cotton	96.9
Lemons	107.1	Alfalfa	96.8
Hops	105.6	Potatoes	96.6
Pears	105.1	Prunes	96.1
Gr. sorghum	104.4	Field peas	95.5
Corn	103.4	Walnuts	95.2
Watermelons	102.3	Sugar beets	94.6
Grapes	101.1	Oats	94.0
Cantaloupes	101.1	Oranges	92.9
Blackberries & raspberries	101.1	Wheat	91.3
		Hay	90.6
Tomatoes	100.0	Peaches	90.1
Onions	100.0	Barley	88.2
Cabbages	98.9	Olives	87.3
Almonds	98.6	Apples	86.4
Beans	97.8	Pasture	82.4
Rice	97.8		
Sweet potatoes	97.8	Average of all	94.0

THE WOMAN'S L. A. POLICY.

They have a catch word in the office of the "Women's Land Army." They call it "Our Policy," and it bumps up in every sentence. It hasn't been brought to a cold formula, but it runs something like this: The Women's Land Army was formed to supply a need; not to create one. It will not supplant nor undercut men; it will not supply a traveling unit if local women can be used. If it should be proved that there is no need of women in the fields, the Army must drop its work at once.

OLIVES WILL BE STICKY.

Black scale have been busy laying their eggs during the past two months. The eggs will hatch soon and this fall the new generation will make fruit trees, leaves and fruits sticky with their exudations. Olives are especially affected. The remedy is thorough spraying while the insects are young with distillate emulsions or miscible oils, which may be had from spray manufacturers more cheaply than they can be made satisfactorily at home in most cases.



Why Is It?

That practically every tractor manufacturer (and there are 40) using K-W magnetos as standard equipment, include them in their specifications or catalogue?

They do so because the record which the K-W magneto has made for itself—by actual field operation—during the last ten years—has given it a reputation that *tractors built for quality* demand.

These 40 manufacturers pay more for K-W Magnetos but it is their assurance to the tractor buyer that he is being provided with the most reliable ignition system, guaranteeing to him a "No Trouble" service day in and day out.

Write for a list of K-W Equipped Tractors

High Tension MAGNETOS

are *true* High Tension types. No Batteries and *no* Starting Coils are needed. The K-W Magneto starts any size motor *easily* and *quickly*. It gives the hottest known spark—fires any kind of fuel equally well—is timed accurately; and last but not least, its construction protects it against **dirt, water and oil.**

If you are not using K-W Ignition now, write us. Let us show you how a K-W Magneto will be a time, money and fuel saver for you.

Insist that your new tractor be K-W equipped. Look for the K-W Trade Mark.

THE K-W IGNITION Co.
2889 Chester Avenue CLEVELAND, OHIO. U.S.A.

Your Money's Worth —You Know It

Boss of the Road Overalls hand you value that counts—in work-service, in work-comfort, in work-manship.

Loose-cut and full-fashioned so as to meet every strain, twist or pull. Over-sized where the tug hits hardest. That's why they stand the gaff longer—why they give you a new slant on overall value and clothes-economy.

Look for the Bull Dog on the label. It is your protection. Never has this trade mark meant so much to you as it does today.

Buy them from your local dealer

NEUSTADTER BROS.
San Francisco Portland

Toughest indigo denim—best union workmanship.

Big, swinging pockets—roomy but not baggy

Double-stitched seams; hold-fast, patent buttons

Giant Bar Pocket Stay—prevents pocket ripping

High cut from crotch to waist insures perfect fit.

Wide cut legs—so you can wear 'em comfortably over woolen pants.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

E. E. Greenough of Merced is fitting up a small show herd for the State Fair.

A third cow-testing association for Stanislaus county is now in course of organization.

William Campbell of Escalon recently sold seven Holstein heifers to W. I. Clapp of Manteca.

C. D. Hayworth of Modesto is milking 20 registered Jerseys, of which 15 have register of merit records.

A. B. Humphrey of Escalon is preparing a Guernsey herd for the fair, also a good number of Berkshires.

J. D. High of Modesto is having exceptionally good luck in his Holstein herd. Of the last 13 calves dropped 11 were heifers.

W. T. Elleby of Modesto sold a Jersey bull to Harry S. Coey, also of Modesto. Most of Mr. Elleby's herd is of the famous Bleakhouse strain.

Livestock growers and dairymen of Fresno district are raising the largest crop of sweet sorghum in the history of the district. The movement is the result of a campaign waged by Leroy B. Smith, Fresno County Farm Adviser.

J. J. Boyer says he has had several offers of $24 per ton for his wheat hay, baled f. o. b. Lafayette, Contra Costa county, but is holding for $28. He has a grandson of the $50,000 Holstein bull, King Segis Pontiac Alcartra, which he expects to show at Sacramento.

The Shoreacres Dairy of San Leandro is furnishing milk to the bay cities from 230 cows, including 14 registered Guernseys and 26 registered Holsteins. They have two fine Guernsey herd bulls and several Holsteins, one a grand individual from Miss Holdridge's herd.

W. J. Hackett of Ceres reports the sale of a 16-months-old Jersey bull to Gen. McKittrick of Bakersfield. He also sold a bull to L. H. Willet of Ceres. Mr. Hackett has a few good Durocs along with his fine herd of Jerseys. He recently purchased a Duroc boar from Guy Miller and reports the sale of two Duroc gilts to Judge Kilpatrick of Redwood City.

F. Stenzel of San Leandro has secured as his dairy superintendent H. S. Logan, formerly of the A. E. Smith Holstein ranch in Washington. Mr. Logan reports that of the ten best milk producers in the cow-testing association last month Mr. Stenzel had eight. Of the 10 best butterfat producers he had seven. A three-year-old has just had triplets. She may be tested.

After 21 years of using registered Holstein bulls and saving the heifer calves from the best cows, J. M. Christen of Pacheco last fall bought six registered females and the son of Prince Gelsche Walker, Prince Hartog Alcartra Walker, a fine individual born in February, 1917. An exceptional number of heifer calves have given Mr. Christen a fast start in purebreds.

Bock Bros. of Pacheco now have 10 registered Holstein females and some calves from the six females bought four years ago from the Copa d'Oro Ranch at Los Banos shortly before their sale. Some of the calves are by the young herd bull, a grandson of Prince Gelsche Walker. One of the heifers, with rough farm handling, gave 64 lbs. milk in one day at a year and ten months old. Her dam gave 85 lbs. when fresh last winter.

C. A. Le Barron of the Le Barron Estate at Valley Ford has one of the best equipped dairies to be found in the State. He uses the James system for feeding. They use the Empire milkers, and Mr. Owens, the manager, says milking machine troubles are a result more often from the operator than defects in the machine. His herd is headed by Willow Moor Peter Pan. The Ayrshires prove themselves good hustlers in this hill country and the young calves look fine.

Beef Cattle.

The cattlemen about Hopland report the feed conditions in the hills good.

J. W. McClealand of Budgeville, Humboldt county, reports plenty of feed in his section for all cattle on range.

T. S. Smith of Onyx has plenty of feed for his 500 head of beef cattle. He is a strong advocate of registered bulls to go on range.

Claude Williams of Chico reports plenty of feed for the 300 head of Durhams. The Williams herd is headed by registered bulls.

T. D. Carneal of Livermore is going out of beef Devons in favor of Dairy Shorthorns. Both breeds are believed the best in their classes for ranging hilly land.

Chas. Andres of Weldon, Kern county, has 210 head of Herefords and Shorthorns and reports feed a little short, but has plenty for his own stock. He uses registered bulls and has his range fenced.

McKenzie & Stover of Red Bluff have 3500 head of beef cattle and have always used purebred bulls. The feed problem is causing them to think hard and hustle. They will get along; they always have.

R. M. Dunlap recently landed at Redding five head of Shorthorn cows and heifers for Holt & Gregg. These will be bred to Sultan Mayflower at the State Farm. Two $1,000 Hereford bulls were brought for H. H. Gable of Esparto and a great Shorthorn show heifer, Lady Roberta, for W. M. Carruthers. This yearling heifer was shown at the International, the Royal and Iowa State Fairs last year and won a bunch of ribbons. Mr. Carruthers will show her in California this fall and expects to carry off championship honors. The heifer was sired by a son of Choice Goods and came from Howell Reese of Pilger, Neb. Mr. Dunlap will leave about July 25 for the East to get more stock.

Swine and Swinemen.

J. P. Mallory of Fresno has a very fine herd of Durocs he expects to show at the fair this fall.

A son of Star Leader is now being used in the herd at Anchorage Farm and he is showing the same prepotency as his daddy.

Arthur Thompson of Hopland has started to raise purebred hogs and has bought his boar from F. A. Brush of Santa Rosa and his sows from Foster of Hopland.

A. Buckland & Son of Fresno are always willing to show their fine herd of big type Poland-Chinas. They have some very choice stock and are especially fond of their new herd boar, California Jumbo Buster, who is by Buster, the best son of Grant Buster, owned by E. E. Marlow of Wellsville, Mo. The dam of this fine boar is Lady Jumbo, by Long Jumbo.

Sheep.

More than 200 sheep have been killed by bears in one county in Virginia recently.

Bishop Bros. of San Ramon are fitting 15 Shropshire ewes, a dozen rams and 18 lambs of both sexes for showing at the fairs this fall. They have about 1400 Shropshires on their San Ramon ranch.

Farm Adviser A. A. Jungerman of Stanislaus county hopes to interest sheep farmers with small amounts of wool in pooling it, in order that shipments of sufficient size may be made to Portland, Ore., where top prices will be received.

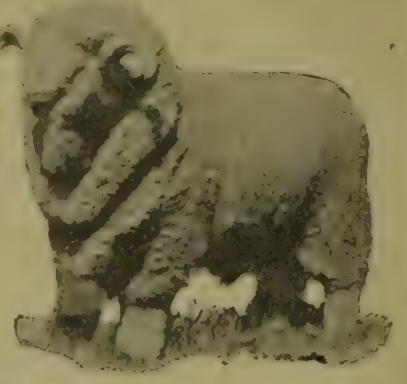
Live Oak Stock Farm

F. A. MECHAM ESTATE

P. O. Address:
Petaluma, Sonoma County, Cal.
Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of

Red Polled Cattle, Shropshire Sheep, American Merino and Rambouillet Sheep



SHROPSHIRES, RAMBOUILLETS and AMERICAN MERINOS

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize winning rams at the P. P. I. E. Strong, hardy, range raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Also a fine lot of young Red Polled bulls and heifers sired by Teddy's Best of Jean Duluth Farms.

GRAND CHAMPION
Shorthorn Blood

More grand champion bulls have been used on my range herds than any other breeder on the Coast has used on his foundation herds. Several champion and grand champion cows have been produced and shown by my father and myself. All of my stock is from registered bulls of highest merit and from the original registered herd of cows established on this ranch in 1872.

Bulls of this breeding for sale in car lots or less.

Also purebred Shropshire and Merino sheep for sale.

Write for particulars or come and see the stock.

Hillcrest Stock Farm

T. S. GLIDE, Prop. DAVIS, CAL.

SANTA ROSA
Shropshire Farm

We are establishing, on the old Taylor Ranch near Santa Rosa, a breeding herd of 2000 purebred Shropshires, all descended from the original importation of 200 by Gov. Sparks of Nevada and from registered rams. These are the pick of thirty years' breeding in connection with our father, G. C. Wheeler at Reno, Nev. Yearling and two-year rams for sale. Before the breeding season, we will sell a number of ewes.

WHEELER BROTHERS, Santa Rosa, Cal.

FOR SALE 1000 one and two-year old
Shropshire Rams

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:
Phone No. 251-F-2 C. E. BARNHART Suisun, Cal.

Persian Sheep Rams

Large, rapid growers; hardy, disease-resistant—especially valuable for crossing onto fine wooled breeds. Bred from direct imported stock.

C. P. BAILEY & SONS CO.
SAN JOSE, CALIFORNIA.

Owing to the scarcity of water in the mountains the stockmen are bringing their cattle and sheep back to the valleys. Already several bands of sheep have passed through Red Bluff and the owners are trying to find pastures for them.

We are informed that the Oakland Exposition to be held in September and October has decided not to give premiums and hold a livestock show in connection with the other features. Efforts to make it the greatest of land shows held on the Coast seem likely to be sustained.

SAN FRANCISCO LIVESTOCK SHOW NOTES.

Stockmen, breeders and others interested will be glad to know that the premium list and preliminary classification of the California International Livestock Show is now in the hands of the printer and will be ready for distribution the latter part of this month, when everyone interested will be furnished a copy. About $30,000 in premiums is to be awarded at the first annual exhibition to be held November 2 to 10 next in San Francisco. Cattle, swine, sheep, goats, horses, poultry and rabbits are all listed and very generous amounts have been apportioned to the various classes.

One of the events of the exhibition will be the night horse show, to be held every evening, with ring events and exhibition of fancy horses. This is something new for California and should be a big attraction. A big military feature will also be added, consisting of artillery horses, and officers' remounts, and it is expected that some splendid exhibitions will be given by many of Uncle Sam's boys during this event. Special music will be provided in the shape of some well-known and popular band.

The poultry department will be conducted by the San Francisco Poultry Association, T. E. Woodhull, secretary, and the rabbit exhibit will be made through the Pacific Coast Rabbitry Association, of which Walter Hickling is secretary. No entrance fee will be charged, except for poultry and rabbits.

Jos. E. Painter, manager of the show, expects to secure free transportation for stock coming and going.

BLACK HAWK STOCK NOT TO BE SHOWN.

The Black Hawk Stock Farm of Diablo have just decided not to show the 30 registered Shire horses they have been trying to fit for all of the big fall fairs. As Manager E. Lovell, says, last year at the fair they had ten men to help show the horses. Right now, in spite of all efforts to get men in the East or West, they have just one man, Wm. Clayton, and he has been called. Seven of their men have been drafted. Every class would have been filled. A lot of specially fine colts were being fitted. A four-horse team, each animal weighing over a ton, was about ready. A new set of decorations for their barn have been procured. They had built two old-country Scotch carts to show the horses tandem, but they can't get help. Even the dairy stock was last week turned onto the range and cream is being bought from neighboring Portuguese.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

HAVING RECEIVED SHIPMENT of several fine gilts from the East, will offer three fine gilts and one sow bred for late farrow. Good ones at fair prices. Booking orders now for spring farrow from the finest bunch of sows we ever owned, and the Great Big Bone Bob. Young & Clark, Lodi, Cal.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

BIG TYPE POLAND-CHINAS—See us at the State Fair with 16 pigs sired by Model Wonder, Reserved Grand Champion of 1917. We have two good boars of serviceable age for sale. Write us. Dimmick Bros., Box 811, Lemoore, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings county, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES—The Easy Feeding Mellow Type. All bred sows and gilts are sold. I have 15 gilts that were farrowed in May, 1917. These will be bred for September farrow. All are sired by Billiken. One young service boar that is just 13 months old. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

BERKSHIRE GILT FOR SALE—An outstanding pig, just old enough to breed; guaranteed to please. Glenwood Acres Stock Farm, Paso Robles, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRE PIGS—A grand lot now ready for shipment; very best of breeding; $15 to $25 each. Twin Oaks Ranch, Linne, Cal., near Paso Robles.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, Box 724, W. Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Mayfield, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

FOR SALE—Two King Colonel yearling boars sired by King Colonel, dam Crimson Wonder. Good enough to head any breeder's herd. Price $200. Two very typey fall boars and several fall gilts. H. P. Slocum & Son, Willows, Cal.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

COMMITTEE CERTIFIED DUROCS—El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

RANCHO DEL SUR DUROCS—An exceptionally good December boar. Also few spring boars and gilts. Donald Graham, Lancaster, Cal.

BOUDIER DUROCS sold out excepting some choice boars ready for service. Breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY weanling sow pigs from champion stock. River Bend Farm, St. Helena, Cal.

DUROCS—Defender, Clinton B. and Golden Model strain; the big type. Allen Thompson, Tulare.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS—Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—4 Holstein-Friesian bulls from 8 to 18 months old. Pedigreed stock. Fine individuals. Will be registered on sale. Geo. C. Roeding Co., Fresno, Cal.

GRANDSON OF KING SEGIS PONTIAC ALCARTRA, the $50,000 bull from high producing dam and by King Pontiac Topsy 22nd. Fancy type. J. J. Boyer, Lafayette.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

YOUNG HOLSTEINS—Hengerveld De Kol blood. T. B. King, Visalia.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal.

Jerseys.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

Guernseys.

49 HEAD OF REGISTERED GUERNSEYS—25 for sale; cows and heifers; May Rose breeding. We are selling all our show stuff that you have all seen at Washington State Fair and Spokane Interstate Fair. You have your pick out of the 45 head; all winners. Will mail you photos and pedigrees on demand. Middledale Farms, Goshen, Ore.

FOUNDATION HERD A. R. GUERNSEYS—Two head A. R. cows and young bull; dam 654 b. f. and three-year-old sister 684 lbs. Address "Inquiries," 511 First National Bank Bldg., Berkeley, Cal.

HIDDEN VALLEY FARM GUERNSEYS—Herd headed by Argies Prince, first prize at Sacramento, 1917. Bull calves for sale. A. J. Welch, Redwood City, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM—Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy. $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

WANTED—50 head ewes carrying Merino blood. State age, condition and price. W. H. Cole, Manteca.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

HORSES AND MARES for sale. Address Thos. C. Still, La Panza, San Luis Obispo county, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

HOGS FOR SALE—Several carloads of feeders, all sizes, from weaned pigs to 150 lbs. All this stock has been self-fed grain from weaning time and is in fine, thrifty growing condition. Box 239, Pacific Rural Press, Los Angeles, Cal.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

FINE WOOL HEAVY LAMBS
Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.
E. C. SPEAR, St. Helena

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING COMPANY LOS ANGELES

Feeding Cattle Cheaply for Quality

[Written for Pacific Rural Press.]

Cattle, hay, and concentrate feeds have been so high and pasturage so scarce that people have sold much of their cattle and hay and will not generally feed their stock in California this season. Most cattle go to market from the grass beginning in May. They often get into good condition, but not this year. Even in the best of years, grass or hay-fed cattle do not kill out so high a percentage of meat nor so good quality as those fed at the Alisal yards of the Oakland Meat Co. in Monterey county, according to Floyd Vettel, ranch foreman here. About 4500 cattle go through this feed yard every winter, 3250 having been on hand at one time last winter.

The ranch consists of 520 acres in a sheltered canyon, with lots of shade, and including some farm land, some grassy hill pasture, and 13 feed corrals averaging about three acres each. The ranch was long used by the Spreckels people as a feed yard in connection with beet tops and beet pulp. Then Miller & Lux used it for awhile before the Oakland Meat Co. took it over.

Stock is generally shipped in from Nevada, Oregon, and Northern California in the fall, as it is considered that the best feeders come from these districts. Dairy stock is not wanted if the other kind is available, and poorly bred beef stock is about as undesirable.

THE BEST FEEDERS.

Cattle coming three years old and in thin condition make the best gains. One lot of three- and four-year cattle obtained early last February from a Merced man who had no feed were thin almost to weakness. The tops of this bunch were taken out 80 days later, having fattened rapidly and economically. Younger stock grows too much to fatten enough in the 120 days which is the limit on this feed before they begin to get blind and "go to pieces." After 120 days, stock on siloed beet pulp are unable to avoid fences after dark, according to Mr. Vettel. Two years and coming three are the best ages for fattening under these conditions.

Cattle are weighed when shipped in and weighed when shipped out. The scales are along the driveway and may be opened at both ends, so a bunch just weighed are driven on without mixing again with unweighed cattle. They are graded according to age, since a mixture of younger with more mature stock would result in the younger ones being "bossed" and driven away from the feed. Whenever some fat cattle are wanted at the Oakland slaughter house, the "tops" or best and fattest cattle of each bunch are sorted out and shipped. The shrinkage is 80 to 100 pounds per head en route. When some are shipped out, others are shipped in during the winter feeding season. Very few cattle were there last April, as it was time for the extra-early run of grass cattle to slaughterers on account of range feed and hay shortage in 1917 and certainty of a still greater shortage in 1918.

The corrals are on gravelly soil, which has packed hard long since, and drains into a creek bed. They are surrounded by heavy plank fences with feed troughs and mangers around them and feed racks and trees for shade in each enclosure. Fresh water is also supplied, being regulated by automatic valves. A narrow-gauge railway runs through the yards from the forage stacks and feed shed. Small or large cars are hauled by horses down this track and unloaded directly into the racks or handily into the feed troughs on the fences. As the railroad runs across the ranch, feed is brought in by the carload and manure will be hauled out in the same way. The feed varies with what may be available. The sugar factory a few miles away often is unable to dry its beet pulp fast enough, so the surplus is run into silos. This keeps nice and white and sweet and soft, but after a day or two of exposure to air it turns black and looks like well-rotted manure. Cattle eat it, however, though they prefer the unspoiled pulp silage. It makes a washy feed. To correct the washiness, grain and bean straw are chopped in a 36-inch Smalley feed chopper and fed dry separately in the troughs. Cattle eat about six pounds of this mixed chop per head per day, as estimated by Mr. Vettel. He says that without chopping 60 per cent of the grain and bean straw would be wasted. After chopping, not over 10 per cent is lost.

Dried beet pulp is preferred for feeding, although considered more expensive. It is easier and cheaper to handle and gives better results. Cattle are given all they want, which averages about 15 pounds per day along with two to five pounds of cottonseed meal to balance the ration. The maximum labor for feeding was eight men when the 3250 cattle were in the corrals at one time.

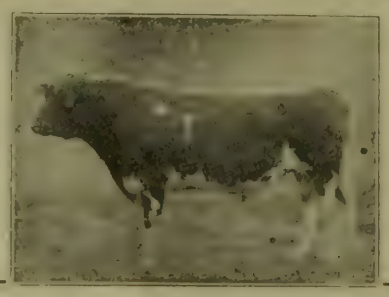
AVOID TUBERCULOSIS.

"Visitors are requested not to walk in front of the cows," is the legend seen in the milk barn of the Palo Alto Stock Farm. "The reason," said Manager M. H. Tichenor, "is that the cows are free from tuberculosis, but there is no way of immunizing them. No one knows where visitors may have picked up the germs of tuberculosis or may have carried them in on the dust on their clothes. We are safer if they keep away from the cows' heads." A further rule might well be enforced on all dairy farms whose cattle are tested and free from the disease. It would read about like this: "No spitting or waving of handkerchiefs is allowed on these premises, and people who cough frequently are requested to stay away."

COW-TESTING ASSOCIATION HAS LIMITATIONS.

It can not compel a dairyman to dispose of his poor cows if he is determined to keep them. It can not make him feed according to production nor practice economy in the management of his dairy herd. It can not require him to dispose of his scrub bull and buy a better one. It has never yet demanded the planting of legumes and the building of silos. It never will compel, but it always will encourage, economical improvement of the herd, of the farm, and of the business.—United States Department of Agriculture.

Edgemoor Farm Guernseys



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Pretty
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Few Animals of Either Sex for Sale

SANTEE, CALIF.

H. F. SCRIBNER, Supt. W. H. DUPEE, Pres.

PRINCE BUTTER BOY WALKER
Senior and Reserve Grand Champion at Sacramento, 1917.

Holstein Friesian Cattle

Herd Sires:
Prince Butter Boy Walker
King Mead of Riverside
Yolo Valdessa Hengerveld

Young bulls by these sires and out of cows with records.

Write or Call

J. H. HARLAN CO., Woodland, Cal.

INNISFAIL DAIRY SHORTHORNS

GLENSIDE ROYAL 408155,
Grand Champion, Sacramento, 1916; Modesto, 1917.

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

Alexander & Kellogg, Suisun, Cal.

Farm on Grisly Island.

Dairy Shorthorns for Milk and Beef

Dairy Shorthorns lead in butterfat production in many cow-testing association reports. Their calves make fine beef more economically than other dairy breeds. Dairy Shorthorns are the best breed to range hills and stubble for roughage where help is scarce. My young bulls can increase the production of your herd when their calves come to milking age. Write for details of a few bulls I have to sell.

W. T. ROBERTS, Prop. Willow Brook Farm PENN GROVE, CAL.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE CO.

R. D. No. 1
REDWOOD CITY, CAL.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

HOPLAND STOCK FARM

HOPLAND, CAL.

Shorthorns and Berkshires

WRITE FOR FULL PARTICULARS

San Francisco Office: 226 Southern Pacific Building

Popularity of Mutton and Wool Sheep

[Written for Pacific Rural Press.]

While many farmers are induced to establish a band of sheep on their place or to increase flocks already established by the prevailing high prices paid for wool, it is nevertheless true that sheep-raising is carried on primarily for mutton production. According to information furnished by the Department of Agriculture, at the present time 45 per cent of the sheep belong to those of mutton blood, 35 per cent to those of fine wool, and 20 per cent to the crossbreeds. Ten years ago, the mutton sheep were 35 per cent of all sheep, fine-wool sheep 41 per cent, and crossbreeds 24 per cent, and consequently, during this period, one-tenth of the national flock has changed from wool to mutton as the chief purpose. While mutton sheep have thus increased their percentage of all sheep by 10 during as many years fine-wool sheep have lost 6½ from this percentage and the crossbreeds 3½. The tendency of the sheep business in this direction is largely economic, though it has been favored by the advice and propaganda of the Government.

WESTERN STATES LEAD IN CHANGE.

This change in the sheep industry is largely characterized in the national average by the Western and Pacific States, in which more than one-half of the sheep are found on ranges. The fine-wool sheep are 46 per cent of all sheep in that group of States, a loss of 7 in the percentage in 10 years; the crossbred sheep are 22 per cent, a loss of 2½; and these losses have gone to the mutton sheep, which are 32 per cent of all sheep, a gain of nearly 10 in the same number of years.

The greatest advance in this movement has been made in the North Atlantic States, in which farmers' markets are near and the people have an active taste for mutton and lamb. In these States 62 per cent of the sheep are of the mutton bloods, a gain of 20 in the percentage in 10 years; only 17 per cent are fine-wool sheep, a loss of 17; and 21 per cent are crossbreeds.

At the present time the South Atlantic States have the lowest fraction of fine-wool sheep, 7 per cent, and the North Atlantic States are next with 17 per cent; the highest fraction, 46 per cent, is in the Western and Pacific group, and next below are the South Central States with 30 per cent.

Mutton sheep are as high as 68 per cent of the sheep in the South Atlantic and West North Central States, and as low as 32 per cent in the Western and Pacific States, and 44 per cent in the South Central.

ISOLATE THE SICK ANIMALS.

To the Editor: We lost four yearly calves, and they never seem to be sick. We found their bladders full of blood and their bowels inflamed and full of little reddish, pill-like substances. Two of our cows died at the same time. One was bleeding from the nose and the other one started a couple of months ago to get very poor in flesh and finally died. What is the cause and what is the remedy?—P. B., Holtville.

The above symptoms stand for a number of diseases, all of which may cause very extensive loss to the farmer. Isolate your animals at once when they begin to show symtoms of dullness and loss of appetite. We suggest that you advise your county veterinarian of the loss of animals. In the absence of such an office, phone or wire to the State Veterinarian, State Capitol, Sacramento. Either one will thoroughly investigate the disease and give you all directions as to how to combat the outbreak.

JERSEY BREEDERS

Get one of my Jersey bulls to increase the production of your herd They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited.

A. A. JENKINS, R.D. 1, Tulare, Cal.

VENADERA HERD
REGISTERED JERSEYS

Young bulls from dams and granddams in Register of Merit.

GUY H. MILLER, Modesto, Cal.

YOUNG BULL CALVES

Fine individuals, with Register of Merit backing.

T. B. PURVINE, Petaluma.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit cows. Write for information.

W J. HACKETT, Ceres, Cal.

Reg. of Merit Cows D. F. Conant, Prop.

Rancho Santa Marguerita

MODESTO, CAL.

Limited number of Bulls for sale

FOR SALE
13 Head Registered
Holsteins

3 cows, 3 three-year-olds and 1 twelve-year-old, all milking; 3 yearling heifers, 2 heifer calves, 1 fine herd bull, 31 months old.

J. G. Yerby,

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THICK, SWOLLEN GLANDS

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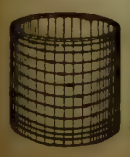

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There is no other cream separator that can compare with the De Laval in clean skimming, capacity, ease of operation, freedom from repairs, and durability.

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LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST.
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DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

Kings County Poland-Chinas

[Written for Pacific Rural Press by Ord L. Leachman.]

Where does the best pork come from? That is the question asked Mr. Sullivan, the foreman of the Western Meat Company stock yards. He does the grading of all hogs bought by the Western Meat Company. In answer to our question he said: "We receive a better grade of hogs from Kings county than from any other section of the State." We determined to find out the reason, so we visited Kings county. We found almost every farmer using purebred boars on their ranches, purchased from some of the purebred herds.

On M. Bassett's place, at Hanford, we found about 500 head of purebred Poland-Chinas, all registered except the fattening hogs, and they were eligible and better than 75 per cent of the boars used on the average ranch. Among the many boars on the Bassett farm we found Model Fellow as the herd sire.

We next visited Fred Ross, secretary of the Poland-China Association of Kings county, who has some of the finest of the breed. He has sold his surplus stock, but has a goodly number left for breeders. He is breeding a number of excellent sows to his fine boar, Rossmead Big Bob, who is by Caldwell's Big Bob, grand champion at the National Swine Show last year, and weighed 1122 pounds in the show ring.

We interviewed W. L. Haag & Son, who own Young Jumbo, for whom they paid $400 at the Bernstein sale last spring. They are using this boar on some fine sows, whose pigs look like blue-ribbon winners as well as good pork.

C. L. Newport, who is using Royal King on purebred sows to produce pigs for slaughter only, has the kind that makes packers smile.

John M. Bernstein was next seen. Here we found the noted boar, President, and a younger boar, California Smooth Jumbo, who is a coming winner and the kind that produces the kind everyone should have.

Of the Dimmick Bros. of Lemoore one brother had gone to France to fight for Uncle Sam. The other is too young to fight, but not to young to raise hogs and help win the war. They have Model Wonder, reserve grand champion of 1917 State Fair, who is the sire of a very promising bunch of pigs.

C. G. De Raad of Lemoore has a fine bunch of hogs.

At the W. D. Trewhitt place were 150 head of big type Polands. My Choice, a boar of extra good breeding and quality, may be seen in one of the boar pens.

Other breeders who deserve notice from the Poland-China breeders all over the country are Dr. J. A. Crawshaw, W. M. Bernstein, C. A. Vaughn, all of Hanford, and H. G. Shinn and H. D. McCune of Stratford. These breeders are not only growing good pork, but they are supplying breeding stock to almost every part of the Western States.

YOU can save from $6.00 to $12.00 in fattening each hog by feeding Globe A-1 Hog Feed (10% dry buttermilk) and you can save from four to six weeks' time. This is not laboratory theory, but actual, results of feeding tests.

Successful Feeder's Opinion

Mr. Green, of Willits, Patterson & Green, whose drove numbers nearly 2000 animals, says:

"We shall continue to use your A-1 Hog Feed as the results obtained are extraordinary.

"A feed that will put nearly two pounds average daily weight on a hog weighing about one hundred pounds is a product that no hog feeder can afford to overlook.

"WILLITS, PATTERSON & GREEN.
"Per R. S. Green."

Fact Book, packed with valuable feeding information, sent free.

GLOBE MILLS.
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WIN at the California State Fair, 1917—26 awards, including 6 Firsts and 6 Championships

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FOR SALE NOW

Young boars ready for service, sired by such boars as Grand Leader and Laurel Champion. Also from Winona Lee Champion 6th, out of Riverby Princess, Grand Champion Sow at the Panama-Pacific Exposition.

Also sows and gilts for March farrow, bred to Baron Duke 201st, Grand Champion at Omaha.

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Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.

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WASTED HOG FEED means wasted dollars. Dirt and filth means disease—and dead hogs.

Install Calco Sanitary Watering and Feeding Troughs NOW. Conserve feed—and eliminate all deadly and costly disease germs.

Calco Troughs are light, but extremely durable. Easily cleaned. Can be anchored to prevent overturning.

PRICES EXTRAORDINARLY LOW

Diameter	Depth	Length	Price
10½"	5 5/16"	40"	$3.25
10½"	5 5/16"	60"	3.90
14"	7 3/16"	24"	4.15
14"	7 3/16"	120"	8.30

Other models from 24" to 120" priced from $2.60 up.

Attach your check to this advertisement, giving name, address and size wanted. Immediate shipment. Circular on request.

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Big Type Poland-China Gilts

Fifteen open and bred gilts sired by Chieftan, son of Bernstein's President, and out of J. O. Orange sows. Also a few young service boars of the same blood.

DIXON HEWITT & HEWITT, CALIFORNIA

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GIVE THEM REGULARLY
ECONOMY POWDER

And they will always be in Prime Condition and will make More Pork with Less Feed. Send for Sample and Free Stock Book.

ECONOMY HOG & CATTLE POWDER CO.
1016 Hearst Building, San Francisco, Cal.

Veterinary Queries

[Answered by Dr. Edward J. Creely.]

Sore on Mare's Neck.

To the Editor: I have a mare with a discharging sore about three inches in diameter on top of her neck, caused, I think by collar bruise. There is considerable swelling and the cavity is apparently about two inches deep and filled with thick pus. There is no odor. I have been washing the pus away with the hose and sprinkling the sore and adjacent parts with dilute sheep dip, Little's. If this is fistula, how will I know it and what can be done about it?—W. E., Colfax.

This is fistula of the withers, and the cavity is much deeper than you suspect. Surgery offers the only hope. An incision should be made below the swelling to drain out the pus pocket deep in the tissues. The whole track should then be irrigated and the dead tissue removed by means of the knife. The wound should then be packed with gauze saturated with tincture of iodine or a 1 to 1000 solution of bichloride of mercury for three days, the packing being removed each day and the wound thoroughly cleansed. Later the wound should be treated with antiseptic washes such as a 2 per cent solution of carbolic acid, and dried, and a liberal amount of powdered boracic acid dusted over the wound.

Mare Has Bad Fistula.

To the Editor: I have a mare that developed fistula of the withers last September. The veterinarian opened it, but it has never healed. The discharge isn't very profuse, still it runs some every day. I would like to know if you or any of the readers could suggest a remedy that will cure her at this late day. —W. R., Fallon, Nev.

Too much faith should not be placed in the so-called fistula remedies. In a chronic case such as you describe a graduate veterinarian should be called and all the dead and fibrous tissue which has formed should be removed. After removal a mild caustic may be applied, but this should be left to the judgment of the surgeon.

VETERINARIANS.
Anti-Hog Cholera Serum
GREEN-LEAF
THE GREEN-LEAF SERUM CO.,
401 Bryson Bldg. Los Angeles, Cal.
has no superiors, from results obtained, out of thirty millions cc of serum made a year.
If you are a user of serum, drop us a line and we will tell you something privately on hog cholera, worth your time and postage.
Listen: Do this to-day. It's for you!

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE MOLTING PERIOD.

Since my last letter I have been making inquiries among handlers of poultry who are in a position to know conditions—not from a one-day standpoint, but from many. The consensus of opinion among these men is that there is absolutely no danger of poultry products slumping in price for a long time. The shortage is so real that it cannot be brought up to normal under three years at least. Of course there will be some fluctuations, caused by supply and demand; but if poultrymen will learn how to regulate the supply good prices are assured for a long time ahead, for both eggs and table poultry.

Feed prices, too, are going to be better because the Government is stopping speculation by regulating the supply. Undoubtedly the change will work a little hardship at first, mostly on the farmers, but after things get straightened out it will be better for all.

HATCHING SEASON ABOUT OVER.

Hatching season is about closed, though you never can tell, for only this morning a man told me he just took off a hatch that went 50 per cent, which is not bad for this late in the season. Speaking generally, however, the hatching season is over until September. What the poultryman should do now is commence selecting the hens that will pay to keep over for next year's breeders, and preparing for winter layers. This month will see thousands of hens dropping feathers, and by the first of August the molt will be pretty general all over the State. How to feed the hens to make the molting period as short as possible is what concerns us most.

FEED MOLTING HENS LIBERALLY.

A great many people commit the folly of allowing the hens to live on what they can pick up on range during the molt. Cheap? No; it's the dearest kind of feeding, because the hens draw on their own system for what is needed to grow feathers and then take a long rest to restore themselves.

During the first part of the molt hens will lay enough eggs to pay for their feed, if they are fed right, and it's a poor hen that can't run a bill for the latter part of the molt, when her feeder can collect on delivery.

WHAT TO FEED.

While the feathers are dropping a little greasy food helps the process. Instead of all beef scrap, give half beef scrap and half the amount in tallow melted and mixed in the mash water. Oats make a very good feed for molting hens if the fibre contents are softened by soaking or processing so that they can be digested easily. Plenty of good, sharp grit is a great help to hens in helping digestion, as also is plenty of exercise. Cotton seed has high protein content and high fibre content, so unless hens are very active and have good grit they do not digest more than one-third of the protein content. Sunflower seed is an oily food that can be used in moderation during the molt, but it has enormous fibre content, so must not be fed in quantity. Peanuts are a very concentrated food, are also very digestible, and where they can be had at a low price can be fed during the molt to advantage. The soy bean has about the same protein contents, is very digestible, and as it contains scarcely any carbohydrates it is the most desirable of all the concentrated foods, but it should be fed with plenty of good green feed to get best results.

BARLEY AS A POULTRY FEED.

Barley needs no comment, because in California it has almost become the standard poultry food, not because it is best but because necessity places it to our hand and we make the best of it.

One thing I have always noticed in feeding barley is that a horse that is fed on barley is constantly shedding, and if you sit in a buggy behind a barley-fed horse the lap robe will need shaking when you get out; and a hen that is fed barley is almost always in the molt, dropping feathers when you least expect them. So that during the molt barley can be relied on to be helpful in the first stage; but as its digestibility is not very high, it needs soaking or sprouting to help digestion.

Next week the discussion of feeding for quick molt will be resumed. It is not possible for everybody to feed just what is mentioned, but it is well to know what is considered best.

KEEP YARDS COOL AND SHADY.

Don't neglect to provide for plenty of shade during the hot days of July and August; look well to the comfort of growing chicks and laying hens and they will repay you later. Sprinkle the yards evening and noon so as to be sure no sudden heat harms them. Feed early, then leave hens to enjoy the shade and cool during the heated part of the day, then feed last thing at night all they will eat, and you will get more eggs than by disturbing the hens during the heat of the day. If there is food within reach of them, they will help themselves if they feel the need, just as they do to water; but it is folly to go out and feed at a time when the heat of the hen's body is about at the highest for the twenty-four hours. Rest and shade are more than food at that time and count for more either in the egg basket or in growth of chicks.

WORMS IN CRAW.

To the Editor: Enclosed find four worms I found in a chicken craw. They were alive. What are they and what damage will they do? Is there a remedy?—J. C., Fairfield.

The specimens enclosed were tape worms that come from eating mice, and many chicks are given to eating mice. The harm they do is not noticeable until the worms get well established. If the particular chicken that has worms is known, it will be easy to treat her individually; but if the whole flock has them they will all need treatment. Individual treatment may be given by beating an egg up with one tablespoonful of oil of turpentine until they mix. Give a teaspoonful to the fowl night and morning for a few days and keep it on short rations, then give a dose of castor oil, not less than a tablespoonful, to finish the cure.

TICKS ON CHICKS.

To the Editor: What can I do to get rid of ticks in a chicken house, and do they hatch on the chicken or in the wood? If I would close the door tight and burn sulphur, would it do any good?—J. A. W., Nicolaus.

Ticks are not particular as to where they hatch, but wherever they lay their eggs there they will hatch, and if it is on the chickens it is almost sure death to them. Yes, a good sulphuring would get them, but every crack and crevice must be closed up with clay or something similar. Use good, strong sulphur and lots of it. Leave the house open a day and night after doing the job or the chickens will take cold by breathing the fumes. Rake up and burn any loose brush and rubbish around, because there will be stray ticks in it. If the chickens are strong enough, dip them in warm water and creolin, a teaspoonful to a quart of water, and dry quickly in the sun.

J. H. Stubbe has moved his poultry plant from Campbell to Palo Alto and announces this week that he will have fall hatched chicks.

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry and Hatchery, Palo Alto, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

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A Killer of Lice and Mites
Devils Dust has been tried and proven by long usage, thousands and thousands of packages have killed millions and millions of lice and mites.
Why experiment with new fangled "dopes" when you know Devils Dust will do the work. Harmless to Poultry, Stock or Plants.
Sold Everywhere GLOBE MILLS Los Angeles
DEVIL'S DUST

Makes Hens Lay
LACTEIN
Makes Hogs Pay

Try COULSON'S EGG FOOD
FOR GREATER EGG PRODUCTION
FULL PARTICULARS IN FREE BOOK
"CHICKENS FROM SHELL TO MARKET"
Coulson Co.
PETALUMA, CAL

The Best is Good Enough for You
PIGS BY NOTED SIRES
DUROC JERSEYS
High Orion 221329 has a refused price of $3,500; Great Wonder 180989, Grand Champion at Iowa; Giant Invincible 208823 heads Waltmeyers Iowa herd; King Orion Cherry 80765, first Junior Yearling, Indiana and Ohio; King of Orions 240249, highest priced pig ever sold; Model Crimson Wonder 181217, a noted prize winner; Russel's Model 205512, second place at Nebraska.
GET ONE OF THEIR PIGS.
H. P. Slocum and Sons
Willows, California

A LIBERTY BOND.

A Liberty Bond! What a queer contradiction,
Although truth, as you've heard, may be stranger than fiction,
For Liberty should from all fetters release us.
While bonds hold us fast, whether pauper or Croesus.
Yet a Liberty Bond, I'd advise you to buy it—
Will insure you your freedom—you'll see when you try it.
'Twill aid you to conquer foes cruel, despotic,
'Twill help save your country; come, be patriotic!
A Liberty Bond—I'd advise you to buy one—
Will insure you your freedom—rejoice when you try one.

—Helen Leah Reed.

PRESERVES.

Soft fruits as ripe apricots, plums, raspberries or very ripe peaches may be made into preserves satisfactorily by adding an equal weight of sugar, a little water to prevent scorching and by boiling down to the desired appearance and consistency. The preserves should be packed boiling hot and sealed at once to prevent fermentation or molding.

Firm fruits, such as pears, firm peaches, quinces or water melon rind, should first be cooked in a little water until tender. Sugar equal in weight to the fruit used is then added, and the whole boiled down to a preserve. Firm fruits become tough and shriveled if the sugar is added before they have been well cooked in water or a dilute syrup.

Fruit preserves without sugar may be made by adding to each quart of the cooked pulp, three quarts of apple or grape juice and to each four quarts of the mixture two teaspoons of ground cinnamon and one of ground cloves. Boil down to a thick consistency. Seal boiling hot in jars or cans. This preserve will be very tart and will be suitable for a relish.

RHUBARB BUTTER.

Six pounds of rhubarb, 6 lbs of syrup, (3 lbs corn syrup to 3 lbs of sugar), 2 oz of root ginger.

Peel the rhubarb and weigh after peeling. Cut into pieces about 2 inches long, and put in kettle with the syrup and ginger which must be bruised and tied in a muslin bag. Leave this for 3 days, stirring gently each day to help the sugar dissolve. Strain the liquor from the fruit the third day, boil and pour the syrup over the fruit while hot. Let stand again for 3 days, then take out the ginger, and boil from a half to three quarters of an hour. Pour into clean, dry jars and cover. Root ginger, bruised and tied in muslin, or ground ginger, is generally used for jams.

BARLEY TASTE.

Many people object to the so-called barley taste in bread and by experimenting with substitutes it has been found that soda added to barley bread dough in the proportion of 1 teaspoon soda to 6 cups of barley flour will destroy the bitter, acid taste usually called the barley taste.

The taste varies with the different brands of flour and brands put out by different firms vary slightly and behave differently. The housekeeper should learn how to use a given brand and continue to purchase that brand.

THE HOME CIRCLE

TIME TABLE FOR CANNING IN THE HOME.

[By W. V. Cruess, University of California.]

During the rush of the canning season, it is often troublesome and wasteful of time to have to read through several pages of printed matter to ascertain the proper length of time for the treatment and sterilization of home canned products. The writer has therefore thought it desirable to assemble in a single table the most important data bearing upon the sterilization of foods in the home. This material has been assembled in the tables given below. It is assumed that the user of the tables understands the principles of canning. For detailed information concerning types of sterilizers and methods of canning, the reader is referred to Circular 158 of the Agricultural Experiment Station and to Bulletin 839 of the U. S. Dept. of Agriculture. The former publication can be obtained free of charge upon application to the College of Agriculture, Berkeley.

TIME TABLE FOR CANNING FRUITS IN JARS (TIME IN MINUTES).

Product—	Time of Sterilization: Time of parboiling or blanching.	Hot water sterilizer at 212 deg. F.	Water seal at 214 deg. F.	Steam pressure 5-10 pounds.	Steam pressure 10-15 pounds.
Apricots	0	16	12	10	5
Apples	1½	20	12	8	6
Blackberries	0	16	12	10	5
Cherries	0	16	12	10	5
Currants	0	15	12	10	5
Figs	½	30	15	10	5
Gooseberries	½	15	12	10	5
Grapes		15	12	10	5
Peaches, free	½	20	15	10	5
Peaches, cling	1	25	20	12	6
Plums	0	16	12	10	5
Raspberries and Loganberries	0	15	12	10	5
Strawberries	0	15	12	10	5
Quinces	1½	20	12	8	5
Pears	0	30	20	15	10

TIME TABLE FOR CANNING VEGETABLES IN JARS (TIME IN MINUTES).

Product—	Time of Sterilization: Time of parboiling or blanching.	One period lemon juice method at 212 deg. F.	One period at 212 deg. F.	Water seal at 214 deg. F.	Steam pressure 5-10 pounds	Steam pressure 10-15 pounds.
String beans	5-10	90	120	90	60	40
Peas	5-10	90	180	120	60	40
Tomatoes	1½	60	60	30	20	15
Corn (sweet)	5	120	180	120	90	60
Lima beans (green)	5-10	120	180	120	60	40
Pumpkin and squash	3	90	120	90	60	40
Peppers	5-10	60	120	90	60	40
Cabbage and sprouts	5-10	90	120	90	60	40
Cauliflower	3	45	60	40	30	20
Carrots and parsnips	5	60	90	80	60	40
Turnips	5	60	90	80	60	40
Beets	10	60	90	80	60	40
Salsify	5	60	90	80	60	40
Sweet potatoes	10	90	90	80	60	40
Greens, such as spinach, chard, beet leaves, etc.	15	60	120	90	60	40
Asparagus	5	90	180	90	60	40
Artichokes	10	60	120	90	60	40

Three-day method Sterilize one hour on each of three successive days at 212 deg. F., counting time from the time the water reaches the boiling point.

TIME TABLE FOR CANNING MEATS (TIME IN MINUTES).

Product—	Time of Sterilization: Time of parboiling or blanching.	Hot water sterilizer at 212 deg. F.	Water seal at 214 deg. F.	Steam pressure 5-10 pounds.	Steam pressure 10-15 pounds.
Uncooked beef, pork and mutton	0	240	180	120	60
Game and poultry	0	240	180	120	60
Corn beef	0	180	180	120	60
Salmon and other large fish	0	240	180	120	60
Shell fish, such as clams, mussels, etc.	5	240	180	120	60
Fried, stewed, baked, and other cooked meats	0	180	180	120	60
Smoked meats, such as kippered fish, lightly smoked beef, etc.	0	180	180	120	60

Precautions and Suggestions:

ALTITUDE.

The table is designed for altitudes from sea level to 1,000 feet altitude. For altitudes above 1,000 feet, increase the time of sterilization 10 per cent for each 500 feet increase in altitude. Example: If time of sterilization at sea level is 90 minutes, it would at 3,000 feet altitude be 40 per cent more than 90 minutes or $90 + (40\% \times 90) = 90 + 36 = 126$ minutes. At 3,000 feet, 40 per cent more time is required because this altitude is 2,000 feet above the 1,000 foot level and 10 per cent is added for each 500 feet above the 1,000 foot level.

SIZE OF CONTAINERS.

The table is based upon the quart jar as the container. Smaller jars require slightly less time and larger jars slightly more. Gallon cans require the same time as quart jars; quart and smaller cans, about 10 per cent less time than quart jars.

HOW TO COUNT TIME OF STERILIZATION.

Do not count time of sterilization until the water reaches the boiling point, if a hot water sterilizer is used or until the desired pressure is reached in a pressure sterilizer. All other time is not counted. This point is of utmost importance.

BRINES AND SYRUPS.

Fruits are usually home canned in syrups containing one pound of sugar in 2 pints of water for medium fruits, 1 pound of sugar to 1 pint of water for sour fruits, and 1 pound of sugar to 3 pints of water for sweet fruits. The syrup is added to the fruit in the jar.

By the lemon juice method 5 fluid ounces of lemon juice or strong vinegar and 2 tablespoonfuls of salt are added to each gallon of water. For corn and peas use 6 ounces. Measure in a glass measuring cup. This brine is added to the jars in canning vegetables. Where other methods are used, omit the lemon juice or vinegar. A longer time of sterilization is needed when the vinegar or lemon juice are omitted.

COOKING BEFORE SERVING.

All canned vegetables and meats should be heated to boiling after the jar is opened for use. This removes all danger of "botulinus" ("ptomain") poisoning.

HOME-MADE STERILIZER.

For sterilizing at 212° F. a sterilizer can be easily made by placing a frame made of several slats in the bottom of a washboiler. The jars are placed on this false bottom and water is added to half the height of the jars. The cover is placed on the boiler and the water is heated to boiling. Count time of sterilization from the time the water boils.

Go easy with your spoon—more than 5,000,000 soldier boys are dipping from that sugar bowl.

RED CROSS WORK.

Interminable folds of gauze
For those whom we shall never see.
Remember, when your fingers pause,
That every drop of blood to stain
This whiteness falls for you and me,
Part of the price that keeps us free
To serve our own, that keeps us clean
From shame that other women know.
O saviors we have never seen,
Forgive us that we are so slow!
God—if that blood should cry in vain,
And we have let our moment go!

THE SUGAR SITUATION.

The shortage of sugar presents quite a serious problem to the housewife who is desirous of canning all the fruit possible this season. This situation may be met by drying as much fruit as possible and by canning fruit and fruit juices without sugar. This can be done successfully and they may later be made into sauces or jelly as needed.

Limiting the amount of jelly and preserves will also be a help and in making these, using the least possible amount of sugar or syrup.

Sugar substitutes for cooking fruit include corn sugar, corn syrup, fruit syrups, glucose, honey, maple sugar, sorghum and New Orleans molasses. Equal weight of corn syrup and sugar makes a good combination for butters or jams.

STRAWBERRY PRESERVES.

Weigh the berries and add one pound of sugar to each pound of berries. Heat quickly to boiling, and boil two minutes, no longer. Pour into a shallow tray or baking pan and set in the sun until the liquid evaporates to a thick syrup and the berries have become plump. Cover the pan with cheesecloth during the exposure to the sun to exclude flies. About a week's time will usually be necessary for the syrup to concentrate. Pack in jars or glasses and cover with paraffine.

Strawberries preserved in this way are much more attractive in texture, color and flavor than those prepared in the usual way.

MACARONI AND SALMON.

Boil two cups macaroni broken in pieces until tender. Mix a tablespoon of oil from the salmon with two tablespoons fat, blend with three tablespoons flour, add gradually two cups of milk. Season with salt and pepper and cook thoroughly. Arrange in a greased baking dish the macaroni and canned salmon in alternate layers pouring some of the sauce over each layer of salmon. Cover the top layer with bread crumbs (saved from the crumb jar), brown and serve hot.

Italians who purchase foodstuffs or goods of common consumption and lay in supplies greater than the ordinary family needs are punishable by fine and imprisonment.

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Oakland California

KELLOGG'S
ANT PASTE
MAKES ANTS DISAPPEAR
A MAGIC PREPARATION
25¢ AT ALL DRUGGISTS

Good Health

Children and Hot Weather.

Through the long, hot summer days it is a great task to keep children happy. Children should be kept as cool as possible in the hot interior valleys of California, especially. This may be accomplished in some measure by clothing them suitably. Children need only enough to cover their bodies. As far as possible, children should sleep out of doors at night, if screened porches are available, or, if not, with all the windows and doors wide open. A bath in cool or tepid water will do much to make sleep comfortable. Children must be provided too with occupations suited to their age. A play pen on a cool porch, or even under the trees in the yard, will give much pleasure. Sand piles, swings and many other simple pieces of play apparatus, which are easily made at home, without any great expense, will keep older children happy and out of mischief.

In the country and on the farm young children are often required to work in the field and gardens too long at a time, or to carry water and other weights too heavy for their strength, and often to work under a blazing sun. Such early work interferes with growth and development, which is the one great business of childhood.

Children's food must be chosen with special care in summer to suit the ages, and proper food habits should be established.

Older children should be taught to observe regular habits also and mothers should guard against the dangers of over- or under-feeding, and especially against poor food materials, such as over-ripe fruit. Young children need to be taught to chew their food thoroughly and to eat slowly. Cleanliness of the body is desirable for health and comfort at all times, but is imperative in the summer time.

A Corrective for Fetid Feet.

It is said that a piece of blotting paper cut to the size of an insole, saturated with a few drops of solution of formaldehyde and placed in the shoe outside the stocking, will lessen sweating and counteract the disagreeable odors with which some people are peculiarly troubled. It is powerfully disinfectant and germicidal.

California Army Camps Healthful.

The health conditions of our army training camps are said to be excellent, the death rate per thousand for the nation being but 3.31. The California camps, however, hold the record. At the present time the only contagious disease among our soldiers is measles, while pneumonia leads the list in causes of death.

No, we know of no drug that will cure addiction to the use of tobacco. A determined, manly effort of the will to slough off a vicious habit is the only remedy.

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That's your first thought after you have unpacked the new piece of furniture or the home furnishings upon their arrival at your home from "The House of Complete and Competent Home Furnishing Service." Nearly all illustrations in Barker Bros.' 1918-1919 Catalog are actual photographic reproductions. Descriptions are accurate and concise. When we send you a copy of this book we literally "send our store," for practically all departments are represented. You need this book to help you buy wisely and economically. Write today for your copy.

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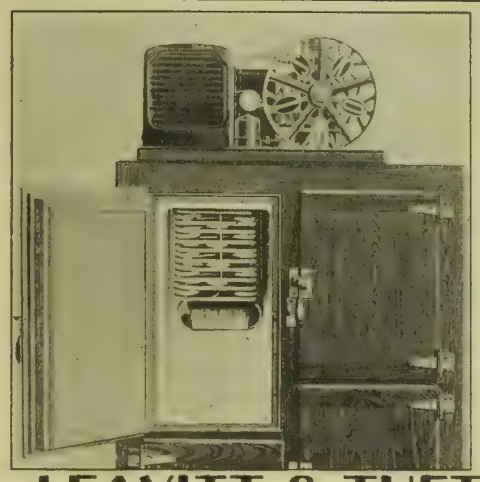

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ISKO home refrigeration—in an hour solves your biggest food keeping problem for years to come.

No ice famine can touch you—no delayed delivery endanger your family's food supply.

A simple, portable electric unit—easily installed on any ice box, old or new. Five minutes' study will make clear to you how "the electric icemen" creates cold from current—how it saves food and money—why it protects your family's health and your own efficiency. Come in and see it work—now.

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Cooking Convenience

All the convenience of gas—that is the meaning of a New Perfection Oil Cook Stove installed in your kitchen.

Easy to operate. A touch of a match and in a jiffy your stove is ready for cooking.

No smoke or smell; no dust or dirt.

More convenient than coal or wood. Better and more economical cooking all the year round. A cool kitchen in summer.

And you have all the convenience of gas.

In 1, 2, 3 and 4 burner sizes, with or without ovens or cabinets. Ask your dealer today.

A New Perfection Oil Cook Stove means kitchen comfort and convenience. Ask your friend who has one. Used in 3,000,000 homes. Inexpensive, easy to operate. See them at your dealer's today.

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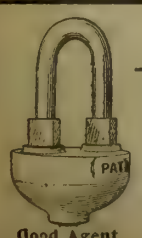

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Guaranteed for 5000 MILES
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Agricultural Summary

Cheese Under Regulation.

Regulations governing the transactions of cheese manufacturers, dealers and commission merchants have been issued by the Food Administration. The rules are designed to prevent the sale of cheese at an unreasonable advance over cost, to limit commissions, and to reduce the number of resales to the minimum. The price paid to the producer for cheese is not affected. The general purpose of the regulations is to put the industry on a more stable basis by removing possibilities for excessive profits. This result, together with the control exerted on the retailer through the fair-price committees, is expected to lead to an increased demand for cheese and encouragement to producers.

Bean Acreage Equal to Last Year's.

Reports received from various districts in the State would indicate a change of mind on the part of many intending bean growers who contemplated following their early grain harvest with a planting of beans. The extremely dry condition of the ground and the scarcity of water for irrigation have deterred many from following out their plans. As a result the bean acreage of the State will be cut down materially below early estimates. The preliminary estimate, according to the July bulletin of the local Bureau of Crop Estimates, is for an acreage of 597,000 acres compared with the harvested acreage of 558,000 in 1917.

Apples Share General Prosperity.

It is reported that the last box of 1917-18 apples was taken out of storage this week, so that the new crop is brought prominently to the fore. Astrachans have been on the market for some time and Alexanders are maturing in the earlier districts. These new-crop apples are selling around $2 a box for choice fruit. It was thought a price on Gravensteins would be named by the Sebastopol Apple Growers this week and that from $2 to $2.25 for four-tier stock might be the figure. Last year the association's opening price was $1.60. The condition of apples this year is 70 as compared with 85 this time a year ago.

Prices Predicated on the War Spirit.

Numerous news notes float into the office of the Rural Press mentioning sensational prices brought by animals or articles of agricultural production recently put up at auction for the benefit of the Red Cross. Of course, these spectacular stunts are to be expected when our boys are fighting for the life of our nation on the blood-soaked battlefields of France. Such prices are more a measure of the spontaneous and unbounded generosity of the wrought-up bidders rather than of the animal's or commodity's real worth. But they make an interesting record all the same.

Rice Price Agreement.

A voluntary agreement has been arrived at between the directors of the Pacific Rice Growers' Association and the California Food Administration under which California rice growers are to receive $4.32 per hundred. The price of $4.16 2-3 fixed at the recent conference at Washington, D. C., has been repudiated. This price of $4.32 is based on No. 1 grade, which includes fancy and choice Japan rice. This agreement is similar to that in effect in the Southern States and will make the retail price to the consumer of next October's crop approximately 11 cents.

Wheat Conservation Still Necessary.

Denial of reports that because of the estimated billion bushel wheat crop this year wheat conservation is no longer necessary is made by Frederick O'Brien, acting Federal Food Commissioner for California, following receipt of information from Washington.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, July 17, 1918.

WHEAT.

The Food Administration's prices still stand.

Hard White—	
No. 1	$2.20
No. 2	2.17
No. 3	2.13
Soft White—	
No. 1	2.18
No. 2	2.15
No. 3	2.11
Club and Sonora—	
No. 1	2.16
No. 2	2.13
No. 3	2.09

BARLEY.

Barley is somewhat stronger and the holders of choice barley are demanding $2.60, although there is no record of any sale above $2.57½.

Choice feed, per ctl	$2.50@2.60

OATS.

Red feed oats are unchanged. There has been some inquiry for red seed, which should bring from $3 to $3.25. A Texas grower has offered Texas red seed, regarded as the best for this market, at $3.35 for July delivery, $3.40 for August delivery and $3.50 for September delivery. No sales are reported at these prices.

White feed, per ctl	Nominal
Red feed, per ctl	$2.50@2.55
Red seed, per ctl	None

CORN.

Corn is steady with an upward trend for milo maize and California Egyptian is in fair quantity and has sold within a restricted range of $4 to $4.05.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$4.15@4.20
Milo maize	3.90@4.00
Egyptian	4.00@4.05

HAY.

Hay receipts for the past week were 2139 tons—about 50 per cent more than was received in either of the two previous weeks, and prices are easier. Consumers continue to buy from hand to mouth. Under these conditions only a limited amount of hay can be placed each week, and the surplus will soon fill up all storage capacity available. The present prices were never before so high at this season of the year.

Wheat No. 1	$22.00@24.00
do, No. 2	19.00@21.00
Choice tame oat	24.00@26.00
Wild oat, new	17.00@20.00
Barley, new	18.00@21.00
Alfalfa, first cutting	16.00@20.00
do, second cutting	22.00@24.00
Stock	15.00@17.00
Barley straw	50@80c

FEEDSTUFFS.

With the exception of the price of alfalfa meal there was no material change in prices this week. The increase in the price of this meal was due to the increase last week in the price of the second cutting of alfalfa.

Beet pulp, per ton	None offering
New alfalfa meal, per ton	$33.00@34.00
Coconut cake or meal	44.50
Cracked corn	86.00@88.00
Middlings	Nominal
Oilcake	$75.00@76.00
Rolled barley	55.00@56.00
Rolled oats	56.00@58.00

POTATOES, ONIONS, ETC.

Potatoes were higher this week on a good demand for local consumption. An increasing market is looked for in potatoes and they may reach about $3 as the season advances. Onions showed a decided advance and were lively throughout the week on demand for shipment to the East. Tomatoes are now coming in freely and prices were marked down. Lettuce and cucumbers were both plentiful and sold lower. Garden beans are now plentiful and sell at prices of other descriptions.

Peas	8@9c
String beans, per lb	7@8c
Wax beans, per lb	7@8c
do, garden	7@8c
Asparagus, per lb	None
Carrots, per sack	50c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
do, Strawberry, per box	None
Summer squash	75c@$1.00
Cucumbers (hothouse), per box	85c@$1.00
do, Los Angeles, lugs	75c
Eggplant	5@6c
Lettuce, Sacramento, crate	75c@$1.00
Tomatoes, per crate—	
Merced	50@75c
Potatoes—	
Garnet Chile	1.75@2.00
Whites	1.85@2.15
Onions, Australian browns	Nominal
River Reds	$1.35@1.60
do, Yellows	1.75@2.00
Garlic	3@4c
Green corn, Alameda, per sack	$3.00@3.50

BEANS.

Beans were dull this week. Owing to a slight increase in the demand for limas they sold at a slightly higher price.

Bayos, per ctl	$ 8.00@ 8.25
Blackeyes	7.00@ 7.25
Cranberry beans	11.50@12.00
Limas (south, recleaned)	11.60@11.75
Pinks	6.90@ 7.00
Red kidneys	11.50@12.00
Mexican reds	7.75@ 8.00
Tepary beans	8.50@ 9.00
Garbanzos	7.50@ 7.75

POULTRY.

The poultry market is firm. Owing to increased receipts in fryers and young roosters the prices of these descriptions became more settled.

Turkeys, live, per lb., young	28@30c
do, dressed	32@34c
Broilers, 1½ to 2 lbs	37c
do, 1¼ lbs	38c
do, ¾ to 1¼ lbs	38c
Fryers	37@42c
Hens, extra, per lb., colored	30c
do, Leghorn	26@28c
Smooth young roosters, per lb. (3 lbs. and over)	42@45c
Old roosters, colored, per lb	20@21c
Geese, young, per lb.	23@25c
do, old, per lb	22c
Squabs, per lb	38@40c
Ducks	25@27c
do, old	23@24c
Belgian hares (live)	16@18c
do, dressed	20@22c

BUTTER.

Butter continues remarkably strong and closed at the top, showing an advance of 2½ cents for the week. The advance on the 17th was due to short receipts, only 60,500 pounds coming against 77,600 a week ago. So much milk is going to the condensaries that the butter factories are getting less than a normal amount.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed
Extras	50	50	50¼	51	51	52¼
Prime 1st	47	47	47	49	49	49
Firsts	47	47	47	47	47	47

EGGS.

After the decline from the high point of last week eggs were steady throughout the week. Some eggs were taken from cold storage during the week, but they were mostly eggs on short-term storage and sold as fresh to the public, although such eggs cannot be traded in on the exchange. The production of eggs at this season is keeping up wonderfully well.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	48	47	47	47½	47½	48
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	44	43½	44½	44	44½	45½
do, Firsts		Nominal				44

CHEESE.

Very little new cheese was offered on the floor of the exchange this morning. The cheese makers are affected by the shortage of cream, as are the butter makers, and the cause is the same. The holders of California flats demanded 27c today, but the buyers refused to pay more than 26½c. Young America's have not been dealt in for several days.

Y. A.'s	Nominal
do, Firsts	Nominal
Fancy, California Flats, per lb	26½c
First, California Flats	24½c
Oregon Triplets, fancy	26c
Oregon Y. A. Fancy	25½c
C. S. Oregon triplets, fancy	26c
do, Oregon Y. A. fancy	25c
Monterey cheese	21@23c

FRESH FRUITS.

The currant season is practically at an end, and cherries are getting scarce. Cantaloupes from Turlock are arriving in greater quantity and much better quality and are going well at the quoted prices. Plums are also of better quality and in greater quantity. The berry market shows little change.

Apples	$2.00@2.50
Apricots, per crate	1.00@1.25
Peaches, 4-box crate	.75@1.00
Figs, black, per box	.60@ .75
do, double layer	1.25
Strawberries, per chest	7.00@9.00
Blackberries, per chest	7.00@10.00
Raspberries, per chest	7.00@9.00
Loganberries, per chest	5.50@7.00
Currants, per drawer	Nominal
Gooseberries	5@8c
Cherries, black, flats	Nominal
do, do, bulk	10@12½c
do, white, bulk	10@12½c
Royal Anne	12@15c
Plums	$1.00@1.50
Cantaloupes, flats	90c@$1.10
do, ponies	$2.00@2.25
do, standard	2.00@3.00
Watermelons, per lb.	2@2½c
Pears, box	75c@$1.00
Grapes, Seedless	$2.00@2.50
do, Malaga	2.00@2.25
do, Fountainbleu	1.00@1.25

CITRUS FRUITS.

Fancy lemons declined slightly this week, while the choice and standard varieties are firmer, due to a growing scarcity. Grapefruit is higher with a narrower range of prices.

Oranges:	
Valencias, fancy	$6.50@7.00
Valencias, choice	5.50@6.25
Lemons:	
Fancy, per box	7.50@8.00
Choice	6.00@7.00
Standard	4.00@4.50
Lemonettes	6.00@7.00
Grapefruit, fancy, new	3.00@3.50

DRIED FRUITS.

The packers are beginning to get returns from the opening of business in dried fruits. Heavy orders are coming in. It is estimated that the orders for peaches from the trade will be five times as great as it will be possible to fill. There is also a heavy business in raisins and the movement in prunes promises to be brisk.

Prunes, graded, price to growers:	
gain in dip	11c
Prunes, graded prices to growers:	
20-30, inclusive, per lb	15c
31-41, inclusive, basis	10c
42-51, inclusive, basis	9½c
52-61, inclusive, basis	8½c
62-71, inclusive, basis	8¼c
82-91, inclusive, basis	8c
92-101, inclusive, basis	8c
102-121, inclusive, per lb	4½c
122 and up, per lb	4c
Prunes, ungraded price to growers:	
30 and larger, per lb., flat	15c
31-33, inclusive, per lb., flat	13½c
34-41, inclusive, basis	10c
42-43, inclusive, basis	9¾c
44-51, inclusive, basis	9½c
52-54, inclusive, basis	9c
55-60, inclusive, basis	8¾c
61-75, inclusive, basis	8½c
76-81, inclusive, basis	8¼c
82-85, inclusive, basis	8c
86-90, inclusive, basis	7¾c
91-95, inclusive, basis	7½c
96-98, inclusive, basis	7¼c
99-101, inclusive, basis	7c
102-121, per lb., flat	4½c
122 and up, per lb., flat	4c
Apricots	9½@19c
Figs	12@16c
Raisins—	
Muscats	5¼c
Thompsons	6¾c
Sultanas	6¼c

HONEY.

The Honey Exchange has placed a minimum price of 20c to the producer of honey, but the local dealers say that they know of no sales—amber and very little light amber being sold at that price. Some comb honey has been sold on this market and as high as 23c has been paid for the white. Nearly all the honey produced in this State is now being exported, local consumers refusing to pay the price.

White, extracted	21c
Light amber	18@20c
Amber	15@18c

RICE.

The voluntary agreement reached between the Food Administration and the rice growers and millers should establish the price for the coming crop. Millers are to pay growers a base price of $4.32 per hundred for the No. 1 grade of paddy and rice will retail at approximately 11c a pound. The price to be paid for the cleaned rice at the mills will be between these two prices, but is not fixed yet.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, July 16, 1918.

There has been an easier tone to all auctions the past week owing to increased offerings. There is always a depression after the Fourth of July trade, which is no particular reflection upon the general market and trade conditions as a whole.

Owing to the shortage of labor, railroads are continuing to experience difficulty in securing help for unloading fruit and imperative action was necessary to reduce the amount of labor involved in unloading cars and segregating lots. It has been agreed by all shippers and receivers co-operating with the railroads that packages will hereafter be grouped in lots of sixty and wherever it is possible to assemble one shipper's lot it will be done, otherwise more than one shipper's fruit may be sold as one lot. This will apply throughout the season, except in the selling of pears, which will be sold in lots of not less than forty.

There is still little demand for peaches east of the Mississippi river, but owing to the fact that Southern Georgia has finished her season and with but ten days or two weeks yet open for Northern Georgia to continue, we look for a decided improvement in the peach market.

Midsummer plums, especially the Blue varieties, are now moving and meeting with a ready demand.

Bartlett pears are beginning to move in heavy supply, and though tonnage from Sacramento river will be short from 7000 to 10,000 tons over last year, Placer county will produce the heaviest pear crop in its history. We look for a firm market on Bartletts throughout the season.

Thompson Seedless and Malaga grapes are moving from Imperial and Coachella valleys and meeting with ready demand at attractive prices. Quality is fair and the berries are medium size.

Thompson Seedless from Fresno district will begin to move within a week. It is estimated that the shipments of this variety will be light from Fresno owing to prices established for dried stock by the Government.

As yet no damage has been done to the Tokay crop in the San Joaquin Valley. Indications are that it will be heavy. Berries will be small, but bunches will be well set.

Averages for the week:

New York: Lawson pears H/B $2.27, Comet H/B $2.49, Wilder H/B $1.94, Bartlett (boxes) $4.60; Republican cherries $1.62, Bing $1.91, Royal Anne $1.97; Triumph peaches 62c; Thompson Seedless grapes $3.65; Santa Rosa plums $1.67, Formosa $1.67, Tragedy $2.35, Burbank $1.67, Climax $1.70, Red June $1.50, Clyman $1.30; Royal apricots $1.15.

Boston: Tragedy plums $2.61, Santa Rosa $1.95, Burbank $1.84, Climax $2.13, Formosa $2.25, Clyman $1.84, Beauty $2.04; Royal apricots $1.32, Blenheim $1.05; Royal Anne cherries $1.79, Republican $1.84; Wilder pears H/B $1.60, Comet H/B $1.53, Gifford H/B $1.45, Bartlett (boxes) $3.75; Thompson Seedless grapes $3.90.

Chicago: Royal apricots $1.30, Blenheim $1.22, Tilton $1.32, Moorpark $1.41; Comet pears H/B $2.19, Wilder H/B $1.62; Bartlett (boxes) $2.87; Triumph peaches 81c; Thompson Seedless grapes $3.22; Climax plums $1.62, Burbank $1.51, Tragedy $2.17, Santa Rosa $1.92, Shiro $1.41, Botan $1.35, Abundance $1.28, Simoni $1.33, Red June $1.68, Beauty $1.38.

Total shipments by cars from July 6 to 12, inclusive: 7 apricots, 8 peaches, 397 plums, 96 pears. Total shipments to date, 1918, 1899 cars; total shipments date, 1917, 1922 cars.

LOS ANGELES

Los Angeles, July 16, 1918.

BUTTER.

There was a marked improvement in the receipts the past week, yet the market not only held up but advanced 1c the last part of our review week. Receipts for the week were 380,100 pounds, against 347,550 pounds the same week last year. This increase in the market supply failed to check the bullish feeling in the face of a good home demand and some outside movement. There was withdrawn from cold storage during the week 16,939 pounds, against 6960 pounds the same week last year.

We quote:
California extra creamery............49c
do, prime first........................48c
do, first 47c

Daily quotations—

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	48	48	49	49	49	49
1917						
Extra	37	38	37	39	39	39

EGGS.

The arrivals by rail were 1715 cases, against 2339 cases the same week last year. Truck receipts were thought to have been three times as large as the receipts by rail, making the supply for the week 6860 cases, against 9356 cases the same week last year. The high prices of fresh eggs caused quite a demand for cold storage eggs, there being withdrawn from cold storage during the week 3196 cases, while there was taken into cold storage during the same week last year 57 cases. This showing caused the market to break 1c on extras, 2c on case count, and 1c on pullets during the week. Still the market is 10½c higher on extras and pullets and 8½c higher on case count than this time last year.

Daily quotations:

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	46	46	46	45	45	45
Case count	45	45	45	45	45	43
Pullets	43	43	43	41	41	42
1917						
Extra	37	37	36	35	34½	34½
Case count	36	36	36	35	34½	34½
Pullets	33½	33½	33	32	31	31½

POULTRY.

Receipts the past week were not heavy and there was a fair demand for hens, fryers and broilers, all higher 1@2c. Young roosters are bringing a little more money. Turkeys and ducks quiet but steady.

We quote from growers:
Broilers, 1¼ to 2 lbs..................31c
Broilers, under 1¼ lbs..................28c
Fryers, 2½ to 3 lbs....................21c
Hens, over 4 lbs.......................25c
Hens, under 4 lbs......................20c
Ducks ....24@25c
Geese 18c
Roosters, 3 lbs. up (soft bone).........31c
Old roosters, per lb...................15c
Turkeys, heavy, 12 lbs, and up..........30c
Turkeys, light ....27@28c
Squabs, live, per lb...................30c
do, dressed, per lb....................35c

FRUITS.

Market well supplied. Peaches and apricots lower under increased offerings. Plums steady and in fair demand. Black Spanish figs coming in more freely, lower and demand fair. Astrachan apples meeting with fair demand. The week closed the cherry season. A few Bartlett pears were in. There was also some crabapples on the market, but they were dull. Grapes in fair demand, market weaker.

We quote from growers:
Apricots, per lb. ....3@4c
Figs, Black Spanish, 7-lb box......50@75c
Peaches, freestone, per lug......$1.00@1.50
do, clings, per lug............ 1.50@2.00
Pears, per lb..........................7@8c
Crabapples, per lug............$1.00@1.10
Beauty plums, per lb. ....7@8c
Prunes, Sonoma, per lb. ....4@5c
Climax, per lb. ....5@6c
Tragedy, per lb. ....7@8c
Grapes—Imperial Valley Malagas,
per lb. ....7@8c
Apples, Red Astrachan, per lb.......4@5c
do, White Astrachan, per lb.......4@5c

BERRIES.

There was quite a dropping off in the receipts the past week. Blackberries, raspberries and loganberries higher; strawberries no higher, but firm and demand fair.

We quote from growers:
Strawberries—
Fancy, per 30-basket crate....$1.65@1.75
Poor to choice, per 30-basket
crate .... 1.40@1.50
Blackberries, 30-basket crate....$2.25@2.50
Raspberries, 30-basket crate.... 1.80@2.40
Loganberries, 30-basket crate... 2.50@2.75

MELONS.

Imperial Valley cantaloupes out of the market and home-grown beginning to come in. A good demand for home grown, but prices lower under better offerings. Watermelons in better supply; prices steady and firm. Honeydew melons steady.

Cantaloupes—
Tip Top, jumbo crate........$2.50@3.00
Watermelons, per 100 lbs ......$1.50@1.75
Honeydew melons, special........... 2.00
do, do, flats......................... 1.25

VEGETABLES.

Potatoes and onions were in fair demand and prices much the same as at close of our last review. Cabbage scarce, in fair demand and higher. String beans steady and in fair demand. Eggplant slow sale and weaker. Cucumbers dull and lower. Tomatoes coming in more freely and sharply lower; demand fair. Corn slow sale but steady. Peppers in good demand and prices rather firm.

Potatoes, new, per lug.............50@60c
New potatoes, per cwt. ....$1.40@1.60
Garlic, per lb. ....5@6c
Cabbage, per 100 lbs...........$1.50@1.75
Bell peppers, per lb. ....8@12c
Chile peppers, per lb................9@10c
Peas, Northern, per lb. ....10@12c
Summer squash, local, per lug....30@40c
String beans, per lb. ....4@4½c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb....4@5c
Cucumbers, home-grown, per lug..25@40c
Corn, per lug of 3 doz. ....60@80c
Lima beans, per lb.....................6@7c

BEANS.

The market continues dull as a whole; there was some little demand for limas the past week. Even the local trade taking a few. Prices, however, show no change.

We quote from growers:
Limas, per cwt. $10.50
Large white, per cwt. 12.50
Small white, per cwt. 12.50
Pink, per cwt. 7.50
Blackeyes, per cwt. 7.00
Tepary, per cwt. 8.50

HAY

The receipts for past week were very good and buyers holding back, only taking such lots as needed from day to day. Prices not quotably lower, though tone of the market was weak.

We quote f. o. b. Los Angeles—
Barley hay, per ton ....$24.00@26.00
Oat hay, per ton .... 25.00@27.00
Alfalfa, northern, per ton .... 21.00@22.00
Alfalfa, local, per ton .... 22.00@24.00
Straw, per ton .... 9.00@10.00

COTTON.

Conflicting weather reports caused more cautious trading the past week and a narrow range of fluctuation in futures. There was a very good demand for spot cotton, both from the mills and for export. Prices closed Monday but little different from a week ago. July closed in New York at 27.93c and October 24.80c. Spot middling in New Orleans 30.25c.

Special Livestock Market Report

San Francisco, July 17, 1918.

CATTLE—Beef cattle are firm, though slaughterers are still unable to absorb the offerings. This condition may continue for a week or two longer. Good weight steers, however, are in good demand, while half-fat cattle and cow stuff of all grades are a drug on the market. The Eastern market on most grades is unsteady.

Grass Steers—
No. 1, weighing 1000 to 1200 lbs.....11½c
No. 1, weighing 1200 to 1400 lbs..11½@12c
Second quality ....10@11c
Thin ....8@9c
Cows and heifers—
No. 1 ....8@8¼c
Second quality ....7@7½c
Common to thin ....4@5½c
Bulls and stags—
Good ....6@6½c
Fair ....5@5½c
Thin ....4@4½c
Calves—
Lightweight ....10@10¼c
Medium ....9@9¼c
Heavy ....7@8c

SHEEP—Sheep are not very plentiful on the market. Lambs are not coming in quite so freely as desired. Northern California lambs are expected in large numbers, commencing next week. The consuming demand is better.

In the East lambs are in active demand and are having a splendid market. Choice lambs are bringing from $18.40 to $18.60, while even culls are bringing from $12 to $15. Local quotations are:

Lambs—
Yearlings ....11½@12c
Milk ....14@14½c
Sheep—
Wethers ....11@11½c
Ewes ....9½@10c

HOGS—Hogs are rather scarce again and have advanced to 16½c for good weights and 16c for light weights. There was also a slight advance on good hog stuff in the East this week of 20c per cwt. San Francisco prices are:

Hogs—
Hard, grain-fed, 100@140...........16½c
do, do, 140@300......................16c
do, do, 300@400......................16c

HIDES.

CATTLE—Wet salted hides, per lb.: Steers and cows, over 48 lbs., 14@15½c; light hides, 25 to 48 lbs., 14@15½c; bulls and stags, 10@12c; kip, 15 to 30 lbs., 18@20c; calf, under 15 lbs., 28@29c.

HORSE—Wet salted, each: No. 1 large, $5.00@5.75; do medium, $4.50@4.75; do small, $1.50@2.50; do colts, 40@50c; dry horse hides, 50c@$3.00, according to size and quality.

Los Angeles, July 16, 1918.

CATTLE—But few choice fed steers in the past week and met with fair demand. The scarcity and high price of feed is forcing many thin and half fat cattle to market. Calves steady and in good demand.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs..$10.00@12.00
Prime cows and heifers........ 8.50@ 9.50
Good cows and heifers........ 8.00@ 8.50
Canners, per cwt............... 5.50@ 6.00
Calves, per cwt................ 8.50@ 9.50

HOGS—A steady market and fair demand was had the past week. Receipts continue light and generally light weights, mostly half fat. Killers paid full quotations.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$14.00@14.50
Mixed, 225@275 lbs............ 14.50@15.50
Light, 175@220 lbs............ 14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Receipts continue light. Choice sheep and fat lambs met with a fair demand. The hot weather is encouraging the consumption of mutton and lamb. Lambs are higher.

Per cwt. f. o. b. Los Angeles:
Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....13.00@14.00

No. Portland, Ore., July 15, 1918.

Cattle—With a heavy run of cattle in the yards at North Portland today the market opened slow. The receipts are 2300 head, which run heavy to the butcher class of stuff. Quotations are: Prime steers, $12.00@13.00; good to choice steers, $11.00@12.00; medium to good steers, $9.00@10.00; fair to medium steers, $8.00@9.00; common to fair steers, $5.00@8.00; choice cows and heifers, $8.50@9.00;; fair to medium cows and heifers, $4.50@5.50; canners, $3.00@4.50; bulls, $6.00@8.00; calves, $8.50@11.50; stockers and feeders, $7.00@9.00.

Hogs—The run of hogs today is not very heavy, 1200 head coming forward over Sunday. While trading is somewhat slow, prices are holding steady at quotations: Prime mixed, $17.25@17.50; medium mixed, $16.75@17.25; rough heavies, $16.25@16.50; pigs, $15.75@16.25; bulk, $17.25.

Sheep—Quite a liberal run of sheep came forward over Sunday, however, prices are not inclined to be affected. Receipts today are 2800 head. Quotations: East of Mt. lambs, $13.50@14.00; Valley lambs, $13.00@13.50; yearlings, $9.00@10.00; wethers, $8.00@9.00; ewes, $6.00@8.00.

Special Citrus Market Report

Los Angeles, July 16, 1918.

Despite occasional slight recessions in the Valencia markets East and West, the orange situation remains strong, and all signs point to its becoming stronger. In face of the fact that in the interval between now and the ripening of the new navel crop—a period of about four months—there are in sight not more than 4000 or 4500 carloads of oranges, to be spread over a wide area of demand, it looks as though new price levels will be reached. And while the patronage of people of small means may be out of the reckoning, money is rather plentiful in urban centers and easy in rural districts and the seductive orange will doubtless continue to have a demand that the meager reserves in sight cannot supply, hence an unprecedented price level should surprise no one. Fancy Valencias have recently sold on a basis of $6 to $6.25 f. o. b. California and have sold in the auction marts of the East from $7 to $8.25. Lower grades have sold from $4 to $6.25.

The cool weather in the East and the abundance of fresh deciduous fruits on the market have had a slightly depressing effect on lemons. Moreover, large shipments of foreign lemons are in sight. A New York dispatch dated July 15 says there are 200,000 boxes afloat. Nevertheless, while these conditions have disturbed somewhat the speculative element and lowered prices a little, the lemon interests have strong faith in the future and look forward to another spurt in prices when the next hot wave arrives. New York has shown the strongest market, where good fruit brought this past week $4.25@6.50. Philadelphia offered the lowest market—$3.50@6.05.

In California markets prices on citrus fruits are high in sympathy with the strong situation at Eastern points.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan.	2	34.50	50.40	35.25	50.16
"	9	39.41	51.08	36.90	50.00
"	16	35.83	52.33	37.00	50.50
"	23	36.91	52.50	35.00	52.00
"	30	38.48	53.00	38.87	51.83
Feb.	6	40.00	50.80	41.19	49.66
"	13	39.70	52.00	39.00	48.00
"	20	36.00	51.41	37.00	48.00
"	27	37.00	51.30	36.00	49.33
March	6	36.50	50.66	34.50	50.00
"	13	33.50	51.16	33.00	49.50
"	20	33.25	47.83	33.00	47.00
"	27	36.00	46.30	33.00	43.30
April	3	37.91	43.16	36.33	42.16
"	10	39.33	39.25	37.00	39.50
"	17	39.58	39.00	38.00	36.83
"	24	35.56	40.50	36.50	38.16
May	1	33.08	40.83	33.00	39.00
"	8	34.05	40.66	33.20	39.00
"	15	35.50	40.46	34.16	39.00
"	22	36.30	44.33	35.16	41.00
"	29	36.60	42.30	37.33	39.00
June	5	36.30	43.90	37.66	41.58
"	12	36.50	44.92	38.00	40.58
"	19	36.00	46.50	37.50	41.75
"	26	35.06	47.42	37.00	43.00
July	3	35.06	48.08	37.00	46.00
"	10	36.41	48.90	37.16	47.50
"	17	37.83	50.83	38.66	48.66
"	24	40.25	....	40.61	....
"	31	42.82	....	42.58	....
August	7	43.00	....	44.00	....
"	14	41.66	....	43.00	....
"	21	41.50	....	42.00	....
"	28	41.91	....	42.00	....
Sept.	4	42.10	....	41.33	....
"	11	42.00	....	41.00	....

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan	2	38.10	52.80	37.00	48.16
"	9	37.91	60.91	38.16	50.66
"	16	41.83	65.66	40.83	55.00
"	23	32.50	65.66	33.12	58.00
"	30	32.08	61.25	33.02	54.00
Feb.	6	34.99	58.50	34.70	51.66
"	13	33.30	44.40	31.66	44.83
"	20	33.01	44.75	30.75	40.83
"	27	29.00	42.40	27.66	39.58
March	6	24.75	36.83	24.91	35.00
"	13	25.96	37.91	26.08	38.00
"	20	25.66	40.66	25.91	39.63
"	27	27.16	39.50	28.00	40.00
April	3	28.58	38.91	29.25	38.33
"	10	29.66	37.58	30.41	36.33
"	17	32.33	39.16	32.08	36.83
"	24	32.91	40.50	32.83	39.66
May	1	32.00	41.66	31.83	39.33
"	8	33.75	40.08	32.00	37.00
"	15	34.20	39.16	32.50	38.83
"	22	33.40	40.50	34.00	39.00
"	29	33.80	38.66	33.50	37.41
June	5	33.20	40.80	34.66	38.83
"	12	31.16	41.00	33.00	33.75
"	19	31.41	43.33	33.10	33.00
"	26	30.16	44.32	32.16	39.08
July	3	31.90	44.91	34.25	41.75
"	10	33.50	48.30	36.00	45.00
"	17	33.66	47.66	34.41	45.50
"	24	35.25	....	35.91	....
"	31	38.00	....	36.91	....
August	7	42.58	....	40.16	....
"	14	41.41	....	37.08	....
"	21	43.33	....	42.25	....
"	28	43.50	....	43.50	....
Sept.	4	43.80	....	43.58	....
"	11	45.08	....	44.91	....

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Vol. XCVI—No. 4 Forty-eighth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO JULY 27, 1918 LOS ANGELES

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What California Must Do for the Apricot

Twenty-eighth of the Editor's Series of Historical and Analytical Sketches of California Farming

CALIFORNIANS might set up a claim that the apricot is an American fruit and perhaps might make such a claim stick now that the world is so widely disposed to credit all good things to America—because the elder Disraeli, in his "Curiosities of Literature," written more than a century ago, credits some older writer with the statement that "the apricot, drawn from America, was first known in Europe in the sixteenth century"—which was probably a misprint for Armenia, whose patronymic the fruit bears because De Candolle first called it Armenica vulgaris and later botanists Prunus armeniaca. However that may be, California did make a claim for herself as the home of the apricot, for in August, 1858, the California Culturist printed a letter from a pioneer named Wilder stating that in the mountains of Lassen county he had found "an abundance of wild apricots of a fine free growth," etc. He must have mistaken wild plums for apricots, for our leading dendrologist, Dr. W. L. Jepson, informs us: "there is certainly no apricot wild in California," and then he counter attacks: "It is my experience that local observers are often very wild-eyed." This shows that man was sometimes wilder than untamed nature—even before the modern Hun was dreamed of!

IT IS California's pressing present task and duty to place one of the world's most ancient fruits on its proper pathway of progress down the ages. *(Page 78.)*

How Did the Apricot Get into California?

This question cannot be definitely answered from such resources as this writer now has. Although there were at the Spanish missions in territory which is now New Mexico apricot trees which had the aspect of very old trees, as reported by those who saw them before 1840, there are no apricot trees mentioned in the records of early visitors to the California missions. This is, however, not conclusive evidence of their absence, because these records add "other fruits" to the lists of those recognized, and neither a British skipper nor an American trapper would be likely to know an apricot tree if he saw it.

However, apricots appeared among the first fruits planted by American settlers and they came from at least two sources: Mexico and the glass-houses of the Eastern States—whence it was common to send all things which needed protection against Eastern winters for trial in California. Very early also apricots came direct from European sources and the varieties originated on the shores of the Mediterranean, in the gardens of France and in the "stove-houses" and walled fruiteries of England were spreading their beautiful foliage and displaying their golden fruits in the open air of California, all the way from the valley of San Gabriel to the lower foothill fringes and tributary small valleys of the Sacramento, and throughout the coast valleys south of San Francisco.

And the apricot scored in the coin-sacks of the pioneers as other fruits did. The Wolfskills of Putah Creek did well with the trees they brought very early from Mexico, for it is recorded that in 1857 John Wolfskill sold a ton of apricots from six trees at 75c per pound—evidently trees of some size and some price also! The Wolfskills were of the first westward run of Missourians; men who could see things for themselves, and nobody had to show them the money in apricots!

Sun-curing of apricots. Partial view of drying floor, with orchard in rear and fruit-cutters in middle ground.

Passion for Apricots Limited.

But though they were ready enough to exchange gold-pulp for gold-dust, the pioneers were very conservative in planting apricots. Like other Americans even to this day, the pioneers did not know apricots nor what to do with them in a very large way. In 1856 there were fifty times as many peach trees, nearly twenty-five times as many apple trees and two and a half times as many pears as there were apricot trees—and yet the apricots were then more numerous than plums and prunes combined and twice as many as of oranges. And though apricots have made some good runs, the present score, some sixty years later, stands: peaches, prunes and oranges each about three times as many as of apricots, and pears, apples and lemons about on a par with them—that is, about three millions each of the last four. Thus apricots have gone beyond the pioneers' conception of their outlook, though they do now stand no higher than fourth in our list of tree fruits.

How Did the Apricot Do It?

It must of course be remembered that the pioneers could not have any conception of the current commercial uses of the apricot. There was no canning industry, except of the kitchen variety. There was no way to get fresh fruit overland. There was no alliance of sulphur and sunshine in fruit drying. The apricot grower's problem was to get the fruit to San Francisco before it pasted down the clods of his orchard with a yellow slum gullion. No wonder, then, in the '60s the disposition was to plant apricots very sparingly, if at all, so as not to pass beyond the small fresh fruit demand for eating and canning and the smaller profit for drying into what looked much like the waste from a steam punch in a boiler shop. But changes came beyond anticipation. In the '70s fresh shipping and some machine evaporating began and canning found increased opportunity. Soon after 1880 sulphuring before drying was taken up, canners and Eastern shippers made new records, and confidence in the apricot began to rise. Thenceforward apricot production advanced as these figures indicate:

	Eastward cars	Canned cases	Dried tons
1887	...	.....	1,250
1897	177	317,408	15,000
1907	71	397,350	1,500
1908	232	1,161,250	19,000
1917	403	823,829	16,000

(Continued on page 78.)

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EDITORIALS

ICONOCLASM.

THE SECULAR newspapers are currently containing allegements that a man from Milpitas is trying to play predatory pranks with the State's outfit for agricultural education and to deface the furniture thereof—particular effort being made to knock the knobs off Dean Hunt's farm bureau and otherwise befit it for a rummage sale. The affair becomes less interesting because these same newspapers declare that Dean Hunt refuses to defend his educational achievements against the allegations from Milpitas—taking the high and proper ground that if they are worth anything they ought to erect their own monument in public esteem. This attitude against controversy is rather disappointing to the secular press whose delight is to get people to hammer each other back and forth in print, but it exactly pleases us because if there is any fighting in these columns we like to do it ourselves, and, as in this particular issue of Milpitas vs. Berkeley, we receive neither orders nor munitions directly from either side, we ought to be able to set up the fight in our own way and run it through to our heart's content.

WHAT COMES FROM MILPITAS?

AS WE have received from Milpitas no more intimation of purposes and methods than the Germans gave about their last drive along the Marne, we shall proceed on the basis of expositions thereof in the every-day journals. From these we have learned that there is an organization called the "United Farmers of Santa Clara County" and that J. J. McDonald of Milpitas is president thereof. Just why this thing was done in a corner and why an organization with such a good name should be running around the pavilion of public opinion looking for a loose board to pry off for access thereto, we cannot imagine—unless the incumbents of the name are either not of the farming standing and quality to command respect or are too modest to claim it: either of these possible defects is practically as bad as the other. Both unrepresentativeness and undue reticence not only disqualify any organization from trying to do what needs to be done for agricultural organization in this State, but also forecast failure in doing it. The organization we need must be representative of all phases of our great farming interests, must proclaim support of sound sociological, economic and industrial truth and must enter the arena of public affairs with good music and banners flying and not tumble into the ring like a disguised clown hired to ride a trick mule. We confess we do not like the genesis of the "United Farmers of Santa Clara." We are not quite ready to accept the suggestion of some journals that this group of men, whom we do not personally know, has organized to inflict upon this State the abominations of the I. W. W. creed—even though they do invite such conclusion by their method of attacking the problem of farm organization, which is the State's greatest present need. It is said that they expect soon to hold an assembly in Sacramento and until such event demonstrates their degree of representativeness and the quality of their doctrines it is only fair to defer definite classification of them.

WHAT ARE THE MILPITAS MUNITIONS?

AS WE have said, we know only by current rumor. But there are those who claim to have seen President McDonald and to have secured his views. He is alleged to have said:

The farmers must realize more than any other class of men that in the great readjustment of business which is going on now and which will be even more grave when peace is declared, all classes of business and labor will be represented, and that it is up to them to see that their real interests are consulted, and not misrepresented by persons who appear to speak for them.

Dean Hunt has strenuously opposed organization, as was to be expected. He does not represent the farmers or their interests, but the State University, whose affairs are handled by a board of regents made up, not of farmers, but of business men from the cities. Their interests and ours are opposed.

Of these two paragraphs we do not hesitate to say that in our judgment the first is true and the second false. The propositions in the first paragraph we have been urging for years, and of the attainment of which we now have more faith than ever because it seems to us that it is now possible to organize farming on a business basis, and this will cover all economic and commercial requirements of fairness and prosperity to producers and will automatically include all the political and other drives on public opinion which are necessary to secure and protect such fairness and prosperity.

MILPITAS SHOOTS A DUB.

THERE are several phases of falsity in the second paragraph quoted above. We do not believe that Dean Hunt "strenuously opposes organization." Practically all that he has achieved in California during the last six years has been by organization of farmers and those who serve their interests in research and educational lines. The reporters say that he "declines to enter into any controversy over it" and we do not need to. But perhaps Mr. McDonald means that Dean Hunt strenuously opposes his kind of organization. Perhaps so: we do not know nor care. If he does, it is perhaps because he is too conservative to approve an organization which has not demonstrated either that it is right or representative.

But more important than this are the falsehoods that the State University does not represent the farming interests to which the chief portion of its present efforts are devoted and that the regents are concerned with interests opposed to farmers' interests. To sustain his misconception Mr. McDonald will have to prove that the Governor and four other leading State officers are opposed to farmers' interests; that the president of the State Agricultural Society is also thus; that about half the other regents who own and operate farms are opposed to their own interests and that the other half, who are well-known professional men whose life and effort has been for the upbuilding of the State, are opposed to what they know very well to be the leading industry of the State and its greatest future line of development. It is not upon such falsehood and nonsense as this that enduring and effective organization of farmers can be built.

But more fatal to effective service for agricultural organization is the "class" appeal which is implied in the words attributed to Mr. McDonald. No serviceable agricultural organization can be built upon class prejudice, as we argued at some length in our issue of July 13. What we need is organization of all farmers from all "classes" of our population as "farmers," not as a "farming class"—which does not exist except in the minds of mistaken people, wise and otherwise. There may be other "classes," rather well defined, perhaps, and both high and low, against the unjust claims of which all farmers must be organized, but if you simply get together in such organization what you can of those who glory in class feeling and class martyrdom you repel from effective organization ten times as many farmers as you include. We have been looking straight at that sort of a thing for nearly fifty years and have seen something.

ORGANIZATION AND PATRIOTISM.

IT IS at about this stage in the reeling of the films through the columns of the common newspapers that the furniture is alleged to be attacked by Mr. McDonald and his associates, who imagine that the farm bureau shows missing drawer-knobs and castors and a cracked mirror. The accounts indicate that a meeting of the directors of farm bureaus was held in which nine counties were represented and we are led to understand that a drive was made on this assembly by Mr. McDonald's bunch and the outcome of the melee is thus described:

The proposal to organize a "farmers' political party" was repudiated, the only dissenting vote being that of the San Joaquin farmer who had proposed the plan.

Those who opposed the organization along the lines suggested declared that a political party representing the farmers at this time would inevitably take on the appearance of a "party of discontent," and that it would by this very fact be subjected, no matter how patriotic its members might be in their motives, to accusations of disloyalty.

"The farmers of California are loyal and patriotic," declared one of the leaders who opposed the motion to organize. "They are going to work with the constituted authorities, and they are not going to do anything that will give any man the excuse to question their loyalty."

On the basis of the occurrence thus described it is claimed that the farm bureau is opposed to organization of farmers for this reason:

The officers of the university dominate the farm bureaus by appointing and controlling the farm advisers, and that their influence was not for the best interest of the agriculturist, but was exercised in behalf of the business interests "centered in the regents of the university."

We have already seen what business interests are chiefly centered in the regents of the university, viz.: agricultural more largely than any other single interest. But more important than that are the questions: Are the farm bureaus opposed to agricultural organization or only to the kind of organization proposed by Mr. McDonald, and does the danger of suspicion of disloyalty inhere in that? We apprehend that the colored gentleman is in that length of fence and therefore the attitude of the representatives of nine counties toward the proposition thrown in by the man from San Joaquin is sensible and reasonable and will be approved by nearly all farmers, because they have no assurance of what Mr. McDonald is aiming at and do not desire to have any such affiliations as are attributed to the politically organized farmers of the Northwest. And though we do strongly sympathize with their attitude in this matter, we are still of the opinion that farm bureaus may be dominated too much by the idea that farmers must be good dogs and too docile under the conditions in which they find themselves, politically and otherwise. It is strange that farmers should be thus dominated and exhorted for fear of cracking their patriotism while other people can profiteer or strike or do all kinds of shady and greedy politics right under the nose of Uncle Samuel, in Washington and in the several States, and still be cited as exemplars of patriotism. Of course, the evil which other people are able to get away with does not justify evil in farmers, nor do they generally desire any chance for evil. They want the square deal, and so far as Mr. McDonald is impelled to seek that, we sympathize with his effort; but he can never get near such a goal if he should be trying to raise an oligarchy of those he considers "farmers" from the ruins of a civilization broken down by anarchy. It is probably the fear of such an undertaking as that on his part which queered his proposition with the farm bureaus. Mr. McDonald thinks our agriculture is menaced by a depth-bomb to be dropped through the attic: he had better look for mines planted in the cellar!

LIMITATIONS OF THE FARM BUREAU.

MR. McDONALD is unreasonable in his effort to impeach the farm bureaus because they refused to consider his proposition to organize a "farmers' political party", for at least two reasons:

First, the farm bureau is a part of the agricultural-education system of the State. It is a voluntary distribution-agency for the truth secured by research: it is an actuating-force to put in practice principles and methods approved by

investigation; it is the connecting link between men who see things and men who do things. As a part of government system of practical education it has no business to do politics as an organization. Mr. McDonald condemns it for not doing his kind of class politics: he would get black in the face in condemnation of it if it should resolve that it would rather have Wilson three times than McAdoo once or if he should see it creeping into the trunk of the G. O. P.! With Mr. McDonald it is simply a question of whose ox is gored!

Second, the farm bureau is unfitted for political action by the fact that as part of a system it is morally bound to embody the esprit du corps and to promote the policy of that system. It is not bound to follow any instructions: it is even independent of direct suggestions but in opposition to the policy of the system of which it is a part it could not function at all and would fly off the shaft like a cracked pulley.

The farm bureau is doing a great and indispensable work in rural organization and is practically helpful to the farming interest in many ways which have been previously pointed out in these columns, but as an organization it is not available for the doing of politics for, because of its auspices and environment, it could become a bureaucracy of an extent painful to contemplate or it could explode while endeavoring to take on such dimensions.

LET'S MAKE IT A DRAW ?

AND NOW, having had a good go at Mr. McDonald for the edification of the agricultural ring-side, and with no desire for a knock-out for either side, we offer to shake hands with him on this proposition:

Let us both let the farm bureau alone. It is doing a good work for those who like it and it is making no faces at those who do not like it. If the members enjoy the guidance they receive, why not: they pay for it. If outsiders do not desire to trade at that shop, why should they throw rocks at the sign? And if outsiders do not like the members of the farm bureau why should they try to inject their politics into them?

We believe all thinking farmers should go into politics for the promotion and protection of their livelihoods and their grand, fundamental industry, but we have no idea of asking the farm bureaus to lead in that movement. And if we keep hands off in our propaganda for a grander political lay out why should Mr. McDonald assault the Bureaus for refusing wind to the tin-horn variety of farming politics which he is trying to promote ?

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

A Seedling Apricot.

To the Editor: I send you apricots grown on a seedling tree which came up in our yard and which I transplanted to the orchard eight years ago. It is a mighty fine looking tree and has borne for four years. A nurseryman came to see it and took some buds. He said he would try them and sell them under the name "Richman seedling." Can you tell me what they are?—J. W. Richman, Gilroy.

If you are sure that the tree came from a seed, and the circumstances you relate seem clearly to indicate that, you need not worry about what it is, for it is a new variety and you have the right to name it. It may have resemblance to older varieties, but we do not recognize it from these specimens. Even if it does, it is still a new variety and has to be tried out for several years more before one is safe in propagating and planting it. These things need to be demonstrated before that standing can be given to it: (1) It must be in some important respect different from any other variety which it may resemble, or ripen at a different date; (2) it must ripen as evenly as possible all around; (3) it must be a reasonably regular bearer for a term of years; (4) it may have some other claim to original behavior as a new variety. It was to determine such points that your nurseryman visitor took buds for trial. Perhaps the most important point in such a large apricot as yours is to make sure of its regular bearing as the tree becomes older. Most promising seedlings in the past have been abandoned for failure in this particular.

Transplanting Toads.

To the Editor: I agree with you that surplus toads should be transplanted to places where they will do most good. I usually carry toads on a shovel. Don't you think that would be better than a hoe?—Gardener, Sonoma.

We make no claim to expertness in the transportation of toads. We catch them up gently with whatever tool we happen to be using—hoe, rake or spade. Our observation is that a toad is a born aviator and enjoys a trip through the air without having to jump for it. Therefore, when we get the hoe under the place where his tail ought to be and lift him up he sits tight on the hoe-blade and does not try to jump off, and so long as the hoe keeps to a gentle undulating motion, such as one naturally gives it in walking, he likes the ride. But our toads may be different; we do not answer for the behavior of others. Our objection to the shovel is when one gets a toad on a shovel there comes the temptation to throw him as far as you can, and that is not good for the toad. You can pick him up in your fingers if you like, but we have never reached that degree of familiarity. Still it has been demonstrated that the claim that one may get warts or other trouble from handling is all superstition.

Summer Gardens on San Francisco Sand.

To the Editor: What can I do for my garden? My lettuce has turned a sort of whitish color; also the spinach, etc. I give the garden plenty of water and I can not account for this drying up of the vegetables. Sometimes the lettuce turns a sort of silver color and as I can not find any insects I am at a loss to know what to do.—N. V., Verona Place.

Your plants are suffering from sunburn. There are no insects nor disease present. It is very hard to grow vegetables successfully in San Francisco during the dry season on the sand which comprises the soil in many parts of the city. Success can be had by bringing in loam soil to cover the sand as they do in Golden Gate Park or by using a great deal of animal manure, which makes the sand more retentive of moisture. If this is not done the sand quickly dries below and the plants sunburn and fail, although they may be often surface-sprinkled. In the late fall and winter it is much easier to grow vegetables in the city because the sun has less power, the air is moister and rains keep the sand deeply moistened. If you start after the rains begin you can get as fine a vegetable garden as you desire with all but a few plants which cannot stand a light frost.

Overflow and High Water Table.

To the Editor: I am living on light sandy river sediment, which dries out quickly in summer, so I would like to put my crops in in the fall. But this land overflows most every winter and water will remain on from two to four days at a time. Will it harm or drown out such crops as oats, barley, vetches, clover or alfalfa put in this ground in the fall? How far from water surface should alfalfa be planted? My land is from two to six feet above water level and a neighbor told me that it would kill alfalfa if planted less than six feet from water level. The land is sandy, underlaid with gravel.—Subscriber, Requa.

If you are sure you have no longer overflow and your soil and subsoil are such that water will draw quickly down to two feet or more below the surface, you need not fear injury to any of the crops you mention from a fall start—except alfalfa. And the injury to alfalfa will not come from winter overflow but from the high water table. On such land as you last describe you should get a stand of red clover, which will grow with water above and below but does not like drying out.

Is a Dairyman a Producer?

To the Editor: I am a dairyman and stock raiser. A friend of mine came along a few days ago and we talked about the war. He said I was not a producer and I said I was. Will you kindly give your opinion?—Subscriber, Redwood.

The dictionary says: "a producer is one who produces: particularly one who cultivates or makes things for sale and use, in distinction from the user or consumer." A secondary meaning of the word is "that which produces, such as a furnace producing gas for fuel." Obviously all our current discussion of economic relations proceeds upon the primary significance of the word, and an essential part of that is the human agency involved and no other agency is admitted to that significance. If your friend is trying to substitute the secondary meaning of the word for the first and is claiming that the cow is the real producer, he is playing on words and forfeits his right to be listened to in economic discussion. Tell him to talk to the cow!

HAS YOUR SUBSCRIPTION EXPIRED?

(7-27-18)

The yellow label supplies the answer.

CONCERNING CO-OPERATION.

With the first issue in July, there went into effect an increased rate of postage on newspapers and magazines—not exactly as a war measure, as the increase is intended to be permanent—which, when it reaches the maximum, will amount to between 500 and 600 per cent more than was charged previously.

We ask your co-operation to meet this situation. Keep your subscription paid up.

There never was a time when the interests of the California farmer demanded a good, clean, safe and sane journal to represent them than at present, and to do this effectually, we have to request your co-operation, as stated above.

A check, a money order, a dollar bill or postage stamps will co-operate.

CO-OPERATION SURMOUNTS EVERY OBSTACLE.

Elizabeth McHugh, Subscription Clerk.

What Is a "Brush Tick Bug"?

To the Editor: I planted four or five acres of pumpkins in the month of May and they are full of greenish brush tick bugs on the root of the pumpkins just above the ground, which cause the plant to die. Some plants have hundreds of these bugs. It is a strange bug to us. I tried sulphur and lime, but that would not get rid of them, and then I tried coal oil and water mixed and that injured the plant. Can you tell me what will kill the bugs without injuring the plant?—M. M. G., Livermore.

It is surely a strange bug to us also. Why did you not send a few so we could see what you have? We should use the "squash-bug prescription" on another page of this issue or make a strong tea of tobacco stems or buy blackleaf tobacco extract. Of the latter, use a teacupful to a barrel of water in which you have dissolved one pound of laundry soap and dose the bunches well with that.

French Prune on Peach.

To the Editor: Owing to the scarceness of French prune on myrobalan root this year, I find that I will have to use peach root. I know nothing about the peach root and will appreciate some information regarding same. Has it any advantages over the myrobalan root in growth, longevity and freeness from disease?—Reader, Lower Lake.

The peach root makes a good, long-lived prune tree if the soil is a good, well-drained loam such as the peach delights in. It is rather freer in growth than the myrobalan and makes a large tree sooner, but it will not stand heavy soil and exposure to standing water as well. It is rather more liable to root-knot. We should not hesitate to use the peach on proper soils.

Berries in San Francisco.

To the Editor: I have a lot 12x40 feet and another 10x40 feet—divided by a brick wall. What would be best to plant that would bring in some return. I was thinking of planting loganberries and raspberries. The soil is sandy and fairly well manured.—I. H., San Francisco.

You probably cannot do better than to plant one row of loganberries on the narrower strip, to be strongly trellised, and two rows of raspberries on the wider strip, to be grown to stakes, which are easier to work around. These fruits do well in San Francisco unless too much shaded by buildings.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 23, 1918.

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.06	.20	.11	64	50
Red Bluff	...	...	...	100	64
Sacramento	...	...	...	96	54
San Francisco	...	...	.01	74	51
San Jose	...	...	...	90	50
Fresno	...	...	...	100	60
San Luis Obispo	...	...	.01	86	52
Los Angeles	...	.08	...	90	60
San Diego	...	...	...	78	62

Fitting and Showing Cattle

Written for Pacific Rural Press by R. H. Whitten, Los Angeles

I ONCE visited a man who is considered one of the most successful exhibitors of dairy cattle in the United States. He seemed to have almost magic power over his cattle. He could lead with a light rope a bull that otherwise would require two men with staffs. He would call a few names and the cows would run up to him, playfully, gleefully, each endeavoring to get closest to him so as to have his arm around her neck.

THERE is no use in your taking up the fundamentals until you are absolutely sure that you have a deep-seated, unquenchable love for the work. Better by far that you stay out of the game entirely than go into it with any pretended love, or with love of such a weak brand that it will melt under the hot opposition of difficulties and obstacles that you will find arrayed against you. It isn't the easiest job in the world to successfully condition and show stock, but if you have a sufficient supply of the right kind of love, and will take up the work in a win-or-die spirit, you'll win all right. You'll soon have the world agape at your achievements.

MUST LOVE STOCK AND THE GAME.

"Tell me," I inquired, "how you establish this bond of sympathy between yourself and these animals, for evidently it is the secret of your success."

"Yes," he replied, "you have struck it right. Every day people ask me the secret of my success, and I give them a practical answer about breeding, feeding, housing and care, but I do not add 'and love, and love, and love.' I do not tell them that if they cannot win it is because they do not love their stock and the game, for they could not understand. They would think that I was dippy."

Yet the success of this man proves that the love we invest in our work is the investment upon which the biggest dividends are paid.

IN DECIDING UPON AN EXHIBITION HERD,

animals coming nearest the scale of perfection as compiled by the association of that particular breed should be selected. Be particular to pick animals of a uniform type. Often a bull is beaten in the get-of-sire class because, while the exhibitor picked good progeny, he did it without due regard to the need of uniformity that they must present when lined up side by side before the judge.

This word of caution is especially timely this year, as a new classification has been added in the dairy cattle division at the State Fair—for five cows in milk, to be decided entirely on conformation. It is obvious that, other things being equal, the herd possessing the greatest uniformity is going to stand the best chance of winning.

Of course, it requires high-class animals to win, but type and individuality are not enough. The sleek, shiny animals that you see in the show ring have not come direct from the pasture or corral. They have undergone a long preparation for the show, and everything possible has been done to make them show off to the best advantage.

The animals should be selected, and conditioning should start about six or eight weeks before the first fair at which they are to be shown. Then any visible imperfections will be noticed and can be remedied to a great extent before the animals start out.

CONDITIONING THE ANIMALS SELECTED.

If possible, they should be kept in a cool, well-ventilated barn during the daytime, so as to be away from the hot sun and flies, and should be let out morning and night for exercise. The importance of plenty of exercise cannot be emphasized too strongly. It creates an appetite, keeps the blood circulating, and the system in good condition generally.

Care should be exercised in feeding at this time, as the change from their regular food often has a marked effect on their condition later on. As a rule, the food should be light, so as to promote healthy digestion, for without good digestion animals soon go to pieces and lose the much-desired "bloom."

The cows should be fed three times a day. If oil cake meal or coconut oil meal is added to the grain ration, it will help to give a sleek, shiny coat. Beware of condiments; they generally do more harm than good.

DIVERSE PRACTICES AS TO CONDITIONING.

There is a difference of opinion about blanketing. Some exhibitors never blanket show stock, claiming that when this is done the animals are more liable to catch cold. But most exhibitors blanket heavily for the first two weeks of housing, gradually reducing the covering until nothing but a light sheet is needed at the finish. This, with frequent and regular groomings, causes the hide to soften, making it more pliable and pleasing to the touch.

There is also a difference of opinion about the use of the currycomb. Some use it followed by a stiff brush for the first two weeks of conditioning, and then change to softer brushes, flannel rub-rags and plenty of elbow grease. Others claim that a currycomb has a tendency to irritate the skin and that only soft brushes and rub-rags are necessary.

But the main thing is the amount of elbow grease used. To get the skin and hair in the best of condition, wash the animal once a week, and brush it for at least a half hour daily. The washing keeps the skin clean and the brushing gives that gloss and luster to the coat without which no animal can be in the pink of condition.

TACTFUL USE OF CLIPPERS AND SHEARS.

Someone has well said that the clippers and shears are to the showman what the hammer and chisel are to the sculptor, for in hardly any other way does a good showman exercise his skill more than in judicious clipping. He can fill out or cause depressions where they are needed, and emphasize the cleancutness and quality of the animal.

All long hair should be clipped from the udder, from the inside and the edge of the ears, and from the belly to give a clear view of the milk veins. Clip all of the tail except the switch. In some cases it is advisable to clip the head, and with animals of the polled (hornless) breeds it should be clipped to a point just back of the ears. When this is done the ears should be clipped on the outside as well as inside.

Have the hoofs in proper shape. Crooked, over-long or misshaped toes will detract very much from the appearance of the animal, as it cannot move or stand with natural ease or grace and will not show to good advantage. The soles should be pared down with a blacksmith's knife or pruning knife, and finished off with a rasp.

TRAIN ANIMALS TO LEAD AND TO POSE PROPERLY.

Begin early to teach all animals to lead nicely and to stand in a good showy position and hold that position without harsh treatment. In other words, as the home is the training ground, you should have a cattle show at home before starting on the circuit, and familiarize the animals with the conditions that will confront them in the show ring.

USE GREAT CARE IN SHIPPING.

Time to ship, and all of the animals in fine condition? Good! But remember that all the care given in the fitting of the herd will count for nothing if extreme care is not taken in shipping. Allow each animal plenty of room, and bed heavily. If shavings can be had, it is best to use them, for six inches of shavings will last longer than a foot of straw, and will keep the animals much cleaner. If shavings cannot be obtained, bed the car with straw about two feet deep, so that when it is trampled down there will be a nice thick bed for the animals to lie on.

Figure on plenty of help—one man to every eight head—and in loading the cattle do not become excited. Handle them carefully and quietly. Place mature animals beside the ones with which they will be the most quiet, and calves, of course, so that they can nurse their mothers. Tie each one with its halter rope, giving it sufficient freedom of head for comfort, but not enough so that there will be any danger of entanglement.

Everything that will be needed for the herd should be taken along, and, besides feed, water and bedding, there should be the blankets, brushes, combs, rub-rags, soap, pails, lanterns, etc.

WHILE EN ROUTE.

While en route feed and water the herd with the same regularity as if at home, but give only about half the usual amount of grain. More than this is liable to put the cattle off feed, and they will not take on a good fill after reaching the fair grounds.

After the car is set for unloading, get the herd to the barn as quickly as possible, but always have one man stay in the car while the others are leading to the barn, for when the first animals are taken out the others become restless and may get

(Continued on page 88.)

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

When Test Grape Maturity?

How and when and where should grapes for shipment be tested as to their maturity? This question was threshed at the recent grape standardization meeting in Merced. Chas. Collins, Horticultural Commissioner of Tulare county, tests only the greenest grapes, as that is what the law is after. Several of the Fresno and Tulare packers agreed that this was right. One of them said the testing should be done at the door of the packing house to avoid packing those too green. Horticultural Commissioner F. P. Roullard tests only after packing, except on special request. Deputy Horticultural Commissioner F. C. Brosius of Sacramento county, where most of the grapes are packed in the vineyards, tests them in the vineyards and only from the lower halves of the bunches. He has 11,000 acres to test for maturity, so he starts generally about mid-August, ten days before shipping is expected to begin, with three or four inspectors. This gives a line on the early-ripening districts. As the ripening dates of various districts vary, four or five inspectors can handle the work this way all through the season.

Orange Trees Clean Inside.

Most all of orange pruning is done inside the tree by a successful grower of Butte county. Three objections to a brushy inside are noted: It is a great breeding place for red and yellow scale; it scratches hands of pickers so they don't pick all of the fruit that matures there; and not very much matures there on account of lack of light and air. A complete curtain of fruit wood all around the tree is desired, with the centers cleaned out so there will be a crop of fruit inside as well as outside. Limbs are not left nearer than 18 inches from the ground because fruit will bend them down aplenty anyway. The work is done after fruit is off and before blossoming. Suckers are taken out in the summer.

Irrigation Made Apricots.

People said R. E. Liguori of Livermore Valley could not irrigate his 24-year Blenheim apricot trees in summer without splitting the fruit, but he did it. His overflow sediment 18 inches deep on black soil underlaid at 11 feet by clay holds moisture pretty well, but he irrigated last May and again in mid-June. He has a good crop, while his neighbor across the creek, who does not irrigate, has practically none that are marketable, though his trees bloomed and set a good crop. The apricots there are too small even to dry. The difference, believes Mr. Liguori, is due to the irrigations.

Avocado Booklet.

To grow the avocado intelligently, the grower should know something about its culture and conditions in its native home. Exploration of Guatemala for desirable new avocados by Wilson Popenoe of the United States Department of Agriculture furnished material for an excellent paper read before the California Avocado Association and reprinted for general distribution by F. O. Popenoe of Altadena. The explorer says that many of the best California varieties are better than the average fruits sold in Guatemala City.

Transplanted Raspberries Set Back.

We thought that our raspberries, transplanted last summer in a cool San Mateo climate, would continue to grow and bear late fall berries, as they had previously. They "died hard," but are making shoots for next season's fruit. We are getting practically no fruit from the canes we transplanted.

Little Manure Helps Cover Crops.

A light dressing of hen manure in the orchard, not enough to fertilize, gives cover crops a start that permits them to fertilize the soil equivalent to a heavy dressing of manure, observes Sonoma Horticultural Commissioner O. E. Bremner. Too much manure interferes with cover crops starting.

Ripen Young Fig Wood Early.

Young fig trees must not be kept growing too late in the season, writes Tulare Horticultural Commissioner Chas. F. Collins, but moisture should be withheld and the wood allowed to mature. Otherwise early winter frosts will injure them severely.

Fixing Bad Hearts in Good Trees

[Written for Pacific Rural Press by W. P. Brown.]

The most interesting work I have seen being done in any orchard was tree surgery in the fine apple orchard of C. H. King of Sebastopol by H. H. Newsom of Berkeley and two men. Some of these trees Mr. King told me were 40 years old and some perhaps older. On the 20 acres in the home ranch he will probably have 400 trees to treat. The very remarkable feature about it is that many of these old trees—in fact, all that I saw—have fine, vigorous tops full of fruit, and yet many of these have their hearts entirely rotted out. The trees are 10 inches to 18 inches in diameter. Mr. Newsom found many trees badly decayed inside which Mr. King thought absolutely sound. Mr. Newsom has the trees entirely cleaned out, then puts in iron rods to strengthen the trees and fills in with cement. This is expensive work, but Mr. King says this is a paying orchard and the trees justify the expenditure. Mr. King believes in regular fertilizing and good care and says he always has good crops. He and his partner have 20 acres on which the crop is estimated at 10,000 boxes. He believes in pruning every year, but avoids making any heavy cuts. Thinks most of the decay comes from cutting big limbs, giving the stub a coat of paint or wax and then forgetting to ever look after them any more. Of course, that cracks and water gets in and it begins to decay. If a tree dies, he digs a hole four feet square, gets out every root in reach, puts in fresh soil and has no trouble in getting a young tree to grow, after he has given it a good dose of fertilizer.

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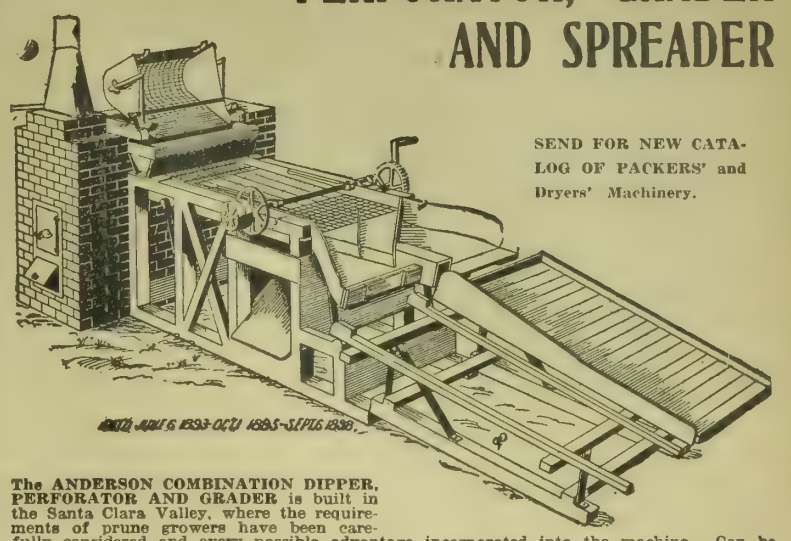

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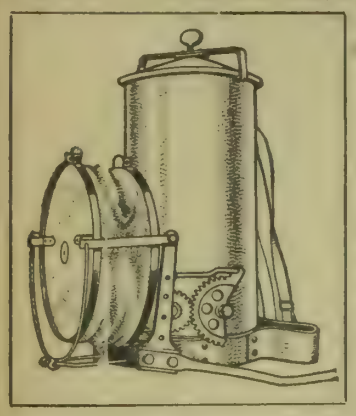

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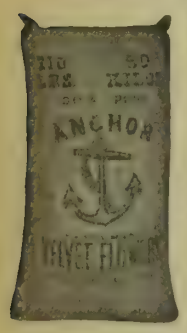

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What California Must Do for the Apricot

(Continued from first page.)

These figures show a large general increase in thirty years. They also show great fluctuation from year to year in the size of the crop and the use made of it. The very low dried product of 1907 is a partial crop failure, which left only 1500 tons dried and 71 cars shipped after the growing demand of the canners had been supplied. The figures of 1908 are inserted to show that the accident of 1907 did not interfere with the general progress of the fruit.

Averages for decades are safest to rely upon. The annual average of dried apricots from 1900 to 1907 was 10,442 tons and from 1911 to 1917 it was about 6000 tons—which shows the progressive development of apricot canning and Eastward shipment of fresh fruit.

The increase of apricot production is due to the heavier cropping of rather old trees, for the present acreage is only about 20 per cent larger than in 1910.

HOW THE PROPHETS HIT IT UP.

One who remembers the dawn of promise for the apricot nearly forty years ago, when the gorgeous fruit in clear, heavy syrup began to issue abundantly in bright tins from the commercial canneries, like "apples of gold in pictures of silver," and when well-ripened fruit began to be gathered by the ton from the sun-drying trays still holding its natural beauty of color—remembers also how enthusiastically the prophets of that day described the coming commercial glories of the California apricot. George W. Meade, who was the leading Mercator and Nestor of our unfolding preserved fruit industry of forty years ago, wrote this of the cured apricot in 1887 and 1888:

From a small trade and a trifling demand there is today no city of any consequence in America which does not use the California apricot either in a canned or dried state, and they can be found in most of the great European cities. There is not the slightest chance of overdoing the apricot business. If we can once get the California apricot into Europe at a reasonable price, there will be no limit to the consumption.

And this prophecy has been practically realized. No fruit we grow has come so near selling itself profitably for the last forty years and with so little trouble to growers and handlers as has the apricot, though growers have seldom had their fair share of the returns perhaps—except when canners fought among themselves, which is now a "lost art" in their industry.

PROPHECY WHICH CAME TRUE TOO EASILY!

In one way it may be claimed that prophecy cited was too easily realized. Europe has been willing to take our preserved apricots to whatever amount canners and driers could produce them, and we have been too content with taking such easy money. H. C. Dunlap of the California Prune and Apricot Growers has gathered these significant figures with reference to dried apricot production:

The production of six seasons previous to 1917 amounted to 195,000,000 pounds, and of this 124,000,000 pounds were exported: therefore the American consumption of dried apricots amounted to only 71,000,000 pounds, or an average of less than 12,000,000 pounds per year.

In other words, we have been selling almost two-thirds of the product abroad and letting our own consuming population of a hundred millions take it or leave it. As the great bulk of the American people do not know apricots, they largely left it—while the masses of middle class Europeans, who knew fresh apricots as a luxury of the rich, were electrified at a chance to get the fruit in forms of such close approach to the luxury of their "higher ups," as California canned and natural-color dried apricots really are. Then came the war, which sealed up Germany, our greatest single customer, but no disaster followed because other European nations also knew apricots and took more of them for military and civil consumption. But next came the submarine and embargoes due to lack of ships, and cured apricots were thrown into bad company as "luxuries" in the civil category and, having no standing as army supplies, the war finally "got" the apricot. It is of course all a mistake: the cured apricot is as good a staple food as other cured fruits and ought to be bought for shipments from this State at least up to their price ratio and their handicap in greater sugar requirement. They are worth all they cost as a menu variant and tonic anti-scorbutic, even if added sugar be scanted. They should also figure proportionally in army rations for the same reasons, but that is a hard proposition, for it must be remembered that the bulwark of our liberties, the constitution of the United States, is lattice-work when compared with the conservatism of the quartermaster's division. It took several decades to get an army mule on this coast a chance to bite barley instead of oats, and this war will not last long enough to get a doughboy a taste of an apricot pie—even though assurance were given that it would send him from the Marne to Potsdam in one yump!

WHAT NEEDS TO BE DONE FOR THE APRICOT?

Simply to make the American people know what an apricot is and what it is good for. If we can punch that button they will do the rest.

Fortunately the first drive toward this objective has been successfully launched—we have an organization, alert, competent and capable. Every man with an acre of apricots should

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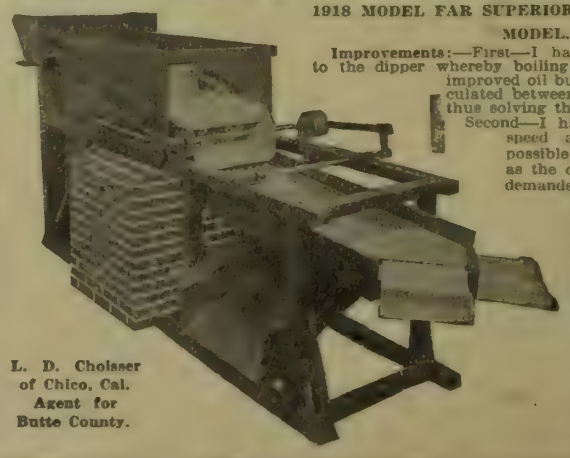

Improvements:—First—I have added a circulator to the dipper whereby boiling water (heated by an improved oil burner) is constantly circulated between circulator and dipper thus solving the hot water problem.

Second—I have installed an extra speed attachment making it possible to speed up or down as the condition of the prunes demands. Hard prunes require more scalding and must remain in the hot water longer than soft ones.

A call and inspection will convince you that this dipper and grader is second to none on the market.

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be in it. It is one function of this organization to undertake what they technically call "consumer advertising" and that means to pursue a campaign of education directly against those who now neglect to add apricots and apricot creations to their daily bread simply because they do not know how delicious, nutritive and wholesome they are. This association does not now cover the fresh and canned forms of the fruit, but it can probably stimulate the canners to fill the public eye with natural-color pictures of the fruit as it rolls from silvery tin to cut glass with the orchard quality and beauty still in it. This is a fundamental phase of apricot promotion which has been occasionally entered upon but never fully pursued. On its own part, the association of dried apricot producers should fill the Eastern sky with truthful color pictures showing how the properly ripened and cured apricot also carries the charm and similitude of the fresh fruit into the simplest culinary preparations and into the most elaborate creations of the pastry cook. Besides these flat forms of publicity, all opportunities should be sought to actually demonstrate apricot-cooking methods and achievements in all places where consumers congregate. These are not new things and therefore we emphasize them confidently. Other producers' organizations pushing California fruits and fruit products have done them with excellent efficiency and surprisingly profitable results. The American people, as does none other on earth, chooses its foods in accordance with the suggestions of the eye and the judgment rather than by the limitations of the purse. Therefore, the field is free for conquest by the very best and most delicious things. One of these best things is the California grown and sun-cured apricot, and we as producers of it are not giving our product half a chance. We have made millions every year from this fruit and have seldom had a thankful thought, much less done a helpful deed for its achievement. It is our clear duty now to widen and smoothen its pathway to the future—for though the California apricot will have perhaps even a better foreign field than ever to traverse after the war, even greater things abroad will be easier to achieve from a wider basis of popularity at home. The outlook for the apricot is as good as ever, but just at the moment it needs a push!

More Help, Higher Prices Needed

Fifty per cent of next fall's crops will spoil if rains come early, says G. W. Whitman, one of the largest fruit growers of Contra Costa county. The season is two weeks later than normal anyway. "I have only one message for the farmers," says Mr. Whitman. "We must have more help. I have been using high school boys with previous farm experience and paying them men's wages, but they are at the shipyards now, making $4 per day and double pay for overtime. Few farmers can compete with the shipyards for labor. I don't believe in exempting farmers as a class from military duty; but we must have help from the outside during the war or food will waste and will cost everybody more. Last year we had twice the normal length of harvest season, but we can't count on that this year. If pears had risen in proportion to 250 articles listed in Bradstreets, we would get $93 per ton for them instead of the $70 we are fighting for."

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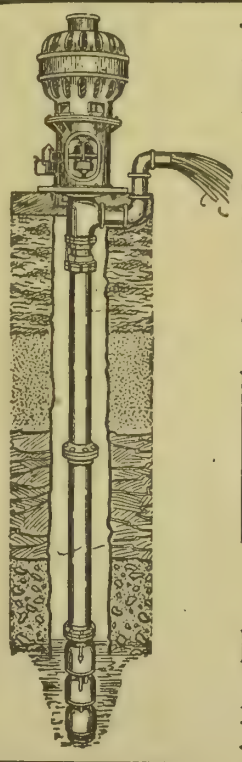

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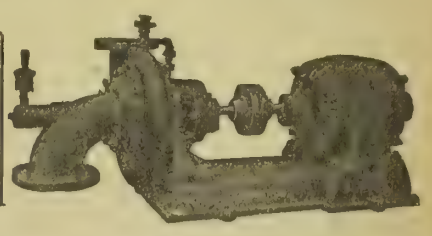

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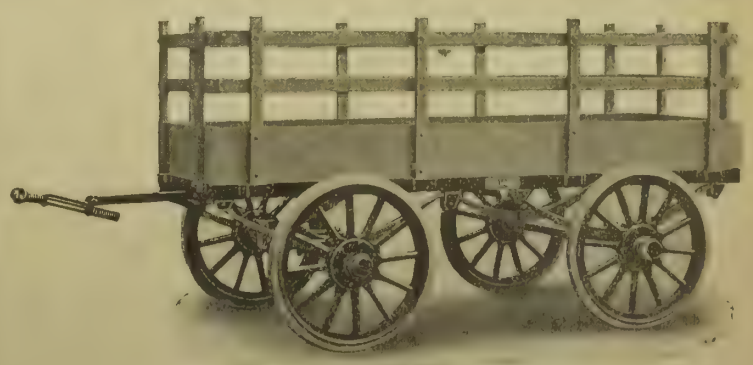

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Cantaloupe Production in Western States

[By R. C. Risser, Assistant Truck Crop Specialist.]

With a single exception, the most important truck crop grown in the Far Western States for Eastern shipment in the fresh state is cantaloupes. If we exclude the main crop of potatoes from consideration, there is no other perishable vegetable product, and but few other fruit products, which are moved to Eastern markets from Western fields in the volume which is made by shipments of cantaloupes. In round numbers there were shipped from the five States — California, Colorado, Arizona, New Mexico and Nevada — about 11,000 cars of this product in 1917. The best information at hand indicates that about half of the commercial production of the United States is from these five States and that considerably over half of that volume is from the one State, California.

SHIPPING SEASON.

During the summer season cantaloupes are of particular interest, as they form an important part of the straight car shipments handled under refrigeration from the West to the East. From June to October they are conspicuous on the principal markets of the United States. Beginning with the Imperial Valley of Southern California, which is the earliest extensive district in the country and also the largest one known to be in existence, the first straight cars start East between the middle of May and the 5th of June. The average date in the past five years, 1913 to 1918, inclusive, for the first car to roll has been May 25th, and May 25th was the date for this year also. The average date for the peak of shipments from this district in the same period of years was June 21st. The peak load this year was reached on the 18th. The average date for the last car to be shipped in the past five years is July 23d.

As the shipments from the Imperial Valley are on the decline, but before the entire crop has been moved, the Salt River Valley of Arizona begins moving its crop. The Imperial Valley does not have a long season, but in comparison with the Salt River Valley there is a striking difference, for the former has averaged 59 days for the past five years.

Following closely upon Arizona, the Moapa district of Nevada, the smallest of the districts, begins shipping some time in July. Almost coincidently with the Moapa Valley of Arizona the San Joaquin Valley of California, which now ranks second only to the Imperial Valley in acreage and shipments, begins to move its crop and the shipping period is well advanced by the time Arizona and Nevada finish. This valley's acreage is centered in the Turlock Irrigation District of Stanislaus county, but San Joaquin, Merced and Madera counties must be included in this general district as growers of cantaloupes. The season of the San Joaquin Valley is longer than any of the other districts. The height of the season is usually in advance of heavy shipments from New Mexico, which starts its first car early in August, and Colorado, which begins about the middle of the month. It starts normally about a month earlier than Colorado and continues well up into the fall.

YIELD.

The Turlock district is the highest yielding district and some have attributed this fact to the long season alone. Six hundred standard crates per acre are often obtained here, but the large individual acreages when put in fail to produce like the main area which is grown by small farmers. An instance which illustrates this principle occurred in 1917 Three large plantings aggregating 1,250 acres produced an equivalent of 112 standard crates per acre, or about a third of what the small plantings were making. A third factor which is significant is the variety. Honey Dews and Pink Meats, where successful, are yielding much larger crops than the ordinary netted varieties grown on the same land. Aside from these factors cultural methods, rotation with alfalfa and other means of soil improvement should not be lost sight of. Control of water in irrigation and other things pertaining to the care of the fields and varying with the individual growers have a material effect on production.

Facilities for handling the crop after it is grown have also been shown to be important in their bearing on shipments. A car shortage during the height of the season limited the shipments from Imperial in 1917 and a labor shortage during a period of abnormal rush limited the shipments from the valley in 1918.

Squash-Bug Prescription

[Written for Pacific Rural Press.]

As we have frequently noted, this pest is hard to beat. The Kern Farm Bureau Monthly says the following formula has given fairly good results:

Whale oil soap, 1 pound; coal oil, 1 quart; water, 6 gallons. Boil up the soap in a few quarts of water and remove from the stove. Then mix in the quart of coal oil, stirring vigorously. Add sufficient water to make six gallons.

Howard K. Dickson, instructor in agriculture at the Kerman Union High School in Fresno county, reports as follows:

"My best success was obtained by spraying before 8 o'clock in the morning or before the bugs leave the clusters around the base of the vine and scatter under the leaves. I find that repeating the spray on the bugs after about a minute's intermission from the first spraying gets a lot of them which are only slightly wetted the first time."

CURL LEAF IN PEACHES.

To the Editor: Curl leaf in peaches can be checked and in a few days the trees will look as thrifty as ever if sprayed with one and one-half ounces of formaldehyde to one gallon of water. As soon as a tree is sprayed, and while it is still wet, dust it with sulphur. If possible choose a warm, sunny, still forenoon for the work. We have used this treatment for two seasons with the best results.—Laura A. Davis, Lockeford.

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and help U. S. win the war

Authoritative tests have proved that as high as 50 per cent increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

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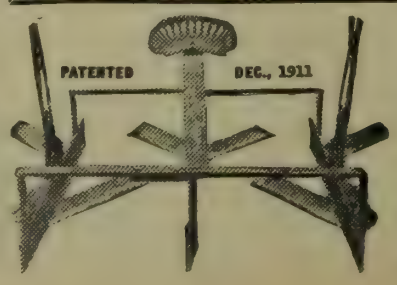

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Greatest weed killer on the market. Cuts them off clean, under the surface, close down to the roots. Besides, it breaks up the ground so thoroughly that one user says he saved $200 in a single season because after cutting the weeds he did not have to plow. Cuts seven feet or less. Weighs but 230 pounds. Cut adjustable to any depth. Constructed of steel throughout. No other implement like it.

WRITE FOR CIRCULAR which illustrates and describes the Sigurd Weed Cutter and contains letters from many users.

C. G. Sigurd, Manufacturer

Capital Ave. and McKee Road, San Jose, Cal.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Cottonseed Meal Prices.

An agreement on cottonseed meal prices was reached by the Food Administration with the mills in Imperial Valley last season on the cash basis of $55 a ton f. o. b. the mills in car lots. It was charged that the protein content soon became lower, but that was perhaps a mistake, as the irrigated Imperial Valley cotton does not produce as much oil or protein in the seed as unirrigated cotton in Texas. However, dissatisfaction existed and the Food Administration is now making efforts to get an agreement on price based on protein content. Meanwhile, anyone can get it by the carload at $55 per ton f. o. b. El Centro or $56 per ton plus the freight through commission men elsewhere. There is a considerable quantity left over, according to reliable advices. Buying direct from the mill saves the $1 per ton commission.

Standardization Increased Prices.

Standardization of onion shipments similar to that applied to fruit shipments by the State law was asked last season by Coachella Valley onion growers. No one had the necessary authority or money, but the State Horticultural Commissioner promised to send an inspector if the growers would organize and foot the bill. This was done, according to O. W. Newman of the commission, and a letter recently received from their secretary said that standardization had increased the price of onions 10c to 15c a sack over what it would have been this spring.

Pea Vine Silage Not Spoiled on Top.

"An experienced man told me that with pea vine silage I would have to expect a loss of nine feet on top," said Superintendent L. J. Kelley of the Shoreacres Dairy in Alameda county, recounting his first experience. "But I had a system of saving the upper layer of corn silage by covering it with a deep wet straw mulch. I tried it on the pea vines and the experienced man was surprised later to find not over an inch loss." It has been found impracticable to blow the chopped pea vines into their 46-foot silos, so a vertical bucket elevator carries them to a horizontal conveyor on top, which dumps them into whichever of the four silos may be ready for them.

Higher Prices for Secondary Products.

The producer of secondary products, such as pork, eggs, and milk, needs a higher price for his own product rather than a reduced price on his raw materials, according to Dean T. F. Hunt of the California College of Agriculture. While prices are rising, as at present, the exchange value of secondary products is less in proportion than that of primary products, such as grain, hay, etc. But it will be vice versa when prices drop if the producer of secondary products keeps at it that long.

Poisoning Gophers.

To the Editor: Gophers are the easiest animal to poison that I know of.

First get a rod of iron one half inch thick and fifteen inches long and pointed. Punch a hole in runway and drop squirrel poison in the half inch hole. You will get 90% of them the first time you go over ground and get the rest of them the next time you do the same. Do not close the punched hole. If you do the squirrel poison is no good.—Henry Hartmann, Livermore.

State Potato Law Needs Fixing.

Washington and Oregon send horticultural inspectors to California to prevent introduction of potato pests from this State to their own, but we are practically without protection of the same nature, writes W. V. Shear, who has been inspecting seed potatoes grown in California under our State law. He urges its amendment by the coming Legislature to finance greater efficiency and to include the study and protection of all important truck crops in the State.

First Crop Potatoes for Seed.

To the Editor: If the first crop potatoes are spread out on a dry, dark floor to dry for two weeks, then when they are sacked or put into open boxes a little dry sulphur is sprinkled over each layer, they can be kept for months. Have used them to plant the next spring with good results.—Laura A. Davis, Lockeford.

Sulphate of Ammonia on Grain.

A blindfolded man walking through the fields of rye, wheat, and oats on J. M. Salinger's ranch near Hopland could have told when he struck the plats where sulphate of ammonia were applied on top of the ground last February at various rates from 100 to 200 pounds per acre. The increase was remarkable.

Norwalk Tires

Note the increasing number of Norwalks on the road. Just one trial makes a motorist a Norwalk enthusiast. Give these mighty mileage makers a trial. It's the logical way to lower your mileage COST, as Norwalk users will tell you.

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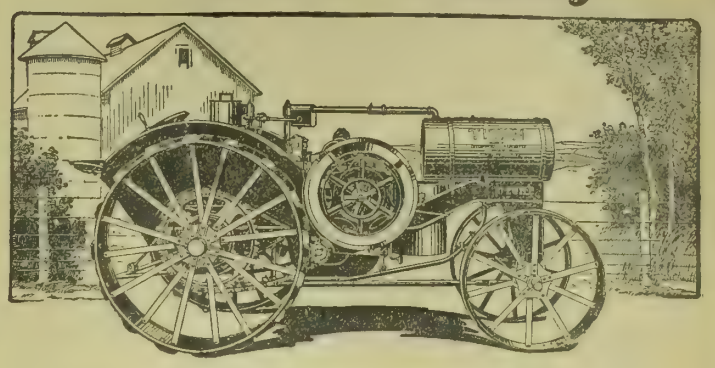

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One great advantage to farmers who buy our tractors is the fact that we can also supply all the implements and machines that go with the tractor. We know farm needs. Buying from us, you get a complete, well balanced outfit for field or belt work.

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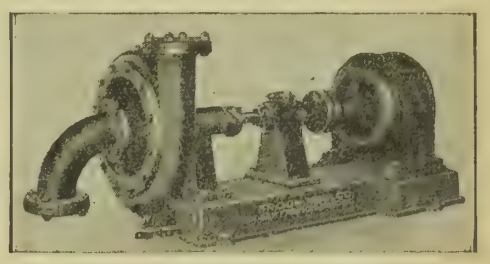

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Then again it is the most simple and dependable

Let us figure on your requirements

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General Agricultural Review

FAIR DATES.

Monterey county—Salinas, July 30 to August 3.
Mendocino county—Ukiah, August 5 to 10.
Humboldt county—Ferndale, August 19 to 24.
Napa county—Napa, August 23, 24, 25.
State Fair—Sacramento, August 31 to September 8.
Exposition—Oakland, September 9 to October 6.
Glenn county—Orland, September 15 to 21.
Kings county—Hanford, September 23 to 28.
Fresno county—Fresno, October 1 to 5.
Southern California Fair—Riverside, October 8 to 13.
Liberty Fair—Los Angeles, October 12 to 26.
Livestock Show—San Francisco, November 2 to 10.
Indio—Indio Fair, auspices Board of Trade, November 15-16.

Field Crops.

Grasshoppers have laid bare five hundred acres of wheat around Burney, Shasta county.

H. D. Pitner of Ukiah harvested 11 tons of shelled corn from eight acres which he had planted June 1.

In New Zealand the wheat crop will fall about 1,000,000 bushels short of the actual home consumption.

On account of dry weather and unfavorable growing conditions in California, the crop of garlic is short this year.

Alfalfa growers are joining the California Alfalfa Association in Fresno county. Many thousands of acres have been signed up.

The acreage of sweet potatoes planted in California this year is about equal to that of last and the growing condition is promising.

The forecast for the United States shows the oat crop will be less than a year ago, while the barley crop will be 21,000,000 bushels greater.

There was harvested in California last year an increase of 30,000 acres of potatoes over the year before. This year shows a falling off of 12,000 acres.

Sam Britton, grain broker of Marysville, has purchased the barley crop of Onstott Bros., consisting of 10,000 sacks. He paid $2.50 per hundred.

U. S. Agricultural Department cantaloupe experts advise against wrapping the melons. They also advise icing cantaloupes immediately after pulling them.

The hop acreage in this State has been cut down to about 10,500—1500 acres less than a year ago. The condition is good, giving promise of a yield of 15,500,000 pounds.

Imperial Valley farmers who held their barley because the price offered was only $2.15 and $2.18 were urged by Professor B. F. Cocheron, State leader of farm advisers, to sell.

The acreage sown to rice in this State shows an increase over last year of 28,000 acres. Taking all of the rice-producing States as a whole, there is an increase of 156,000 acres.

Some forty Kings county farmers are growing honey sorghum for silage and syrup and have planted out approximately 700 acres to it this year. There are prospects of a very good crop.

They are using a small combined harvester, drawn by eight horses, in the Ukiah Valley, manned by only two men—the driver and one to sew sacks—cutting about 20 acres per day. It seems to be just the machine for the small fields.

Potato shippers at Portland have been warned that if further shipment of potatoes affected by tuber moth are made an effort will be made to quarantine all California potatoes. A number of carloads have been destroyed at Puget Sound points.

The hot weather, which stopped the bean planting in unirrigated sections, has proven the salvation of the rice crop. This grain had been growing slowly up in the valley. With the first hot winds it began to flourish and a better than 100 per cent crop is looked for.

The cantaloupe season at Brawley closed on the 12th and for the Imperial Valley as a whole on the 15th. The quality and condition of the vines was far above the average of past seasons. The yield of shipping stock was higher per acre than last year, but lower than seasons two previous years.

Deciduous Fruits.

Northwestern pears should begin to move about the latter part of this month. It is estimated shipments will total 1200 or 1500 cars and the heavy movement will be on between the 10th and 15th of August.

More than 1000 girls in Oregon cities have been interested in light farm work by farm help specialists of the U. S. Department of Agriculture and are now being placed in the fruit districts of the State to assist in picking berries and fruit.

Canners are competing with the trade for the supply of raspberries, paying as high as $8 a crate for this fruit. The local retail trade finds it difficult to dispose of these berries at a profit, buying at the $8 figure, so the canners are getting most of the fruit.

Pitting of apricots in Orange and Ventura counties is in full force. The scale for this year is 30c per 100 pounds, or an increase of 5c over the general figure of last year. The fruit is larger this year than last and is in excellent shape. This will make it possible for the pitters to pit more pounds and with greater ease.

Dr. J. C. Whitten, professor of horticulture at the University of Missouri, has accepted the post of head of the division of pomology in the Agricultural College of the University of California. He is one of America's leading horticultural educators. Growers of deciduous fruits and nuts will be particularly interested in the University of California's latest acquisition to its faculty, for late figures given out by the United States Bureau of Markets show that these growers produced 18 per cent of all farm products grown in the State at a value of $99,000,000.

Citrus and Semi-Tropical.

The Board of Supervisors of San Bernardino county has appropriated a special fire fund of $2,900, which will be disbursed under the direction of the Forest Service of Los Angeles, to be used to keep fire out of those canyons which deliver irrigation water to the orange growers of the county.

Tulare county citrus growers have secured the services of Prof. W. P. Kelley of the faculty of the University of California, who will make a special study of San Joaquin Valley conditions and outline a scientific program for proper orchard culture. Growers have agreed to accept and give a thorough test to the methods to be recommended by Prof. Kelley.

Grapes.

General sentiment against packing any shot grapes was expressed at the recent Grape Standardization Conference.

It is estimated that San Joaquin

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Why pay two times as much for a steel sentry, besides double the freight, when a Pacific Redwood Tank will "fill the bill" on the up-to-date farm.

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A "Pacific" is always equipped ready for a call to duty. Once stationed, it *never* needs to be "relieved." In storm or sunshine it stands as a vanguard. Thousands of farms throughout the world have Pacific Tanks as their sole protection.

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No odor.

No flies or insects.

No weed seed or foreign matter.

Many times plant food values of ordinary manure.

Guaranteed contents.

Nitrogen, 1.5 to 2%.

Phos. Acid, P^2O^5, 1.25 to 2%.

Potash K^2O water soluble, 4 to 5%.

We are shipping GROZ-IT in immense quantities to Southern and Eastern states, where present freight rates make it $10 per ton more than cost to you. Place your order now to insure delivery.

Sold in bags or bulk.

Write for circular and prices.

Also ordinary Manure
in Carloads
Horse-Sheep-Cattle and Rotted Manures

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county will harvest this year 50,000 tons of wine grapes, 20,000 tons of table grapes to winery, and 30,000 tons of table grapes packed, and that this output should bring the growers about $2,000,000.

The first car of table grapes from the San Joaquin Valley left Fowler for the Eastern market last Sunday. The car passed the legal requirements of 17 per cent sugar by about two points. The grapes were in large and uniform bunches. A general movement to market is expected to follow this week.

Miscellaneous.

Argentina expects to have a surplus of 2,000,000 tons of maize corn of the crop of 1917-18 available for export.

William Oates of Lompoc, a honey man, says the present year is one of the most successful in the history of the bee business. His Lompoc apiaries were filled two or three times and his hives at Los Alamos did almost as well.

The third annual Napa County Fair will this year be held at Napa, August 23, 24 and 25, on the East Napa Pavilion grounds, where there are plenty of large shade trees to make the grounds attractive to visitors. The livestock exhibits promise to be exceptionally good. The display of agricultural products will be the finest that has ever been assembled in the county.

The Farmers' Lime Company of Placer county announces that it will have pulverized limestone ready for delivery on and after August 15. Bins are under construction at Rattlesnake quarry and a pulverizer will be installed shortly. The limestone at the quarry will be sold at $2.25 per ton. It will be delivered on ranches at 25c per ton per mile in truckloads. On board cars at Newcastle it will be $4 per ton.

STANISLAUS COUNTY NOTES.

There never has been a time since irrigation began in the Turlock and Modesto districts when crops looked as favorable as this year. The first crop of grain and hay that has been taken off went ahead of any crop yet grown. Forty sacks of barley to the acre was the best we heard of, and an average of five tons of barley and oat hay per 30 acres was the largest yield of hay.

The cantaloupe and watermelon crop is just coming on and will be in full blast when this is published. A large crop of both varieties is promised, with good prices. The acreage, however, is less than half what it was two years ago. A great many who had good melon ground chose to plant other crops of beans or corn, feeling that there was greater need for these staples.

The bean crop promises to be a big one. Estimates place it at 1000 acres more than last year for the two districts. Both the earlier and later plantings promise a big crop at this writing.

H. A. Stannerjohana of Turlock tried out five acres of string beans for seed last year. He did so well that this year he has 25 that look mighty good now.

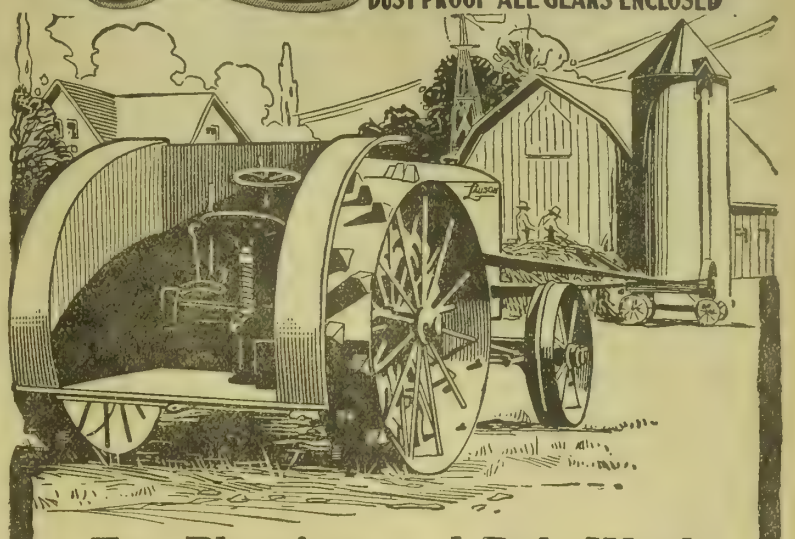
In April it was feared that the water would not hold out, but the cool weather of May kept back the snow so that there has been plenty of water. One more irrigation is expected this month.

No labor trouble has been experienced in the grain, alfalfa or other hay harvests. The greatest labor difficulty is getting milkers; $70 and $75 for a string of 25 cows is being offered. This shortage and the good prices of grain and other farm products is causing many of the dairymen to sell their cows.

There is not much fear in regard to labor for the melon crop. The city of Turlock is full of men waiting for the crop to come on. The cool nights of the last three weeks are holding the crop back some.

The best price offered for good plump barley has been $2.50 per 100 so far. Alfalfa is selling for $17 in the field.

The LAUSON 15-25
DUST PROOF-ALL GEARS ENCLOSED



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Most tractors are measured by their ability to *plow*. Field work is only *half* the work. Lauson farmer owners now look upon the Lawson 15-25 as a *power unit* for doing all the heavy work on the farm.

—for plowing, discing and seeding.
—for keeping up the country roads, pulling grader and running crusher.
—for running the silo cutter, hay baler or grain separator.

Lauson tractors are bought on performance and reputation. Send for complete information and specifications. Very often the *saving* pays for the Lauson in one season.

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Voters Attention!

In November another "Single Tax" bill comes up.

It has been defeated three times in our State.

It removes all taxes from buildings, bonds, stocks, franchises, corporations and all other personal property, placing the entire burden on LAND.

Farmers beware. Vote NO.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

MOST CONVENIENT HAY AND STRAW CHOPPING.

Pea straw is a by-product in the districts where peas are grown for market, for canning or for seed. In this year of more cattle than feed in California the Food Administration is making every effort to have all roughage saved. But is pea straw worth anything for feed?

For three years the Shoreacres Dairy at San Leandro has used a mixture of one part chopped pea straw to four parts chopped alfalfa, feeding it dry with silage to as many as 300 cattle at once. They had 400 tons of the chop last year and will have 600 tons this year. The same thing could be done on a smaller scale.

The hay and straw are stacked endwise to the big storage and feed barn in stacks 150 feet long and 8 or 10 feet apart. The barn consists of the ground feeding floor over which is the wood floor of the storage room for chopped roughage. Six double mangers cross the feed floor. Chutes lead into these from 18-inch square holes in the floor above. Vertical chutes in sections about four feet long are set securely over these holes from above and are built up with additional sections as the storage room is filled. Always in throwing chop to the cattle below it can be pitched downward by this system. Two other holes in the floor and chutes over them are located over a driveway so wagons can be loaded below in the same way.

It is in chopping the hay that the system excels most others we have seen. A 36-inch feed chopper is mounted on a truck with a 25-horsepower electric motor, which is removable for other work as needed. This outfit is set first between the far ends of two of the 150-foot stacks, moving forward as it eats them up, and blowing the chop through a long pipe into the storage room. "It's a fine machine—has an awful appetite," says Superintendent L. J. Kelley. Twenty horsepower operated it last year, but a 25-horsepower motor has been installed for the present season. The hay and straw are pulled from the stacks onto the machine platform with a Schmeiser hay derrick, eliminating a lot of hand pitching.

POWER ADMINISTRATOR ASKS NIGHT PUMPING.

A State Power Administrator has been appointed, with authority to increase or curtail output and distribution of electric power by the various companies, including the Pacific Gas and Electric Co., the Great Western, Sierra and San Francisco, Western States, Coast Counties, California-Oregon, and Northern California Power Company. H. G. Butler, who has been appointed, says there is no prospect that a priority list will have to be made, but if electricity gets scarce non-essential industries may have to be cut off temporarily. Irrigation cannot, of course, be classed as a non-essential, but it is urgently requested that farmers do as much as possible of their irrigation pumping at night. Here is where good reservoirs will help win the war. Mr. Butler's office is with the State Railroad Commission in San Francisco.

BUYING WATER.

To the Editor: I have 15 acres of two-year prune trees to irrigate from my neighbor's well. How shall we settle on the cost of the water? He pays $6 per horsepower per year on a 15-horsepower motor and has all the water two persons can handle. I simply want an approximate cost without measuring the water.—H. R. H., E. Oakland.

If you can use the water when it will not discommode your neighbor, the following basis of figuring ought to be fair, if his plant was originally installed for his own use only: Find the cost of his installation and the number of days he uses it per year for himself. Find how much interest and power cost per day of actual use he would have to charge himself if he did not sell any water. You can afford to pay him this amount per day while you are using his outfit, and he can very well afford to charge no more, as it is practically all velvet for him.

MOTOR TRUCKS FOOD CARRIERS.

A motor truck manufacturer asked W. J. Shotwell, traffic director of the Food Administration, to use his influence to get priority of shipment for certain material needed in the trucks. "I would suggest," said Mr. Shotwell, "that you write us a letter stating that all the material for which you ask priority will be used in the manufacture of trucks for the purpose of hauling food from the farms or distributing it in the cities or in hauling needed supplies back to the farms. On that ground we can recommend priority. The truckmaker asserted that it would be easy to guarantee that, for most of their trucks were sold to farmers or for rural package delivery routes, etc.

CLEARING STUMPS WITH DYNAMITE.

The spirit of the pioneer is not dead with us yet, for we find the farmers of the Anderson Valley, Mendocino county, clearing land so heavily timbered that it requires 60 to 75 sticks of dynamite to blow out some of the stumps and costing about $100 per acre to clear it. The cost, however, is largely returned by converting the timber into cross ties, for which the railroads pay a good price.

WEATHER HURTS BELTS.

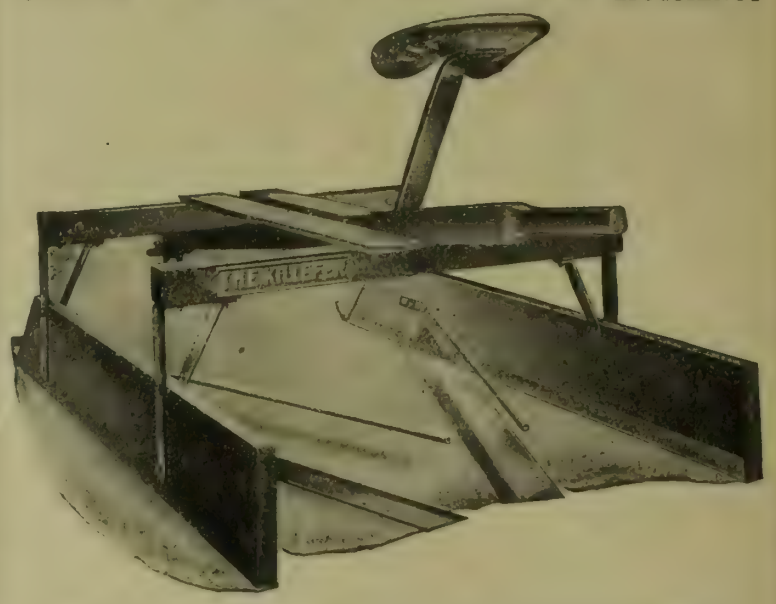
Belts cost money and are much shorter lived if left out in all kinds of weather. Pump belts ought to be rolled up and put away dry in winter. Hot summer sun does not hurt them while running, but a shade over the belt will pay for itself because the sun will soon damage any belt standing still.

The looser a belt can be run between parallel pulleys the greater will be the contact on their surfaces, more power can be delivered, less strain will be put on the bearings, and the belt will last 20 to 25 per cent longer than if run tight.

KILLEFER QUALITY

BEAN CUTTER

KILLEFER EFFICIENCY



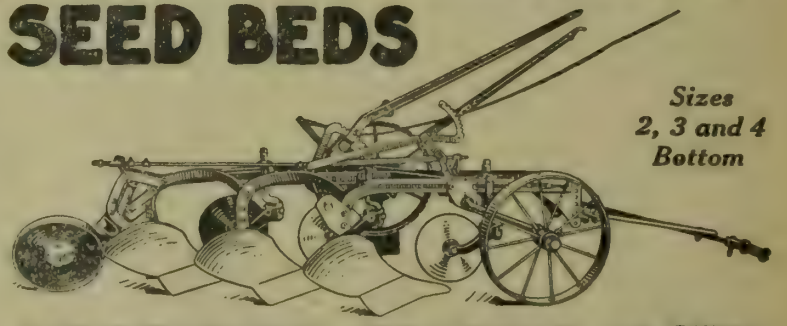
There will be a big demand for Bean Cutters this year and when the time comes they will be needed quickly. Do not delay putting in your order now for what you need in this line, also for extra blades.

We build two weights of sled cutter, the one shown above being our regular wood frame cutter. For heavy ground where a stronger cutter is required, we make a steel arch frame at an additional cost of five dollars. Give your order to your dealer and insist upon having the Killefer Bean Cutter. Send for catalogue.

The Killefer Manufacturing Co.

2209-21 Santa Fe Ave. Box 156 Arcade P. O. Los Angeles, Cal.

BE PARTICULAR ABOUT SEED BEDS



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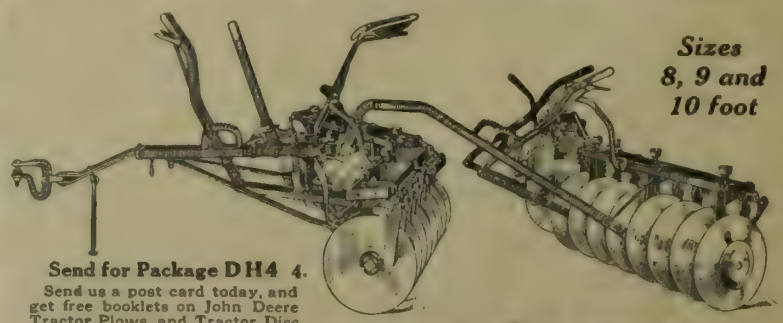
JOHN DEERE TRACTOR PLOWS AND TRACTOR DISC HARROWS

It pays to be particular about your seed beds. They are the basis of your profits. A little difference in your seed-bed-making at the beginning of the crop season often makes a big difference in your profit-taking at the end of the crop season.

It's just as easy to make good seed beds behind your tractor as it is to make seed beds that are "just fair." Use a *John Deere Tractor Plow* and a *John Deere Tractor Disc Harrow*. They can be relied on for the best of seed beds. They have special advantages that have proved themselves in thousands of fields.

See these better seed-bed making implements at your John Deere dealer's. He can furnish sizes to suit your Tractor.



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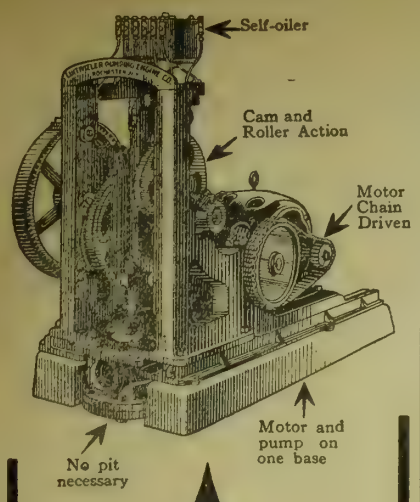
Send us a post card today, and get free booklets on John Deere Tractor Plows and Tractor Disc Harrows, and our big free book *"Better Farm Implements and How to Use Them."*

JOHN DEERE, Moline, Illinois



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OPERATE ON 10 TO 25 PER CENT LESS POWER.

For Following Service
Irrigation.
Hydro-pneumatic pressure systems.
(Manual or automatic.)

TYPES
Chain Driven.
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Owing to the great demand for Luitwieler Pumps orders should be placed at once. We still have a few sizes in stock for immediate delivery. Advance orders now accepted for delivery in near future.

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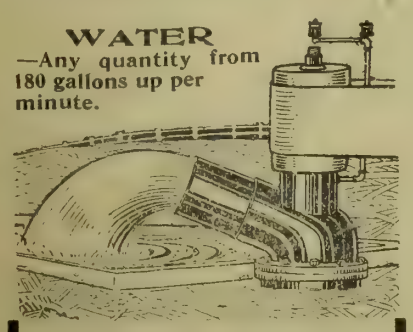
Los Angeles.
A. A. BARTON, General Manager.

WATER
—Any quantity from 180 gallons up per minute.



Layne & Bowler PUMP Features

Efficient oiling system.
Enclosed shafting.
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Centrifugal motion.
Steady even delivery.
Simple, accessible parts.
No intricate adjustments.
All parts in balance.
No pit required.

ASK FOR CATALOG No. 25

LAYNE & BOWLER CORPORATION
900 Santa Fe Ave., Los Angeles

AUXILIARY HARVESTER ENGINES.

To the Editor: We are sending 2500 harvester-threshers this year into California, Washington, Oregon, Utah, Colorado, Montana, Kansas, and Nebraska. By far the greater number are going to California, Washington, Oregon, Utah, and Colorado. Of these 2500 McCormick and Deering harvester-threshers, 1600 have been equipped with 15-horsepower auxiliary engines. The auxiliary engines operate both the cutting and threshing mechanism, making it necessary to use only enough draft power to pull the dead weight of the machine over the ground, which means about half as much power as needed both to pull and operate the harvester-thresher.

So popular have these auxiliary engines become that the general office of the harvester company at Chicago has just received a wire from the Portland branch house asking if it would be possible to ship in the neighborhood of a hundred more of the auxiliary engines by express. The company is advising against this method of sending the engines, as it will cost between $65 and $70 more to send each engine by express than by freight. Whether this will have any weight with the farmers remains to be seen.

Two men with a harvester-thresher and a tractor or eight to twelve horses can harvest, thresh, and bag fifteen to twenty acres a day. If the harvester-thresher is equipped with an auxiliary engine, six horses are all that are necessary or a 10-20-horsepower tractor is sufficiently large to draw the machine. The harvester-thresher puts all the grain into bags and all the straw back on the ground. It separates weed seed and collects it in a separate compartment, so that the farmer does not sow weeds when he uses a harvester-thresher.

It is interesting in this year, when horse power and man power are so scarce, to compare the cost of the various methods of threshing. The following average estimate has been made on good authority: The average cost of harvesting grain with a binder and shocking or stacking the grain, later to have it threshed by a stationary thresher, is estimated at 13½c a bushel. Harvesting the grain with a header, stacking it and stationary threshing is estimated to cost on an average 11½c a bushel. With a 9-foot combined harvester-thresher the average cost of harvesting and threshing grain is estimated at 3c a bushel—a cost of less than one-third of any other practiced method of harvesting and threshing.—International Harvester Co., Chicago.

POWER NOTES.

T. S. Glide of Davis has used a silage cutter for six years with a hay chopping attachment and "would not now feed hay any other way."

Automobile trucks had proved profitable in moving freight before the railway rate increase went into effect. Now they should be 25 per cent more profitable.

Robert Jardine of Glenn recently drove his automobile with a trailer down to J. R. Bloom's ranch at Dixon and took a trailer load of purebred Shropshire sheep back home with him.

A 5-horsepower electric motor runs a 1½-ton ice machine for A. E. Slater of Pacheco. This pumps cold brine through a milk cooler, which often freezes a little of the milk. It also keeps a refrigerator of 30 milk cans capacity near to freezing point.

Where a belt is twisted as on a vertical centrifugal pump, the greater the speed the less bearing the belt will have on the pump belt wheel and the less power it can exert on the pump. This loss can be largely prevented by setting the engine more than 25 feet from the pump.

Speed up with Electric Power

"Production and Not Acreage is the Measure of Profit"

HERE are some of the ways in which modern industry has been speeded up by putting electric power to work in the right place.

Metal mines have boosted output to meet world-wide demands. Great central power plants in place of small local plants in coal mining areas now supply cheaper electric power per ton output for each mine. All tonnage records have been smashed in the steel industry. Greater automobile output has lowered prices and given better road transportation. More and better cloth has been produced at lower power costs.

Through the use of electric motors many farmers are also securing the high production obtained in the big manufacturing industri

Over 200,000 H.P. in G-E motors is now at work in this way on the Pacific coast.

2500 G-E Motor Agents throughout the country are ready to help you reap the benefits of doing your work the electrical way.

G-E Motor Drive
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General Office, Schenectady N.Y. Sales Offices in all large cities
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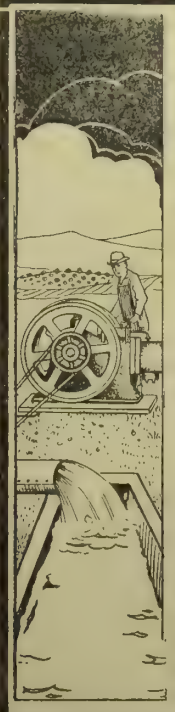

Dependable Pumping Plants

When you install a pumping plant you want water—plenty of water—full rated production and more if possible. And that's what you get when you install

American Centrifugal Pumps

These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

Write for Catalog

—which illustrates and describes the entire line of American Pumps and proves their advantages beyond a question. The American Catalog points the way to irrigation efficiency.

—Horizontal Pumps
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Twice the Power at Half the Cost
Sizes 2 to 30H-P.--Select Your Own Terms -- Direct-from-Factory prices. Write your own order--Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE by return mail. Postpaid.
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2860 Oakland Ave., Kansas City, Mo.
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Money Back If not satisfied on my New 90 Day Engine Offer

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Stanislaus county has appointed a county dairy inspector.

A. C. Sturgeon of Tulare is building a new silo on his ranch.

The J. H. Harlan Co. is preparing a nice herd for the State Fair.

On the 15th of this month milk condensaries in Washington advanced the price of raw milk from $2.25 to $2.40.

Gyp corn is usually cut twice in the summer for green feed or hay and is then pastured to cattle by T. D. Carneal of Livermore.

A. M. Bibens of Modesto reports the sale of four young bulls, one going to M. S. Brown of Fort Bragg, one to Mr. Kirt and two to Burt L. Kace of Modesto.

R. L. Holmes of Modesto is well pleased with the nine head of Holsteins he bought at the last Sacramento sale. He will show about ten head at the State Fair.

Two months dry, putting on flesh, then a period in the test stable and the rest of ten months being milked in the regular "work herd" is the program aimed at for the Palo Alto Stock Farm Holsteins and Guernseys.

W. J. Higdon of Tulare has a junior two-year-old Holstein heifer which is making a good long-distance record. Her name is Madrigal Mookie 2nd. She has produced over 13,000 pounds of milk and 480 pounds of butter in six months.

Corn for silage is planted in July after peas for seed have been harvested on the Shoreacres Dairy along San Francisco Bay. This corn is almost mature enough by Thanksgiving and is usually frosted, but that does not hurt except by loss of some leaves.

"I can look back now from my daily milk records and see which bulls I kept too long and which ones I sold too soon," says J. M. Christen of Pacheco. "It takes practically no time to weigh the milk and record it for each cow, but I see where the records can be used in breeding."

The American cow contributed $100,000,000 worth of her products to the exports of the United States in the last year. The value of the condensed milk exported from the United States in the fiscal year 1918 actually exceeds the value of all the condensed milk produced in the entire country in 1914.

Tilly Alcartra of the A. W. Morris & Sons herd has completed the first six months of her year, making 18,750 pounds milk and 775 pounds butter, an average of over 100 pounds milk and nearly 4¼ pounds butter per day. Her production for the year will undoubtedly very materially exceed her three previous yearly records, one of which was over 1040 pounds and two over 1190 pounds. Tilly is the greatest long-distance producer in the world.

Beef Cattle.

The 1000 head of Herefords and Shorthorns belonging to L. Rankin of Onyx look well and have plenty of feed.

Chas. L. Weaver of Tulare reports the sale of two Shorthorn bulls to R. C. Hyde of Visalia and ten head to the John Heinlen Ranch Company of Lemoore.

Dr. J. P. Iverson, now in charge of the State Cattle Protection Board, was endorsed unanimously by the California Cattlemen's Convention as successor to State Veterinarian Chas. Keane, who resigned some weeks ago.

A correspondent writes that feed conditions in the northern and eastern parts of the State are not good, and that many head will have to be driven out. Hay at McArthur, he says, is worth $22 a ton in the shock.

The Tagus Ranch of Tulare is feeding 80 head of calves for baby beef and is experimenting on all of the beef breeds. It also has 1500 head of regular butcher stock to put on the market this fall and winter.

If you want corn silage for fattening purposes, let the corn get ripe and add water when cutting it for silage, says Jas. McDonald of the Ormondale Co., who feeds silage from 20 acres to his 65 registered Shorthorns.

More baby beef and steers weighing not over 1100 pounds should be marketed in these war times as urged by Jos. P. Cotton, meat buyer for the allies. Putting fancy meat on steers takes too much feed per pound of the meat.

In 1914 we were shipping 3,000,000 pounds of beef meat to Europe in a month. A year ago we shipped 23,000,000 pounds in a month. Last month we shipped 130,000,000 pounds to Europe, said Food Administrator Ralph Merritt to the California Cattlemen's Convention, June 28.

The California State Cattlemen's Association held their annual meeting July 19 at Salinas. Many live questions were taken up for discussion. The association is wide-awake to the present feed shortage emergency and is cordially co-operating with the Government in its effort at co-ordinating the activities of the cattle interests of the country with military requirements.

Swine and Swinemen.

The next sale of the Kings County Poland-China Breeders' Association will be held on October 9.

J. E. Thorp of Lockeford has 20 head of registered Jerseys and is fitting several of them for the State Fair. He also has some extra good Durocs which he intends to exhibit.

The Animal Husbandry Department of the Bureau of Animal Industry is assured that the campaign to increase pork production at least 15 per cent over last year has been successful.

Distillate and crude oil mixed in equal quantities and sprinkled over the backs of hogs at the trough will get all the lice, if done repeatedly, as practiced on the Castleview Ranch at Santa Rosa.

Better care with a smaller herd is A. L. Tubbs' philosophy with his Yorkshire herd at Calistoga. He keeps six or eight of the best breeding sows and two boars every year. These give him 100 to 150 pigs per year, as the average is ten or twelve per litter.

At a meeting of Kings County Poland-China Breeders' Association last week six new members were added to the list. It was decided to hold four consignment sales a year instead of two as in the past. The next sale is set for October 9 and all hogs offered will be passed upon for fitness by a committee appointed by the president. Kings county Poland-China men have through this organization made the fame of their square dealing and good animals spread far and wide.

A record number of entries has been made in the swine futurity events of the 1918 California State Fair's livestock show. Twenty-three herds have been nominated by leading breeders of the State for the 1918 Poland-China Futurity and nearly as many for the 1918 Duroc-Jersey Futurity. Competitions in the Poland-China event will be for senior pigs, junior pigs and litters, with cash prizes totaling $600 guaranteed by the American Poland-China Record Association. The Duroc-Jersey Futurity is for spring pigs farrowed since March 1, 1918. The prizes aggregate $400 and are guaranteed by the National Duroc-Jersey Record Association.

Serviceable Holstein Bulls

Best of Breeding at Bargain Prices

Why not head the herd with a son of **KING MEAD OF RIVERSIDE**, one of the very greatest proven sires of the Holstein breed. During the past year two of his daughters have completed strictly official year's records of 1215 and 1331 pounds butter, the latter record standing as the world's strictly official record. All of his daughters that have been tested for the year average over four per cent butter fat, which can be said of no other sire of the breed with over five tested daughters.

We can offer sons of this great sire as low as $250.00 out of well bred cows with high A. R. O. records. The dams of several of these have records above 800 pounds butter. His sons are all good individuals.

Also offer a few excellent sons of **KING MORCO ALCARTRA**, whose dam, **TILLY ALCARTRA**, is the greatest long distance producer in the world. She is now making the greatest record of her career, having produced in the first six months 18,750 pounds milk and 775 pounds butter. This is her fourth consecutive year above 1040 pounds butter, three of which will be above 1190 pounds.

Have also two or three very fine sons of **SIR AAGGIE DE KOL ACME** at serviceable age from high record dams. **SIR AAGGIE** is out of **AAGGIE ACME OF RIVERSIDE 2D**, holder of the world's strictly official yearly record and the two-year-old record of 2426 pounds.

We are offering these young sires at surprisingly low figures, and no dairyman should overlook the opportunity. Their pedigrees and prices will be mailed on request.

A. W. Morris & Sons Corporation

Woodland, California

Cotton Seed Cake or Meal. Grain of all Kinds.

When wanting Cotton Seed Cake or Meal—Write or Wire us.
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Shorthorns and Berkshires

At this time we are having a great demand for Berkshires, and while we are pretty well sold down, yet we can supply your wants. Write for prices.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

Dairy Shorthorns for Milk and Beef

Dairy Shorthorns lead in butterfat production in many cow-testing association reports. Their calves make fine beef more economically than other dairy breeds. Dairy Shorthorns are the best breed to range hills and stubble for roughage where help is scarce. My young bulls can increase the production of your herd when their calves come to milking age. Write for details of a few bulls I have to sell.

W. T. ROBERTS, Prop. **Willow Brook Farm** PENN GROVE, CAL.

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HOPLAND, CAL.

Shorthorns and Berkshires

WRITE FOR FULL PARTICULARS

San Francisco Office: 226 Southern Pacific Building

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

Sheep.

Many sheepmen in the northeastern part of the State are not breeding their ewes this season, figuring that in the present scarcity of feed they stand a better chance of carrying their unbred ewes through on the desert.

Sheep growing in Stanislaus county is to be given an impetus by the County Farm Bureau through a campaign soon to be launched to put at least one sheep on every ranch and to pool the crop of wool clipped the present season for shipment to Portland under consignment to the Government.

Chas. A. Kimble, who has built up a large business in breeding of fine sheep, reports the following shipments of Rambouillet bucks made recently: One car to Galitain Sheep Co. at Red Bluff, two cars to the Donnel Sheep Co. at Rawlins, Wyo., four cars to Pyramid Land and Stock Co. at Reno, Nev., and one car to D. L. Waltz at Stockton.

Professor Robert F. Miller, sheep and wool specialist of the University Farm, Davis, has been appointed as California's representative in the wool division of the War Industries Board by the chief of the wool division, Lewis Penwell, Washington, D. C., and for information regarding the disposal of the present wool clip growers should communicate with Professor Miller at Davis, Cal.

Livestock Miscellaneous.

Copies of the proposed rules by which livestock markets are to be operated since July 25, under the control of the Department of Agriculture, have been issued. No charge is made for licenses, which must be secured by all commission houses, order buyers and traders.

Manager Joseph E. Painter of the California International Livestock Show is leaving for Denver Saturday to meet D. Schilling of Chicago for the purpose of discussing with him matters of detail regarding the Horse Show and the possibilities of securing some Eastern stables for the exhibition. Mr. Painter will bring his family with him on his return from Denver. Exhibitors are already announcing their intention of exhibiting at San Francisco. Otto V. Battles of Congdon & Battles, Yakima, Wash., writes assuring Mr. Painter that they will exhibit their celebrated Aberdeen-Angus show herd at San Francisco, then at Portland, and then the herd will be shipped to the International Livestock Exhibition at Chicago. Congdon & Battles are not only the largest breeders of Aberdeen-Angus cattle in the United States, but maintain the best show herd, which was undefeated anywhere in the 1917 shows.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

HAVING RECEIVED SHIPMENT of several fine gilts from the East, will offer three fine gilts and one sow bred for late farrow. Good ones at fair prices. Booking orders now for spring farrow from the finest bunch of sows we ever owned, and the Great Big Bone Bob. Young & Clark, Lodi, Cal.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

BIG TYPE POLAND-CHINAS—See us at the State Fair with 16 pigs sired by Model Wonder, Reserved Grand Champion of 1917. We have two good boars of serviceable age for sale. Write us. Dimmick Bros., Box 811, Lemoore, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

POLAND-CHINAS, BIG TYPE—Have some exceptionally fine weanlings for sale from big-bone sows and Favorite Best, a wonderful boar. Write Grant Bros., R. R. K., B. 46, Fresno.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings county, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

Chester Whites.

"BILLIKEN" CHESTER WHITES — The Easy Feeding Mellow Type. All bred sows and gilts are sold. I have 15 gilts that were farrowed in May, 1917. These will be bred for September farrow. All are sired by Billiken. One young service boar that is just 13 months old. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

BERKSHIRE GILT FOR SALE—An outstanding pig, just old enough to breed; guaranteed to please. Glenwood Acres Stock Farm, Paso Robles, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

MODEL HERD BERKSHIRES — Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, Box 724, W. Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

FOR SALE—Two King Colonel yearling boars sired by King Colonel, dam Crimson Wonder. Good enough to head any breeder's herd. Price $200. Two very typey fall boars and several fall gilts. H. P. Slocum & Son, Willows, Cal.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

RANCHO DEL SUR DUROCS—An exceptionally good December boar. Also few spring boars and gilts. Donald Graham, Lancaster, Cal.

FOR SALE—Boar, J. K.'s Model Chief, under two years; sire, Model Chief; dam, Beauty I Am. Price, $100.00. J. Stith, Hollister.

BOUDIER DUROCS sold out excepting some choice boars ready for service. Breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

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TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—4 Holstein-Friesian bulls from 8 to 18 months old. Pedigreed stock. Fine individuals. Will be registered on sale. Geo. C. Roeding Co., Fresno, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

Jerseys.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

Guernseys.

FOUNDATION HERD A. R. GUERNSEYS—Two head A. R. cows and young bull; dam 654 b. f. and three-year-old sister 684 lbs. Address "Inquiries," 511 First National Bank Bldg., Berkeley, Cal.

HIDDEN VALLEY FARM GUERNSEYS—Herd headed by Argies Prince, first prize at Sacramento, 1917. Bull calves for sale. A. J. Welch, Redwood City, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

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BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Mayfield, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy. $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

WRAY BROTHERS, Davis, California—Breeders of registered Hampshire sheep. Some fine ram lambs for sale. Walnut Hall stock

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

FOR SALE—315 head of Angora goats, 195 nannies, 40 wethers, and 80 kids. Address, P. O. B. 53, Cloverdale, Cal.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

HORSES AND MARES for sale. Address Thos. C. Still, La Panza, San Luis Obispo county, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

Fitting and Showing Cattle

(Continued from page 76.)

loose. Give the animals plenty of bedding and after watering and feeding lightly let them rest until the following morning.

PREPARATIONS FOR SHOW DAY.

Go to bed early yourself, too, for you will have a great deal to do before show day. First of all, each animal must be washed. Of course, no grooming was done on the road, so the cattle will be badly gummed up with sweat and stained from the shipment. The washing should be done as early as possible, for it removes the oil from the pores of the hide and from the hair, and considerable brushing and rubbing will be required to bring out more oil so that the hide will show quality and the hair have a silky appearance.

After this first washing, brushing and rubbing usually suffices until show day, except that the tails should be washed out each morning, and any stains gotten during the night should be washed off. But watch the herd carefully and try to remove all manure as soon as it is dropped. In many cases someone is on watch all night to keep the bedding under the animals and the manure away, and the time is most profitably spent. The animals should be taken out each day for a little exercise, and if possible taken into the arena to stand and pose, so that when they go in to show they will be accustomed to the surroundings.

PUTTING ON THE FINISHING TOUCHES.

One of the final touches in fitting is the polishing of the horns. This should be done the night before the judging, as the effect will be more pronounced and the animals will have no chance of disfiguring or marring themselves before appearing in the ring. First scrape off the outside scale with a sharp knife. Be careful not to cut too deeply, as the shell is quite thin. Next round off all sharp edges with a wood rasp. Then scrape with glass to remove the rasp marks. Follow this with sandpaper to make the horn smooth, and finish up with emery paper. To polish, use three strips of cotton flannel. With the first strip use pumice stone and sweet oil, and see-saw the horn for about four minutes. With the second strip repeat the operation, using oil alone. Use the third strip dry, and continue the rubbing until a "piano finish" comes.

The night before the show the tail should be washed out and braided, making about a dozen small, tight braids, starting at the top of the switch and braiding around until the switch is finished.

The grain feed should be light the morning and night before showing, adding an extra amount of salt to each feed, so that when the animals are watered just before going into the show ring they will drink an extra amount. Milk them out clean the night before showing, and not again until after showing.

SHOW DAY PROGRAM.

Show day will be a very busy one, and you should get started early. Exercise the animals earlier than usual; clean the barns more quickly; groom more rapidly. Feed carefully, and if possible by a little change in feed get the animals to eat more, so as to improve the appearance of both width and depth.

Just before the animals go into the ring, give them a final and very careful grooming over. Comb out the tails, opening the braids with your fingers, running them through the hair, taking apart any tangles, and then use a comb carefully so as not to pull out any hairs.

RING CRAFT.

It is now up to you to see that the strong points of the animal will be prominent and that the weaker ones will be covered up as much as possible. If the animal has a sway back, the defect will show less when the forefeet and hindfeet are nearer together. If the back is inclined to arch too much, a sharp touch over the raised part will cause it to be dropped.

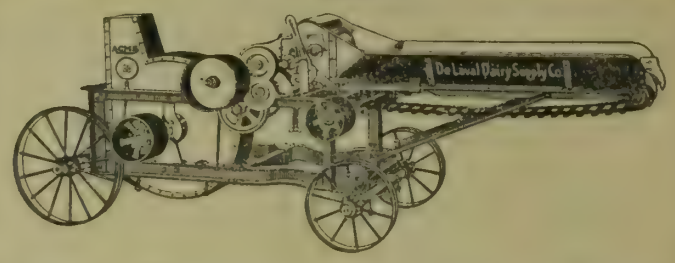
When the judge examines the hide on one side move the animal's head in that direction. This tends to loosen the skin so that it will not be tight over the ribs, and you know mellowness of hide is one of the desirable qualities sought.

Don't forget the feet, and watch the udder, too, to see that it is showing to the best possible advantage. Keep the animal up at all times, even when the judge is at the other end of the line.

Go into the show ring determined to win, and here's hoping that you do. But if you are defeated, take your medicine like a true sportsman. There is only one first prize, and the animal that gets it is the best entry in the opinion of the judge. If you can't agree with him, at least be man enough to abide by his decision without quibbling.

So, if you are defeated, take it in the right spirit. Find out in what respects your animals failed to please the judge and go home determined to overcome these faults. Say to yourself, "I'm coming back next year, and I'm surely going to win." And you will if you work with your herd in that attitude throughout the year.

ACME



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Steel Frame Construction
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THE knives of the Acme produce a clean cut silage of even lengths that packs well in the silo. The ALL STEEL FRAME adds strength and durability to the machine: Prevents wear and vibration by holding all bearings in perfect alignment. Can't warp or sag. Strongly riveted—no bolts to jar loose.

A size for every Dairy—Catalog on Request.

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IDEAL GREEN FEED SILOS ALPHA ENGINES
61 Beale St., San Francisco.

Put the Best Blood in Your Herd

The cow making the highest official yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America (and it is the world's official record for one year) is Aaggie Acme of Riverside 2nd. She is out of the same dam as our senior herd sire.

Prince Riverside Walker

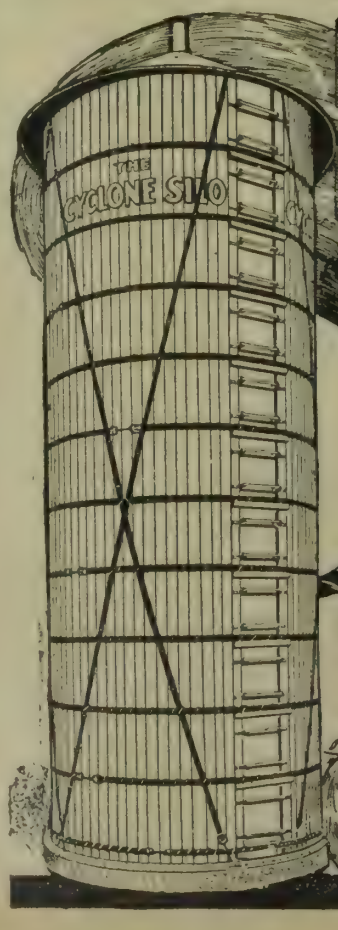
The junior three year old heifer making the highest yearly butter record for 1917-1918 as shown by the report just issued by the Holstein-Friesian Association of America, is Miss Valley Mead De Kol Walker. She is by the same sire as our senior herd sire, PRINCE RIVERSIDE WALKER.

Buy your herd sire in the blood lines that are doing things TODAY and that will increase in value in the records they are bound to make in the TOMORROW. We have just a few good bull calves by PRINCE RIVERSIDE WALKER, out of splendid dams. They move young at our prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED

Tulare Holstein Farm

W. J. HIGDON, Owner TULARE, CAL. H. L. REDD, Herdsman



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Investigate silos and silo uses thoroughly—then you will realize that you cannot afford to feed stock without a silo. We have supplied wood tanks and wood stave pipe in all parts of the world for 25 years and NOW WE HAVE COMPLETED OUR SILO—it's the silo you will want for your farm—we call it

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COUPON P-R-P

NATIONAL TANK & PIPE CO.,
275-D Oak Street,
Portland, Oregon.

Dear Sir: Please send me your Silo Feed Book and information about the CYCLONE SILO.

Name .....

Address .....

Fall Fair Entry Questions

To the Editor: What are the entry fees, the closing dates for entry, and the base dates from which the ages of animals are calculated for entry at the State Fair?—Subscriber.

Address Secretary State Agricultural Society, Sacramento, for premium list, which gives this information. Applications for entry must be accompanied by $5 to apply toward entry fees, or rental, and the cost of exhibitor's ticket. Entry fees are as follows: Horses and cattle per entry in each section, $1; sheep, goats, and swine per head, 50c (with minimum charge of $1 per pen used); dairy products per entry, $1; poultry and pet stock, $1 for each $5 worth of premiums or fraction thereof offered. Closing dates are August 1 for livestock, except actual names of get of sire and produce of dam; August 26 for poultry, and August 30 for dairy products. The base date for computing ages of horses, asses, and mules is January 1; for beef cattle September 1 and January 1; for dairy cattle August 1 and February 1; for sheep and goats January 1; for swine September 1 and March 1.

LIBERTY FAIR STOCK ENTRIES.

Entry fees for the livestock show to be held at the California Liberty Fair in Los Angeles, October 20 to 26, will be $1 per head for horses and cattle, including nurse cows, except in car lots. Box stalls for horses will cost $3 each. Hogs, sheep, and goats will cost 50c per head, with $1 per pen minimum. Applications for entry, accompanied by entry fees, must be sent to the secretary on or before September 25, except for car lots and for horse and mule teams, which may be entered as late as October 5. Free transportation of exhibits is accorded by the railroads from all points in California and Arizona and some other territory. Base dates for calculating ages for classification are the same as those of the State Fair. All animals in competition except get of sire and produce of dam must be owned by exhibitor at time of entry and during the fair. Animals in car lots must have been the property of exhibitor at least 30 days prior to the opening of the show. The announcement and premium list may be had on application to the Secretary, California Liberty Fair, Los Angeles.

STRONG EARLY SHEEP DEMAND.

To the Editor: The demand for Shropshire rams has been exceptionally early and very good, demonstrating the fact that the opinions of many sheep raisers has been unchanged by continuous boosting of many farm journals of breeds as yet untested and therefore very expensive for breeders and country alike at this time when the experimental stage should give way to the practical and sure results. Recent sales from the Bloom flock of Shropshire rams are as follows: To Mr. Robinson of Rio Vista, who two years ago bought from this same flock and thought so well of results as to "come again," when he bought more ewes. He weighed one yearling ram to satisfy his curiosity and found it tipped the scales at 265 pounds. One carload to the Maurer Cattle Co. of Los Angeles and another sale to Robert Jardine of Glenn, who loaded a trailer attached to his roadster.—J. R. Bloom, Dixon.

THE WORLD'S WOOL.

From a carefully prepared article by G. C. Boroughs, Sunset Ranch, Napa, published in an Eastern magazine, we extract the following statement: The number of sheep in the principal counties of the world, according to the latest statistics available, was 600,000,000, from which was obtained 2,985,000,000 pounds of raw wool, yielding 1,027,000,000 pounds of wool cloth ready to be made into clothing. Put into tabulated form, it reads as follows:

People to be clothed	1,500,000,000
Number of sheep	600,000,000
Wool (pounds)	2,985,000,000
Woolen cloth (pounds)	1,027,000,000

KIMBLE RAMBOUILLETS

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.
Prices reasonable. Correspondence solicited.
CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

FOR SALE 1000 one and two-year old
Shropshire Rams
By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:
Phone No. 251-F-2 C. E. BARNHART Suisun, Cal.

Persian Sheep Rams
Large, rapid growers; hardy, disease-resistant—especially valuable for crossing onto fine wooled breeds. Bred from direct imported stock.
C. P. BAILEY & SONS CO.
SAN JOSE, CALIFORNIA.

FINE WOOL HEAVY LAMBS
Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.
E. C. SPEAR, St. Helena

Live Oak Stock Farm
F. A. MECHAM ESTATE
P. O. Address:
Petaluma, Sonoma County, Cal.
Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station
Importers and Breeders of
Red Polled Cattle, Shropshire Sheep, American Merino and Rambouillet Sheep

SHROPSHIRES, RAMBOUILLETS and AMERICAN MERINOS

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize winning rams at the P. P. I. E. Strong, hardy, range raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Also a fine lot of young Red Polled bulls and heifers sired by Teddy's Best of Jean Duluth Farms.

Money in Wool MERINO SHEEP
Money in Lambs SHROPSHIRE SHEEP

Purebred Merino and purebred Shropshire sheep have been bred on our ranch since my father established the flocks in the early days with the best foundation stock. There is money for you in raising sheep of right breeding in your orchard, on your grain ranch, in your vineyard, in your potato and bean fields. On the range my stock will improve your flocks for whichever purpose you want them. Drop me a card, telling what you are interested in.

I have young service Shorthorn bulls also for sale.

Hillcrest Stock Farm
T. S. GLIDE, Prop. DAVIS, CAL.

Shropshire Rams
IMPROVE YOUR LAMBS

The G. C. Wheeler sheep ranch of Reno, Nevada, has sold all but 2000 of their purebred Shropshires, which Wheeler Bros. have brought to the old Taylor Ranch, near Santa Rosa, Cal. These are vigorous, hardy animals, all descended from registered rams and from the original importation made from England by Governor Sparks of Nevada.

Their new location is being fitted as a breeding and show ranch. Come and see them or drop a card telling what you want.

Ewes and yearling and two-year-old rams for sale.

SANTA ROSA The Shropshire Farm CALIFORNIA

Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON,
Contra Costa County, California.

VETERINARY QUERIES

[Answered by Dr. Edward J. Creely.]

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

STRINGY MILK.

To the Editor: Will you kindly inform me through your valuable paper, of which I am a subscriber, what the matter could be with one of my cows? It is a Jersey, and ever since I bought her, about a year ago, she gives stringy milk from one teat. She is a rather old cow, but gives splendid milk. Can you inform me what to do for her and is the milk good to use? We are milking her every other day now. She has not been bred since we got her—that is over a year. Would it help or overcome the trouble if she were bred and then came in fresh? The dairymen here say it is a case of garget.—Mrs. W. U. B., Suisun.

Stringy milk is due to a germ infection, but need not necessarily be serious. We suggest that you breed the cow at once, because milking her every other day only certainly does not pay for the feed she eats, and to keep a cow that does not pay is a bad policy, especially in these times, when food and feed conservation are almost the main topics of the day. It is best to breed a cow two to three months after she has become fresh.

The milk from the infected quarter is not dangerous, but should not be used or mixed with the other milk. All milking utensils should be scalded and dried in the open air.

You may apply a mild ammonia liniment to the affected quarter, but the trouble usually disappears when the cow is in the dry period, and when she freshens again the milk should be watched for a few days.

PIGS COUGH BADLY.

To the Editor: What causes my pigs to cough? I have lost one already. It coughed for some time, with just a light cough which kept getting harder until it would spit up blood.—W. J. M.

Let the pigs sleep in well-ventilated sheds where overheating and piling up will be impossible. The food should be of a light and sloppy character. A milk cathartic of calomel and oil should be given for constipation, the calomel in 3 to 10 grain doses, according to age, followed by the castor oil.

COLT HAS WARTS.

To the Editor: We have a ten-months-old colt that has so many warts around her mouth and nose that no skin can be seen. What will remove them?—Mrs. M. J., Paso Robles.

Give one tablespoonful Fowler's solution in the drinking water morning and evening.

Lovejoy Farm, California

[Written for Pacific Rural Press.]

A. J. Lovejoy is likely to come to California with his world famous Berkshire herd. Mr. Lovejoy is the breeder of the world record priced Berkshire boar and the author of a treatise on fancy pork making that is accepted as final authority wherever hogs are grown. When he was in California last year to attend the Western Berkshire Congress, W. F. Sandercock of the Sandercock Land Co. took him over the fairyland of the Natomas project north of Sacramento and offered him a farm free of charge if he would live on it, call it Lovejoy Farm, and breed his hogs there only for a period of years. Mr. Lovejoy, though well along in years, was enthused with California and there is reason to believe that he and his son will one day, with their herd, belong to this State.

MAKING HOG BONE.

Weak legs or pasterns are a serious fault in hogs. Ben De Sart, herdsman for the Maplewoode Ranch, Calistoga, does not propose to let anything like that happen. He feeds ground green bone and finds that it digests well, with no signs of it in the manure. He gives the hogs lime water in their slop. To prepare this he adds quicklime to water as long as no sediment is left. Then about a pint of this lime water is used per barrel of slop or water. Chunks of air-slaked lime are about the yard for hogs to eat at their pleasure. Charcoal is kept before them to sweeten their stomachs; and a mixture of wood ashes, salt and ground tobacco stems makes a good conditioner. All of these materials are of mineral nature and ought to help make bone as well as keep the hogs in good health.

Chas. Gatewood & Son of Fresno have bought W. T. Dice's interest in King's Big Bone Leader, ten head of weanling sow pigs from Mr. Dice sired by Big Knox Boy and Lad o' Promise. From H. W. Ekholm, Escalon, Blue Valley Beauty 9th, and a mature sow, seven fall gilts, and three spring gilts sired by Blue Valley Tecumseh. From H. I. Marsh, Modesto, five spring gilts sired by Model Major.

YOU can save from $6.00 to $12.00 in fattening each hog by feeding Globe A-1 Hog feed (10% dry buttermilk) and you can save from four to six weeks time. This is not laboratory theory, but actual results of feeding tests.

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Fact Book — HOG A-1 FEED

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We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it.

BREEDING DATE BOOK — FREE —

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Write for evidence from users and our Trial Offer. Ask your dealer for our FREE BOOK "Save Every Calf."
General Laboratories Madison, Wis Dept. 431.

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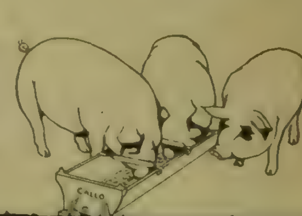
10¼"	5⅛"	60"	3.90
14"	7⅛"	24"	4.15
14"	7⅛"	120"	8.30

Other models from 24" to 120", priced from $2.60 up.

Your check attached to this advertisement, with name, address and size wanted will bring immediate shipment. Circular on request.



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B. F. WILSON, Stockton, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE MOLT FURTHER CONSIDERED.

Last week we talked about the early stages of the molt and the various foods that are aids in the process of loosening up and causing to drop the old feathers which must make room for the new. Practically there are three stages of the molt, and if a person watches and feeds right for each stage there will be left but a short period of rest, similar to that taken by hens after laying out a long batch of eggs before commencing another batch.

THE DURATION OF THE MOLT.

The rest depends partly on the age of the hens and partly on feed. If the hens are more than two years old, they will take a little longer than yearlings, and for every year added to the age of the hens it is safe to add one week to the period of rest. If fed right, yearling hens soon respond to the feed and begin to lay, after completing the new dress, while poorly fed hens take a much longer rest than nature demands. So the duration of the molting and resting period depends largely on the feeder and caretaker. During the first stages some oily foods, in addition to the full ration, assist the feathers in dropping; during the latter part of the molt the feed must be narrowed down to the feeds containing the most mineral, both in vegetable and animal, according to bulk and weight.

FEEDS THAT CONTAIN MINERAL ELEMENTS NEEDED.

All grains contain mineral, as do all green feeds and animal foods, but what we want is to serve feeds that have enough mineral without so much other things that demand energy to digest. In green feeds the one green feed above all others that excels in free mineral is alfalfa, and if green alfalfa can be had and cut up in short lengths it pays to induce the hens to eat more of it during the molt than they usually do. The moist mash comes in handy for that, in addition to dry mash. Feed a mash composed of the usual ingredients and add from 15 to 20 per cent of its bulk in short-cut green alfalfa. Moisten with sour milk, if possible, and you have a feed containing free mineral. Milk of any kind, even whey, contains a fair amount of mineral and is better than water.

BONE, GOOD AND BAD.

The safest animal food containing sufficient mineral to make it easy of digestion is bone. But so much bone nowadays is steamed and robbed by chemicals of every element of good in it that it is not worth the price asked for it. Bones that have been treated with naphtha or other solvents for removing the fat have a peculiar odor and are honeycombed with small holes. Do not buy bones that have these holes just like fine pin holes because there is very little nutriment left. Dried blood meal is rich in protein and mineral, is nearly all digestible, but hens do not like it, which is perhaps just as well, because when fed in quantity it causes a relaxed condition of the bowels that is hard to stop; but if fed in small quantities in the mash it is valuable in the molt. Linseed or flax meal in small quantities is also good and 2 per cent of these rich feeds is all a hen can digest to advantage. All feeds containing too much starch, or, as they are called, non-albuminous, have very little use in a molting hen's ration, because they make her work too hard to get what little food value they contain.

FEED MUST BE EASY OF DIGESTION.

Feed those things that are easy to digest and the organism can be building up a surplus for feathers, and it's safe to say that no mineral element will go to waste while the process of growing new feathers is going on. Ordinarily any excess of one element of food over and above what nature calls for in the organism goes to waste; but during the molt mineral, and yet more mineral, is called for because the composition of feathers is chiefly mineral.

CRATE-FATTENED POULTRY.

Most large city dealers do not want fattened broilers even at the same price per pound they pay for thin ones. The fattened stock is soft. Shrinkage is great. Many fattened birds die en route. Most of them arrive in a "weather-beaten" condition, from which it is hard to re-fatten them. There is great variation between many lots of farm-fattened poultry. The large dealers prefer growthy thin stock, which they put into their own specialized fattening plants in shape to fatten quickly and give them the benefit of increased value on the original carcasses also. The dealers can tell when the birds are in condition to look best after killing, and can thus display uniform stock that sells to best advantage.

POULTRY NOTES.

A. E. Balmer of Martinez reports that he sold $138 worth of turkey eggs for hatching all over California, Oregon and Nevada, and some in Arizona, between March 1 and May 20, through his ad in Pacific Rural Press. "Advertising pays," says he.

W. H. Stump of Bloomfield was in the poultry business heavy, but greatly reduced his stock of hens. He says he made a great mistake, for chickens are now paying better than any time formerly. Mr. Stump is an intensive farmer; says he raises something for everything and everything for somebody.

Does poultry pay? This question is answered by Mrs. H. I. Marsh of Modesto. She started the season January 1 with 250 hens and 15 turkey hens and has kept track of all the feed expenses, for she bought all their feed, and up to the 1st day of July she has netted $631 and still has the old stock.

W. G. Campbell made a good brooder of four 3x1x1½ boxes, some flannel and a three-gallon demijohn. One 1 ft. and one 1½ ft. sides were removed from each box. The boxes were placed corner to corner in the form of a square, with the open 1½ ft. side towards the ground and the 1 ft. open side towards the inside. One and one-half inch strips of flannel, hung from the top, reached almost to the floor in each box. The demijohn was filled with boiling water and wrapped in flannel and placed in the center of the square between the boxes and the whole covered with a blanket and some canvas. The water remained warm all the day following filling and a suitable temperature was attained by regulating the covering of the jug.

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

FALL CHICKS—Aug. 12th forward! Book orders now. R. I. Reds, White Rocks, Black Minorcas, White, Brown Leghorns. Circular with prices and information free. Mission Hatchery, Campbell.

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry and Hatchery, Palo Alto, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

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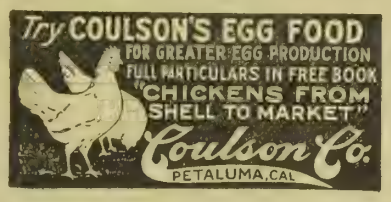

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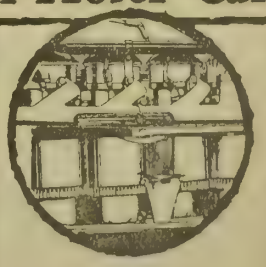

Engines are either water-cooled or air-cooled. This, the air-cooled type, like all *internal combustion engines*, requires an oil that holds its full lubricating qualities at cylinder heat, burns clean in the combustion chambers and goes out with exhaust. ZEROLENE fills these requirements perfectly. *because it is correctly refined from selected California asphalt-base crude.*

Mrs. Best's Letter.

COMMENTING ON THE FALL FASHIONS.

COTTON GOODS POPULAR.

My Dear Friends: It has been a good many years since cotton wash goods, ginghams especially, have been so popular as they are now. Plaids, especially, are in vogue, and when the dress is prettily and becomingly made it may be worn practically anywhere. The laundering is quite a problem, for no colors are now guaranteed, and it is only by careful washing in lukewarm water, drying in the shade and ironing with an iron not too hot, that you can hope to keep the original colors. Sleeveless jackets of solid color, harmonizing with the plaid, are seen on the streets—the cut and style being similar to the sport coats and velvet coats so popular in the spring.

FALL DRESS STYLES.

The shop windows are showing fall garments already, although not many people are purchasing this early. But it is interesting to know what the changes will be that mark a this season's dress. These early models are nearly all of them in the long, scant lines, many of them in tunic effects, or long panels, front and back, styles that were very popular in the spring also. Satin dresses are much in evidence—a great many of them in black with scant tunics, bordered with heavy silk fringe. Blue serge seems just as popular as ever and is in many cases heavily embroidered in wool—not in bright colors, though. Gray and black seem the most used, and they may be either a soft wool or soutache in elaborate designs.

SIMPLE COLLARS.

The most noticeable feature about the new dresses is the simplicity of the neck. Most of them are rounder than formerly and many of them are collarless. If there is a collar, it is a very simple affair of Georgette crepe or satin, the same color as the dress. The touch of white at the throat, to which we have all been accustomed, has disappeared for the time being.

Blouses show the same simple neck finish, and even if there is a large collar it is not worn on the outside of the suit coat as much as formerly. If one desires the white or flesh next the face, the more popular way to accomplish it is by the use of the popular filet lace collars.

TAILORED SUITS.

The tailor suits shown now are very plain in style and somber in coloring. The oxford gray bound in black braid is shown, as well as the dark blue for street wear. There seems rather a somber note in most of the new fall garments, perhaps more noticeable just now, for so many people are wearing the semi-sports clothes, and those are always gay colored.

FALL HATS.

Some of the shops are showing very attractive feather turbans in both light and dark colored feathers. These hats are very small, with no brim at all, and fit the head very snugly. Fall hats are shown, in combinations of velvet and crepe or cloth and wool braids. These hats might almost be called mid-season hats, for it is really too early to select a winter hat.

ROSABELLA BEST.

THE HOME CIRCLE

PICKLING RECIPES.

SAUERKRAUT.

Shred the cabbage into narrow strips and weigh; for each ten pounds use one-half pound of salt. Mix thoroughly, place in a stoneware crock or wooden container with wooden head or plate to cover. Weight down, being careful to not use limestone as a weight. Keep in a warm place and fermentation will soon start. After about three weeks, the kraut will have the desired flavor. If a scum appears, remove it, as it may spoil the kraut. When the fermentation ceases, the kraut may be sealed with paraffine. A better method of preserving is to heat it to boiling and pack boiling hot in jars. Sterilize for half an hour in a wash boiler sterilizer and seal. It will then keep indefinitely.

CUCUMBER DILL PICKLES.

Wash the cucumbers. Prepare a crock, keg, barrel or wooden bucket. Place a layer of dill plant in the bottom of the container and a small quantity of mixed "dill pickle spices." On these place two or three layers of small cucumbers. Add another layer of dill plant and spices, then cucumbers as before. Continue until the receptacle is nearly full. Cover with layer of beet or grape leaves at least an inch. Cover with brine made of one pound of salt, ten quarts of water and two-thirds of a quart of vinegar. Allow to stand until fermentation ceases (three to four weeks). Seal with paraffine. If large barrels are used, the barrels may be headed up after filling with the cucumbers and spices and then filled with a brine. Leave the bunghole open. When fermentation is over, fill the barrel with brine and close the bunghole. Dill pickles may be kept indefinitely by heating to boiling in the brine in which they were made and sealing boiling hot in glass jars.

CUCUMBER PICKLES IN VINEGAR.

Use small cucumbers, place in brine made with two pounds of salt to a gallon of water. Keep submerged for about four weeks. If the pickles become soft, add more salt. After four weeks, remove the cucumbers and heat in a large amount of water to the simmering point for 20 minutes. Discard this water; cover with fresh water, heat to simmering point, remove from the stove and let stand two hours to soak out excess salt. If the pickles tend to be soft or flabby, add a tablespoon of alum per gallon of water. This will harden them and is not injurious to health. Rinse in cold water. Drain. Store in strong cider vinegar until ready for use. If the pickles soften, place them in fresh vinegar. Pack in wide-mouthed corked bottles or jars with glass tops.

A REMEDY FOR FLEAS.

If you are bothered with fleas, put dry sulphur along the edge of the carpet and in the crevices of the mop boards. Fleas lay their eggs and the young hatch in the cracks of the floor and the crevices along mop boards, also under matting, rugs and carpets. Before you lay your carpet or matting, wipe up the floor with water in which a big handful of sulphur has been stirred. Until you have got rid of the fleas it is a good plan to add sulphur to all the water used on the floors.

After carpets have been swept and rugs cleaned, sprinkle a little sulphur over them, then brush it in with a stiff broom.

Fleas in barns and sheds will torment animals and are carried into the house on the clothing. Clean up the barn floors, shed floors and yards. Sprinkle the floors in the barn and hog sheds liberally with a dry mixture of sulphur and wood ashes. (Be sure the wood ashes have been away from the heat for at least a week.) Then dampen the floors. Repeat every few days for as long as your patience or the fleas hold out. The rainy season is the easiest time to get rid of fleas.—L. D., Lockeford, Cal.

PECTIN TEST.

The old rule of cup for cup of sugar and fruit juice in jelly making has meant that much more sugar is used than is necessary. Fruit jelly is made possible by a substance known as pectin and the amount of pectin in cooked fruit juice determines the amount of sugar necessary.

Add one or two tablespoons of 95 per cent grain or wood alcohol to an equal amount of the cooled fruit juice in a glass. Shake gently and let stand for 30 minutes. Pour slowly from the glass and observe whether the pectin has formed in a single lump or in smaller particles. If the pectin forms in a single lump measure for measure of sugar must be used. If it is in several smaller lumps three measures of sugar will answer for four measures of juice. If no lumps form, but small particles are apparent, one measure of sugar should be used to two measures of juice. If no pectin is observed the juice will not make jelly alone, but must be combined with some other fruit juice rich in pectin.

CANNING PIMENTOS AND SWEET PEPPERS.

Select ripe, well colored pimentos or sweet peppers. To peel, place them in a very hot oven for a short time until the skin can easily be slipped off with the fingers. They can also be peeled after dipping in hot cottonseed oil for a short time. Cool, remove the skins, and cut out stems and seed cores. Pack well in cans or jars. Fill with boiling hot water. Seal cans. Place rubbers and caps loosely on jars. Sterilize sixty minutes at 212 degrees F. in a washboiler sterilizer. Pressure sterilization and lemon juice are not necessary.

CANNING SPINACH.

Clean thoroughly as for table use. Place in wire basket or cheese cloth and immerse in boiling water ten minutes. Chill in cold water. Pack in jars or cans. Fill with boiling hot brine of two ounces of salt (two tablespoons) and six ounces (twelve tablespoons) of lemon juice or the same amount of strong vinegar per gallon of water. Seal cans. Place caps and rubbers on loosely. Sterilize in boiling water for sixty minutes.

BREAKFAST MUSH.

A healthful, tasty conservation breakfast mush may be made of ½ cornmeal, ½ cleaned bran, salt. Cook in double boiler. Serve with milk, cream or butter. The bran can be ground finer if desired.—Subscriber.

You Are the Hope of the World

Down toward the deep blue water, marching to throb of drum.
From city streets and country lane the lines of khaki come;
The rumbling guns, the sturdy tread, are full of grim appeal,
While rays of western sunshine flash back from burnished steel.
With eager eyes and cheeks aflame, the serried ranks advance.
And your dear lad and my dear lad are on their way to France.

Before them, through a mist of years, in soldier buff or blue,
Brave comrades from a thousand fields watch now in proud review,
The same old flag, the same old faith, the freedom of the world.
Spells duty in those flapping folds above long ranks unfurled.
Strong are the hearts that bear along democracys advance,
As your dear lad and my dear lad go on their way to France.

The word rings out; a million feet tramp forward on the road.
Along that path of sacrifice o'er which their fathers strode.
With eager eyes and cheeks aflame, with cheers on smiling lips,
These fighting men of '17 move onward to their ships.
Nor even love may hold them back, or halt that stern advance,
As your dear lad and my dear lad go on their way to France.

—Randall Parrish.

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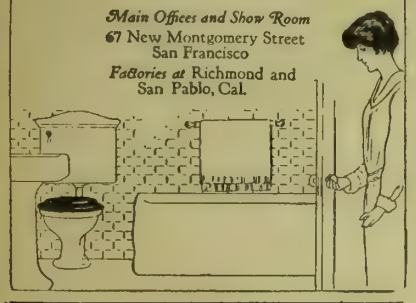

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COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA.

A Possible Sign.

"Any insanity in your family?" asked the insurance doctor of Mrs. Suffragist.

"Well, no; only my husband, who imagines he is head of the house."—Indianapolis News.

Good Health.

[By H. E. Pastor, M. D.]

Importance of Proper Breathing.

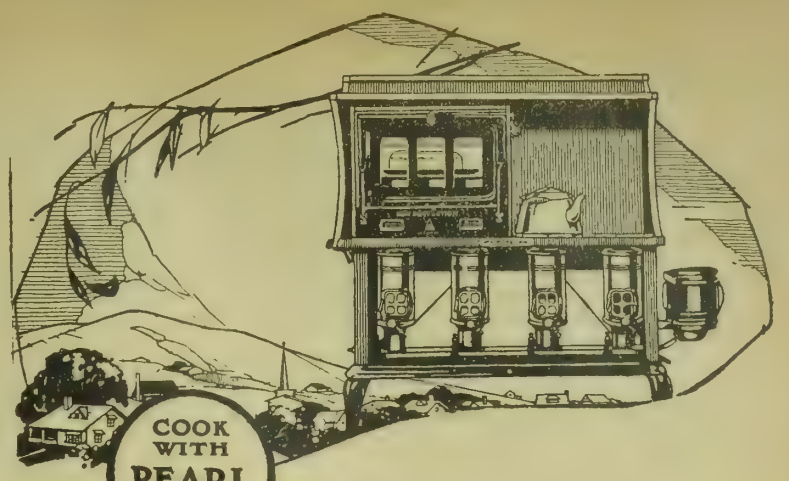
Most ill-health comes from ignorance of and indifference to hygienic laws, or to perverted tastes and perverted desires. Health is natural. Normal breathing is automatic. A plentiful supply of fresh, uncontaminated air is of more importance to the human economy than either food or drink. We can survive being deprived of the latter essentials for hours, or even days; but without air we can live a few minutes only. Few persons appreciate its value to the full. The air that most adults breathe is deficient in quantity as well as defective in quality. We constrict the abdominal walls with improper clothing so that the diaphragm—the bellows of the body that draws in the good air and expels the bad—cannot act properly; or we bend forward when in a sitting posture so that the lungs are cramped and not allowed to fully expand; or we let the air passages of the nostrils get clogged up as a result of catarrhal conditions, and become mouth-breathers. Air furnishes half the life of the body. The whole breathing apparatus should be kept in good working order and made to do its full duty. Lack of sufficient oxygen, the life-giving principle of the air, makes the blood poor and the circulation sluggish, throws extra work on the kidneys and interferes with the proper elimination of the different poisons generated in the body through the normal breaking down of its tissues, and makes conditions favorable for the invasion of tuberculosis and other insidious diseases. If your breathing is shallow, irregular, nervous or hurried, devote a few moments each day to breathing exercises. Draw in full breaths slowly, expanding the lung cavity to its full capacity, and then gradually expel the drawn-in air. Repeat this for some minutes. In time a deep and rhythmic respiration will be established and a new lease of more healthful life secured.

Eradication of Dandruff.

It is hard to find a specific for this very common annoyance, and many remedies are recommended. The drug resorcin is an excellent application for this purpose, is a good hair tonic, and tends to preserve the hair's natural color. A good combination is this:

Resorcin	2 drams
Castor oil	1 dram
Cologne	3 ounces
Alcohol	9 ounces

Mixed together, these ingredients make a solution agreeable in odor and color, and should be applied to the scalp once or twice a week and well rubbed in with the finger-tips.



COOK WITH PEARL OIL

A New Perfection Oil Cook Stove means kitchen comfort and convenience. Ask your friend who has one. Used in 3,000,000 homes. Inexpensive, easy to operate. See them at your dealer's today.

Cooking Comfort

On hot summer days you want your kitchen cool and comfortable to cook in. A New Perfection Oil Cook Stove makes it so.

No smoke or odor; no dust or dirt, and all-the-year-round service.

None of the bother of coal or wood. Lights at the touch of a match and heats in a jiffy. Economical.

And you have all the convenience of gas.

In 1, 2, 3 and 4 burner sizes, with or without ovens or cabinets. Ask your dealer today.

STANDARD OIL COMPANY
(California)

NEW PERFECTION OIL COOK STOVE

Let Insects be Chased With
KELLOGG'S ANT PASTE
MAKES ANTS DISAPPEAR

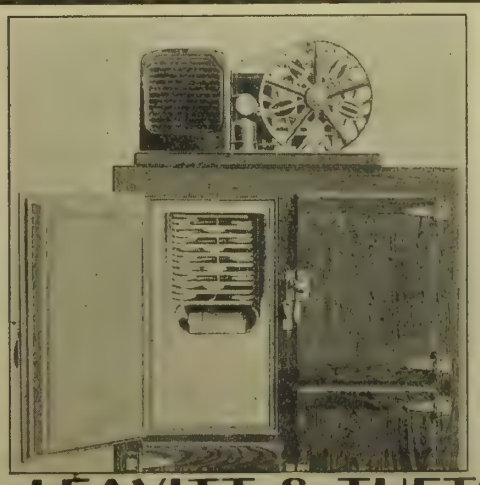
The season is here when ants are beginning to invade every unguarded household. Get a package of Kellogg's Ant Paste at your druggist's—spread a little on the trail of the pests and it will have every ant chased away in a few hours. Get the package with the rattle cap.

25¢ AT ALL DRUGGISTS

OPEN WARFARE AGAINST THE PESTS

Liberty Fuel at Thrift Cost
MADE BY THE
PREMIER BURNER
"THE SIMPLEST THING IN THE WORLD"

Makes Real Gas—Cheap and Clean
Just Ordinary Kerosene and a Five Dollar Burner
FOR ANY COOK STOVE OR HEATER, $5.00 PREPAID
Guaranteed—No Time Limit. Send for Circular—Good Agents Needed.
PREMIER BURNER CO., LOS ANGELES, CAL.
Home Office and Factory, 246 South Spring Street.



Ice = by = wire

ISKO home refrigeration—in an hour solves your biggest food keeping problem for years to come.

No ice famine can touch you—no delayed delivery endanger your family's food supply.

A simple, portable electric unit—easily installed on any ice box, old or new. Five minutes' study will make clear to you how "the electric icemen" creates cold from current—how it saves food and money—why it protects your family's health and your own efficiency. Come in and see it work—now.

We build refrigerators any size.

LEAVITT & TUFTS, Distributors
1141 Van Ness Avenue San Francisco

Agricultural Summary

A Word to Pear Growers.

The California Pear Growers' Association has disposed of all cannery pears in sight in the principal districts, Sacramento, Contra Costa, Santa Clara, at the present time at $70 per ton. Arrangements are being made for the tonnage in Sonoma and Napa counties and contracts will probably be signed in a few days. Canners are asking a small differential on Sonoma and Napa county pears. Should there come a lull in Eastern shipments or should any growers be short of packers, the association may have a small additional tonnage to dispose of, and canners stand ready to take any that are of good quality. In Alameda county many non-irrigated orchards, owing to drought, are producing undersized pears, and these, of course, will not bring full price. Driers are buying windfall pears at $15 f. o. b. wharf San Francisco. Canners are buying selected windfalls at $30, and good No. 2 pears at $35 per ton. Frank Sweet, manager of the Pear Growers' Association, has sent word to all growers that it is folly to ship trashy windfalls, full of bruises, worms and rot, to San Francisco.

Canned Fruit Prices Named.

This week the California Packing Corporation announced its schedule of prices on the canned fruit pack of 1918. The new prices denote a considerable advance over those of last year, due, it is claimed, to the higher cost of labor and materials. These prices apply to orders already booked only. The disposition of future orders will depend on what remains after filling the requirements of the Government, which is taking large quantities of the best grades. Prices follow:

	No. 2½ Extra Stand	No. 10 Extra Stand
Apples	$1.90	$5.75
Apricots	2.25	6.75
Apricots, peeled	2.50	7.25
Apricots, sliced	2.50	....
Blackberries	...	9.25
Cherries, Royal Anne	3.50	11.00
Cherries, black	3.25	10.00
Cherries, white	3.50	11.00
Grapes, Muscat	1.75	5.00
Loganberries	...	9.50
Peaches, yellow free	2.25	7.00
Peaches, yellow cling	2.50	7.75
Peaches, yellow cling sliced	2.50	7.75
Peaches, white cling	2.50	7.75
Peaches white cling sliced	2.50	7.75
Pears, Bartlett	2.75	8.50
Plums, egg	2.25	6.25
Plums, green gage	2.25	6.25
Plums, gold drop	2.25	6.25
Plums, red	2.25	6.25

Barley Keeps the Market Guessing.

The future of the barley market is still problematical. There is little trading being done at the moment and there continues to be a shortage of shipping to meet export requirements of California barley and other grains. What few sales are being made, however, indicate a firm market. Choice heavy barley is in strong demand for milling use and hovers around the $2.65 figure. Lighter feed grades sell around $2.50@2.55. The Eastern trade has picked up and it is not unreasonable to expect that barley will hold firm in sympathy with wheat.

Prices of Hides Reduced.

Hide prices to become effective August 1 and understood to represent a reduction of about 10 per cent have been agreed upon by the price-fixing committee of the War Industries Board and the industry. They provide for an average reduction of from 7c to 8c per pound from the old prices.

Packer hides range from 24c to 30c a pound, according to the weight of the steer, and country hides from 21c to 22c. All country hides are to be bought and sold on a selected basis.

Sugar Beets.

The U. S. Food Administration for California has announced that if the war continues for another year the price of sugar beets will be higher and that if it does not the price will be lower. Two forms of contract are being offered growers. One sets a definite minimum, the other provides for a higher price, if there is one next year, but fails to set a minimum.

THE MARKET REPORTS

Figures Given are Independent and Reliable. Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, July 24, 1918.

WHEAT.

The following has been issued by the cereal division of the United States Food Administration: The value of wheat of various grades and varieties depends upon three factors: First, the relative distance from the consuming markets; second, the variety of the wheat and its relative value for flour production; third, the grade of the wheat as to quality and impurities within the various varieties.

In order to avoid "red tape," the President authorized the creation of the United States Food Administration Grain Corporation to carry out the financial details of buying and selling wheat and various cereal commodities. Therefore contracts and payments are made in the name of the United States Food Administration Grain Corporation, which operates without profit, charging such differentials as will cover risks, storage, and insurance.

The following are the fair price bases and wheat classes and grades on which the Food Administration Grain Corporation will buy wheat at the points named:

1. The wheat grades are those adopted by the United States Department of Agriculture under the Grain Standards Act.

2. The Food Administration "fair prices" are named below for "basic" wheats, and the market relations fixed as follows:

New York	$2.39½
Minneapolis	2.21½
Chicago	2.26
Tacoma, Seattle, Portland	2.20
San Francisco, Los Angeles	2.20

Basic Wheats.—No. 1 Northern Spring, No. 1 Hard Winter, No. 1 Red Winter, No. 1 Durum, No. 1 Hard White.

Intermountain basis f. o. b. outgoing car $2. The "premium" wheats are as follows:

	Premium.
No. 1 dark hard winter	$0.02
No. 1 dark northern spring	.02
No. 1 amber Durum	.02

The "discount" wheats are as follows:

	Discount.
No. 1 yellow hard winter	$0.02
No. 1 red spring	.05
No. 1 red Walla	.07
No. 1 red Durum	.07
No. 1 soft white	.02
No. 1 white club	.04

Discounts for other grades than No. 1: No. 2 wheat, 3 cents under No. 1; No. 3 wheat, 7 cents under No. 1. Grade below No. 3 will be dealt in on sample on merit.

Details of Buying Plan.

The Food Administration Grain Corporation will buy on the above fair-price bases at the principal primary markets as named. It will buy warehouse receipts in approved elevators at the principal primary markets as named above. In the intermountain territory, where there are no public storage facilities available, an adjustment will be made to make effective the $2 minimum for the No. 1 grade f. o. b. outgoing car, available for transportation to a public terminal elevator. The intermountain region comprises southern Idaho, western Montana, western Wyoming, Nevada, Utah, western Colorado, New Mexico, and Arizona. Further details can be obtained at grain corporation offices.

BARLEY.

There is little business being done in barley.

Choice feed, per ctl.............$2.40@2.50

OATS.

There is little doing in oats, but the market is strong and a higher price is being demanded for the best grade of feed.

White feed, per ctl.................Nominal
Red feed, per ctl.................$2.50@2.65

CORN.

Practically no corn offered on this market at the present time.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$4.20@4.25
Milo maize	3.95@4.05
Egyptian	4.05@4.10

HAY.

Hay receipts last week were 3234 tons, again an increase of about 50 per cent over the week immediately preceeding. This increase was expected, as baling operations have been in progress for some time and some of the farmers have completed their work of this kind. The market has been unable to take care of the increase and the arrivals have been placed with difficulty. Consumers are still holding back for concessions in price and have only been buying in a small way as absolutely needed.

Wheat No. 1	$22.00@24.00
do. No. 2	19.00@21.00
Choice tame oat	24.00@26.00
Wild oat, new	18.00@22.00
Barley, new	18.00@22.00
Alfalfa, first cutting	16.00@20.00
do, second cutting	22.00@24.00
Stock	17.00@19.00
Barley straw	50@80c

FEEDSTUFFS.

The market for feedstuffs is steady but the demand is not large. The only change in price noted this week is in rolled barley, which is quoted at $56.00@58.00.

New alfalfa meal, per ton	$33.00@34.00
Coconut cake or meal	44.50
Cracked corn	86.00@88.00
Middlings	Nominal
Oilcake	$75.00@76.00
Rolled barley	56.00@58.00
Rolled oats	56.00@58.00

POTATOES, ONIONS, ETC.

White potatoes showed continued strength. Yellow onions also were higher on demand for shipment out of the State. At the close onions developed weakness and made a slight recession from the highest prices of the week. High prices have been placed on new garlic. Those who handle garlic say that there is a serious loss in weight in keeping garlic and that this is especially excessive in the new product. Peas and beans are coming in in such quantities that quotations were cut materially.

Peas	6@8c
String beans, per lb	3@4c
Wax beans, per lb	4@5c
Carrots, per sack	50c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
do, Strawberry, per box	None
Summer squash	50@75c
Cucumbers (hothouse), per box	50@75c
do, Alameda, lugs	75c@$1.00
Eggplant, per box	$1.00@1.25
Lettuce, Sacramento, crate	75c@$1.00
Tomatoes, per crate—	
Merced	50@75c
Potatoes—	
Garnet Chile	1.75@2.00
Whites	2.25@2.60
Onions, Australian browns	Nominal
River Reds	$1.35@1.60
do, Yellows	1.85@2.10
Garlic, new	10@11c
Green corn, Alameda, per sack	$3.00@3.25

BEANS.

Bayos lost 25c and pinks gained 10c in the ordinary fluctuations of the market. Limas were very much stronger and sold at practically a dollar higher. There are only a few limas left on the market and several recent orders calling for mixed carloads of beans with limas in quantity caused a demand which could not be met at the former price.

Bayos, per ctl	$ 7.75@ 8.00
Blackeyes	7.00@ 7.25
Cranberry beans	11.50@12.00
Limas (south, recleaned)	12.50@12.75
Pinks	7.00@ 7.10
Red kidneys	11.50@12.00
Mexican reds	7.75@ 8.00
Tepary beans	8.50@ 9.00
Garbanzos	7.50@ 7.75

POULTRY.

Poultry receipts during the past week have been somewhat lighter and prices have been well maintained. Geese were more plentiful and sold at a lower price. This was about the only weak spot in the market.

Turkeys, live, per lb., young	28@30c
do. dressed	32@34c
Broilers, 1½ to 2 lbs	36c
do, 1¼ lbs	36@37c
do, ¾ to 1¼ lbs	38@40c
Fryers	36@40c
Hens, extra, per lb., colored	30@31c
do, Leghorn	26@28c
Smooth young roosters, per lb. (3 lbs. and over)	42@45c
Old roosters, colored, per lb	20@21c
Geese, young, per lb	22@23c
do, old, per lb	21c
Squabs, per lb	38@40c
Ducks	25@27c
do. old	23@24c
Belgian hares (live)	15@18c
do, dressed	19@22c

BUTTER.

Butter closed at the same quotation as last week for extra, although it sold a cent higher during the week. Prime firsts and firsts were unchanged during the week and the call on firsts was abandoned for the present. There has been a good deal of talk of profiteering and the Food Administration, through representatives, has given warning to the members of the exchange.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	53½	53½	52	52	52½	52½
Prime 1st	49	49	49	49	49	49
Firsts	47	47	47	47	47	Nom.

EGGS.

Extra eggs and pullet extras were strong throughout the week and both closed at the top. With extras again at 49c, it looks as if eggs may pass the 50c line before the end of next week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	47½	47	47	48	49	49
Extra 1sts	Nom.		45½	45½	45½	45½
Firsts			Nominal			
Extra pullets	44½	44½	45	46	47	47
do, Firsts	44	44	44	44	44	44

CHEESE.

Cheese is strong, in sympathy with the high prices for butter. The dealers who last week refused to pay 27c for California flats came to this price at last.

Y. A.'s	Nominal
do, Firsts	Nominal
Fancy, California Flats, per lb	27c
First, California Flats	24½c
Oregon Triplets, fancy	26c
Oregon Y. A. Fancy	26c
C. S. Oregon triplets, fancy	26c
do, Oregon Y. A. fancy	25½c
Monterey cheese	21@23c

FRESH FRUITS.

Few cherries are left on the market and most of these are of inferior quality. Turlock cantaloupes now dominate the market. Prices are still high, but reductions are expected as soon as shipments become larger. Bartlett Pears are arriving in fair quantity. The berry market was irregular throughout the week.

Apples	$2.00@3.00
Apricots, per crate	1.00@1.25
Peaches, 4-box crate	.75@1.00
Figs, black, per box	.60@ .75
do, double layer	1.25
Strawberries, per chest	7.00@10.00
Blackberries, per chest	8.00@10.00
Raspberries, per chest	7.50@9.00
Loganberries, per chest	6.00@7.00
Currants, per drawer	Nominal
Gooseberries	5@8c
Cherries, black, flats	Nominal
do, do, white	Nominal
do, white, bulk	Nominal
Royal Anne	Nominal
Plums	$1.00@1.50
Cantaloupes, flats	$1.00@1.25
do, ponies,	$2.50@2.75
do, standard,	3.00@3.50
Watermelons, per lb	1¾@2¼c
Pears, box	75c@$1.00
do, Bartlett	$2.00@2.50
Grapes, Seedless	$2.00@2.50
do, Malaga	1.75@2.00
do, Fountainbleu	1.00@1.25

CITRUS FRUITS.

All grades of lemons were cheaper this week. Oranges showed no change from the previous week, but grapefruit showed strength on decreased receipts.

Oranges:	
Valencias, fancy	$6.50@7.00
Valencias, choice	5.50@6.25
Lemons:	
Fancy, per box	7.00@7.50
Choice	5.50@6.50
Standard	4.00@4.50
Lemonettes	5.50@6.00
Grapefruit, fancy, new	3.00@4.00

DRIED FRUITS.

The buyers of dried fruit during the past week have practically cleaned up the market and there is very little fruit now left in the hands of the growers. As a consequence the buyers bid up from a cent to a cent and a half higher for some of the lower grades of apricots. No price has yet been set on apples.

Prunes, graded, price to growers:	
gain in dip	11c
Prunes, graded prices to growers:	
20-30, inclusive, per lb	15c
31-41, inclusive, basis	10c
42-51, inclusive, basis	9½c
52-61, inclusive, basis	8½c
62-71, inclusive, basis	8½c
82-91, inclusive, basis	8c
92-101, inclusive, basis	8c
102-121, inclusive, per lb	4½c
122 and up, per lb	4c
Prunes, ungraded price to growers:	
30 and larger, per lb., flat	15c
31-33, inclusive, per lb., flat	13½c
34-41, inclusive, basis	10c
42-43, inclusive, basis	9¾c
44-51, inclusive, basis	9½c
52-54, inclusive, basis	9c
55-60, inclusive, basis	8¾c
61-75, inclusive, basis	8½c
76-81, inclusive, basis	8¼c
82-85, inclusive, basis	8c
86-90, inclusive, basis	7¾c
91-95, inclusive, basis	7½c
96-98, inclusive, basis	7¼c
99-101, inclusive, basis	7c
102-121, per lb., flat	4½c
122 and up, per lb., flat	4c
Apricots	9½@19c
Figs	12@16c
Raisins—	
Muscats	5½c
Thompsons	6¾c
Sultanas	6½c

HONEY.

The honey market is strong, with an upward tendency. Some shipments of honey are arriving in this city, but is not finding a market. The competition of the honey exchange is beginning to tell, and this is one reason for the strength of the market.

White, extracted	21c
Light amber	18@20c
Amber	15@18c

RICE.

Nothing new in the rice situation

LOS ANGELES

Los Angeles, July 22, 1918.

BUTTER.

Receipts the past week were good, so was demand, and values advanced 2c. The arrivals for the week were 334,860 pounds against 306,140 pounds the same week last year. There was taken into cold storage during the week 15,457 pounds against 14,865 pounds the same week last year, making the cold storage holdings now 391,823 pounds, against 275,830 pounds the same time last year.

We quote:

California extra creamery	51c
do, prime first	50c
do, first	49c

Daily quotations—

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	49	50	50	50	50	51
1917						
Extra	39	39	39½	39½	40	40

EGGS.

There was a drop in the receipts the past week while the demand held up well both from the home and outside trade. Receipts for the week by rail, 1612 cases, against 1372 cases the same week last year. The truck receipts continue about three times as heavy as the arrivals by rail, making the supply for the week 6448 cases against 5500 cases the same week last year. Under this showing the market held steady and firm up to Monday, when extras and pullets were advanced 1c under a brisk demand. There was withdrawn from cold storage during the week 85 cases, while the same week last year there was taken into cold storage 324 cases. The cold storage holdings now are 91,856 cases against 84,049 cases the same week last year. Extras are 10c higher, case count 9c, pullets 11c higher than a year ago.

Daily quotations:

1918	Tues.	Wed.	Thu.	Fri.	Sat.	Mon.
Extras	45	45	45	45	45	46
Case count	44	44	44	44	44	44
Pullets	42	43	43	43	43	44
1917						
Extra	33½	33	33½	33½	36	36
Case count	33½	33	33	33	35	35
Pullets	31	31	31	31	33	33

VEGETABLES.

There was a firmer tone to this market. Potatoes in good demand both from the consuming trade and for shipment. Onions, too, showed more strength. Cabbage scarce and again higher. String beans steady and in fair demand. Summer squash slow sale and lower. Corn and cucumbers slow sale and weak. Peppers in better supply, slow sale and lower. Tomatoes in good demand

and steady. Lima beans steady and in fair demand, so is eggplant.

We quote from growers—

Potatoes, new, per lug	60@65c
New potatoes, per cwt	$1.75@2.00
Garlic, per lb.	5@6c
Onions—Stockton Yellow Danvers, cwt.	$2.00
Cabbage, per 100 lbs.	$2.00@2.50
Bell peppers, per lb.	8@10c
Chile peppers, per lb.	6@8c
Peas, Northern, per lb.	10@12c
Summer squash, local, per lug	25@30c
String beans, per lb.	4@4½c
Tomatoes, home-grown, per lug	30@75c
Eggplant, Imperial Valley, per lb	4@5c
Cucumbers, home-grown, per lug	25@40c
Corn, per lug of 3 doz.	60@75c
Lima beans, per lb	6@7c

FRUITS.

Receipts and demand for all seasonable fruits continue good. Prices gradually worked lower on peaches and pears. Apricots and plums held up fairly well and demand very good. Red and White Astrachan apples also sold well. Figs slow. Crabapples dull and lower. Grapes steady under light offerings and fair demand.

We quote from growers:

Apricots, per lb.	3@4c
Figs, Black Spanish, 7-lb box	50@75c
do, White, 7-lb. box	50@60c
Peaches, freestone, per lug	$1.00@1.25
do, clings, per lug	1.25@1.50
Pears, per lb.	5@7c
Crabapples, per lug	90c@$1.00
Beauty plums, per lb.	6@7c
Prunes, Sonoma, per lb.	6@7c
Climax, per lb.	5@6c
Tragedy, per lb.	7@8c
Satsuma, lb.	5@6c
Burbank, lb.	4@4½c
Santa Rosa	5½@6c
Grapes—Imperial Valley Malagas, per lb.	7@8c
Apples, Red Astrachan, per lb	4@5c
do, White Astrachan, per lb	4@5c

BERRIES.

There was quite a dropping off in the receipts the past week and under the lighter offerings and fair demand prices ruled higher.

We quote from growers:

Strawberries—	
Fancy, per 30-basket crate	$2.25@2.50
Poor to choice, per 30-basket crate	1.75@2.00
Blackberries, 30-basket crate	2.50@2.75
Raspberries, 30-basket crate	2.00@2.25
Loganberries, 30-basket crate	2.50@2.75

MELONS.

More coming in and the tone of the market weaker. Demand good for choice melons. Home-grown cantaloupes now control the market. While meeting with a good demand, they are gradually working lower. Watermelons coming in more freely, slow sale and rather weak. Honeydew melons in fair demand and steady.

Cantaloupes—	
Tip Top, home-grown, standard crate	$2.00@2.25
do, do, pony crate	1.50&1.60
Shipped-in cantaloupes, small, pony crates	$1.25@1.35
Watermelons, per 100 lbs	1.50@1.75
Honeydew melons, special	2.00
do, do, flats	1.25

BEANS.

There is no change in this market since last week.

We quote from growers:

Limas, per cwt.	$10.50
Large white, per cwt.	12.50
Small white, per cwt.	12.50
Pink, per cwt.	7.50
Blackeyes, per cwt.	7.00
Tepary, per cwt.	8.50

HAY.

The market continues dull and weak. Receipts the past week were not heavy, but the demand was light for all kinds. Only such lots were taken as had to be had.

We quote f. o. b. Los Angeles—

Barley hay, per ton	$24.00@26.00
Oat hay, per ton	25.00@27.00
Alfalfa, northern, per ton	21.00@22.00
Alfalfa, local, per ton	22.00@24.00
Straw, per ton	9.00@10.00

COTTON.

With continued hot and dry weather in much of the cotton belt, values were bid up the early days of our review week by shorts covering. Prices slowly advanced up to last Friday, when under the report of showers in some sections of the cotton belt and a desire of a number of holders to even up the end of the week caused some loss of the early advance. Prices, however, were well maintained. More favorable war news and better Liverpool advices caused holders to offer very sparingly. The current week opened in New York rather quiet and tone of the market weaker. July closed at 28.65c and October 25.72c. Spot middling in New Orleans was in good demand and closed Monday sharply higher at 32.38c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, Cal., July 22, 1918.

This past week produced one of the most wonderful markets in the history of the fruit business. All auctions were liberally supplied and fruit met with ready sale at prices greatly in excess of the previous week. It has been conservatively estimated that the average gross per car during the past week will run a little short of $1800.

Bartletts are arriving in good condition though some stock has arrived on the turn. However, the top of the market was realized on a few boxes at $7 and at no time did the auctions sell less than $4. It is true but a few thousand boxes of Bartletts have been sold east of Chicago during the past week, and at the prices realized it would be hardly safe to gauge the market for the balance of the season.

A decided improvement was noticed in plums. Shipments have been somewhat lighter than the week previous and the market reacted 25c to 50c per crate.

A decided falling off of Eastern peaches has caused an eager demand for California stock. Unfortunately the supply at this time is not heavy, but indications are that even under the heavy offerings of Elbertas which will shortly begin to move, we do not anticipate a decline.

Inquiries for future stock of Elbertas have been so active, quotations have recently been withdrawn from the market as shippers thought it inadvisable to quote, except in a few instances, and it is likely that the bulk of the stock will be sold on a delivered basis.

Southern Georgia has completed shipments for the season and Northern Georgia will be finished this week, except a few scattering lots which will have no effect upon the market. Within two weeks practically the only peach competition that will confront California will be from West Virginia and as the shipping radius from that State is limited and as the stock in Washington can hardly be considered as competition this season, except in a few markets.

Thompson Seedless and Malagas from the Imperial and Coachella Valleys have sold at remarkably high prices. Most of the stock has been moved East in Express cars, which unquestionably accounts for the fruit arriving in such good condition and meeting with such active demand. Thompsons from the Fresno district are two weeks later than last year. Shipments are now going forward. Malagas from the Fresno district will also be ready to move East the latter part of this month. Tokays in some instances are beginning to show color and there is a noticeable activity among Eastern buyers who are speculating at unheard-of prices in the Lodi district.

Viewing the markets as a whole, we find them in a very healthy condition and indications are that supplies will be regular from now on and at no time in excess of the demand. All varieties of fruits appear to be of good quality and fair size and with Eastern weather conditions remaining favorable, a strong market should maintain throughout the season.

Following are the averages for the week.

New York: Climax plums, $1.64; Tragedy, $1.83; Santa Rosa, $1.70; Burbank, $1.58; Cal. Blue, $1.92; Cal. Red, $1.80; Red June, $1.40; Wickson, $2.22; Formosa, $1.50; Kelsey, $3.50. Bartlett pears, $5.05; Wilder, H/B, $2.04. Malaga grapes, $4.12; Thompson Seedless, $2.69. Triumph peaches, $1.00.

Boston: Tragedy plums, $2.24; Climax, $1.85; Santa Rosa, $1.87; Burbank, $1.57; Wickson, $2.20; Maynard, $2.30; Formosa, $1.86; Cal. Blue, $2.17. Bartlett pears, $5.46; Wilder H/B, $1.85; Lawson H/B, $2.20. Thompson Seedless, $3.05; Malaga grapes, $5.03. Alexander peaches, $1.12; Triumph, $1.10.

Chicago: Tragedy plums, $1.84; Wickson, $1.84; Cal. Red, $1.50; Climax, $1.45; Hinlori, $1.60; Kelsey, $1.77; Red June, $1.52; Burbank, $1.50; Santa Rosa, $1.87; Duane, $1.40; Gaviota, $1.70; Botan, $1.37; Eureka, $1.77; Formosa, $1.46; Cal. Blue, $1.75. Malaga grapes, $4.27; Thompson Seedless, $3.24. Bartlett pears, $4.24. Tilton apricots, $1.90. Hale peaches, $1.01; St. John, $1.24.

Total shipments July 13th to 19th, inclusive: 1 cherry, 1 apricot, 340 peaches, 388 pears.

Total shipments to date, 1918—2701 cars; last season, 2713.

Special Livestock Market Report

San Francisco, July 24, 1918.

CATTLE—There is little or no change in the market situation this week from last. Cattle of poor quality continue to crowd the market, while desirable steers of good weight and finish are hard to get and command top prices. There is no immediate outlook for a change from these conditions. Quotations are the same.

Grass Steers—	
No. 1, weighing 1000 to 1200 lbs.	11½c
No. 1, weighing 1200 to 1400 lbs.	11½@12c
Second quality	10@11c
Thin	8@9c
Cows and heifers—	
No. 1	8@8¼c
Second quality	7@7½c
Common to thin	4@5½c
Bulls and stags—	
Good	6@6½c
Fair	5@5½c
Thin	4@4½c
Calves—	
Lightweight	10@10¼c
Medium	9@9¼c
Heavy	7@8c

SHEEP—Sheep are scarce and supplies are drawn largely from feeders lots to meet the light demand.

Lambs—	
Yearlings	11½@12c
Milk	14@14½c
Sheep—	
Wethers	11@11½c
Ewes	9½@10c

HOGS—Not many hogs are coming in and the scarcity will continue very likely for a couple of weeks yet, when stubble hogs should begin to arrive in quantity. Prices have advanced a fraction of a cent. In Chicago last Tuesday hogs reached the record price of $19.20 per cwt.

Hogs—	
Hard, grain-fed, 100@140	16¾c
do, do, 140@300	16¼c
do, do, 300@400	16c

Los Angeles, July 22, 1918.

CATTLE—More thin cattle are coming in; market dull and lower. Choice fed steers scarce and in good demand. Calves also in good demand and steady.

Beef steers, 1000 to 1100 lbs.	$10.00@12.00
Prime cows and heifers	8.00@ 9.00
Good cows and heifers	7.50@ 8.00
Canners, per cwt	5.50@ 6.00
Calves, per cwt	8.50@ 9.50

HOGS—Receipts continue light; prices advanced 50c per cwt. all round. Killers all in the market and what offering were sold without trouble.

Heavy, averaging 275@300 lbs.	$14.50@15.00
Mixed, 225@275 lbs.	15.00@16.00
Light, 175@220 lbs.	15.00@16.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Few offering, and the market is firm. Killers having to draw on California, Arizona and Nevada all, to get what few sheep and lambs needed.

Per cwt. f. o. b. Los Angeles:

Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	13.00@14.00

North Portland, July 22, 1918.

The run of cattle in the cattle division today is not extra heavy, everything is meeting with ready acceptance at steady to strong prices. We quote as follows: Prime steers, $11.75@12.25; good to choice steers, $10.75@11.75; medium to good steers, $9.50@10.75; fair to medium steers, $8.50@9.50; common to fair steers, $5.50@8.50; choice cows and heifers, $8.00@8.50; medium to good cows and heifers, $6.00@7.50; fair to medium cows and heifers, $5.00@6.00; canners, $3.00@5.00; bulls, $5.50@7.50; calves, $8.50@11.50; stockers and feeders, $6.00@8.00.

There is steady demand in the hog division today at an advance of 10 to 15 cents over last week's prices. Quotations follow: Prime mixed, $17.85@18.00; medium mixed, $17.65@17.85; rough heavies, $16.85@17.00; pigs, $15.75@16.25; bulk, $17.75@17.85.

With 1600 head of sheep and lambs in the sheep division today the mutton market opened strong to higher for all classes. Quotations follow: East-of-the-Mountain lambs, $13.75@14.25; Valley lambs, $13.50@14.00; yearlings, $9.50@10.25; wethers, $8.50@9.50; ewes, $6.00@8.00.

Special Citrus Market Report

Los Angeles, July 23, 1918.

The limited supply of Valencias now on hand, about 2000 cars held by growers' organizations, are being distributed with a view to supplying all parts of the country fairly. Last week only 183 carloads left California as against 1482 cars the same week last year. Fancy fruit sold from $5.95 to $7.50, while lower grades sold as low as $5.25.

Owing to unfavorable weather conditions, lemons have been in light demand. However, with a diminution of the volume of deciduous fruits on the market and the advent of warmer weather, a change for the better is expected. California shippers have been sending lemons to the Eastern markets pretty steadily and getting around $5 per box for choice fruits f. o. b. California.

The local demand for all citrus fruits is good and the price level high, except on lemons, which show some weakness.

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COUNTRY LANDS.

A FINE OPPORTUNITY—I own an alfalfa and dairy property near Modesto, also some very fine Holstein cows that have been selected with great care. Owing to pressure of my large law practice I am unable to give the matter attention. In order to make a quick sale of the property and dispose of the land and cattle, I will offer the land in full stand of alfalfa at $250 an acre in parcels to suit purchasers; 10 per cent cash, balance 3, 4 or 5 years; low rate of interest to bona fide purchasers who will go on the land. I will sell them the cows on the same basis and loan purchasers the necessary farming implements. Under these conditions a man can go right on the place and make a good living at once, be independent and make money and pay for the land out of the land. Address Box 1170, Pacific Rural Press.

FOR SALE—600 acres good, level, unimproved land in Klamath county, Oregon. Good alfalfa land or stock ranch. Price $10 per acre. W. H. Johnson, owner, 22 Maple Ave., Watsonville, Cal.

BE PATRIOTIC—Raise stock on productive Government land, plainly marked on county sectional maps; $2.50 any county; booklet. Particulars for stamps. Write Joseph Clark, Sacramento

FOR SALE.—Improved ranch, big fruit crop, pipe system. Cheap if taken at once. Geo. W. Cheves, Paradise, Butte Co., Cal.

400-ACRE IMPROVED stock and grain ranch, 3½ miles Pleasant Valley R. R. station, Mariposa county, Cal. 100 acres cleared and tillable; nearly all could be farmed if cleared of large oak and other trees; 3 and 6-room house, large barn and outbuildings; blacksmith shop and tools; fenced and cross fenced, part hog tight; nice family orchard and garden irrigated from springs. Average rainfall, 29.88 inches. Grapes, olives, almonds, etc., grow without irrigation. No alkali or hardpan. Feed in pastures and free outside range adjoining, knee high. Elevation, 1500. School and church, one-half mile. Price, $30 per acre, including 300 goats, 3 horses, 3 head cattle, turkeys and chickens, and all farm implements. $3,000 cash, balance long time, 7 per cent. Fred B. Palmer, owner, Coulterville, Calif.

MARIPOSA CO. RANCH FOR SALE—480 fenced hog-tight, house, 2 barns, 12 horses, 25 hogs on grain, 15 tons hay, farming implements, harness, wagons, etc. Price, $9,600. Frank Solari, Hornitos, Cal.

OWNER OF 360-ACRE MOUNTAIN RANCH desires responsible tenant. Cash or shares. Enclose stamp for particulars. Address, F. B. Plant, 178 Kempton Ave., Oakland.

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"I have had occasion to go through a copy of your recently published 'California Hog Book,' received a short time ago. I wish to congratulate you upon being able to produce a text and guide on this subject for the California farmer. The book covers an important need, and I wish there were more publications of this character which so well fills California requirements. I am recommending this book to the membership of the Glenn County Farm Bureau, and, in fact, am urging hog raisers to use the 'California Hog Book' in connection with their industry."—W. H. Heileman, Willows.

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"Professor Wickson's special field is 'Agricultural Practice,' which, being interpreted, means actual plowing, hoeing, irrigating, harvesting, pruning, fertilizing and other actual farm operations involving manual labor and the use of tools, as distinguished from that form of agricultural activity in which the tongue is the principal implement. He was for many years professor of agricultural practice in the University before becoming dean of the college, and is now professor emeritus, which means that for meritorious service he may hereafter do what he likes. He is, of course, an enthusiastic personal gardener. It is thought that this summary of the experience which qualifies Professor Wickson to write about vegetable growing will be more enticing than any summary of the contents of the book, which consists of cultural directions for growing all vegetables, either commercially or for family use, under the varying California conditions."—San Francisco Chronicle. **Price $2 postpaid.**

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BETTER TO GROW MORE THAN TO HAVE TO EAT LESS

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SAN FRANCISCO AUGUST 3, 1918 LOS ANGELES

F-1-20 State Library

Grain-Stock Ranch Has No Labor Problem

Written for Pacific Rural Press

BIG GRAIN and grain hay crops, cream, beef, and pork are produced on this 2000-acre ranch with least labor uncertainty, but with co-operation of all concerned in getting things done with least effort, and in the best manner.

LABOR SHORTAGE does not worry T. D. Carneal, who farms 2000 acres in Alameda county. A. L. Henry of the Livermore Herald says that it may smack a little of the feudal system, but it certainly gets rid of the most vexing obstruction to food production in these days. The people concerned are happily producing and marketing food products in larger quantities and more cheaply than they could under the common system, and their labor supply is always pretty well assured. Mr. Carneal says he started twenty years ago building for his system and it would cost more now than it has, but in many cases the cost would be only a small percentage of the benefits.

The system is to put a tenant on each of three blocks of 500 acres and farm the rest himself. The tenants share the crops with Mr. Carneal, they help each other and Mr. Carneal when extra help is required. Each one keeps a hired man permanently and Mr. Carneal has two. Three neighbors co-operate in the heavy jobs, such as stacking and the threshing, which is done for all by Mr. Carneal's thresher. They all eat the mid-day meal where they are working, but go home at 5 o'clock to milk the cows, etc. The work done for each other is charged and credited by the nine-hour day and the system is carried out so that none of the tenants, ranch owner, or neighbors feel any labor shortage.

The small marketing, buying, and cream hauling are done for the tenants by Mr. Carneal, who himself is scarcely able to do much ranch work, but thus enables the rest to put in their time where it counts for production. A Ford and an auto trailer are used commonly; but when a big load is to be carried, such as recently, when all the young children on the ranch were taken to a free medical clinic in Livermore, the big automobile and trailer are used. With the auto and trailer, Mr. Carneal does more than three men with teams.

Attractive homes have been built for all of the tenants and equally comfortable bunk houses for all the hired help. Each one has a screened porch, stationary wash tubs, with hot and cold water under pressure, sanitary conveniences, and baths. The class of people that appreciates this is the class that will stay and is the class that is wanted.

Mr. Carneal has built 32 miles of hog-tight fence, so the hogs make money out of waste grain and other crops without any appreciable labor. Roads were necessary; but even with rights of way donated the county could not get them fixed up soon enough, so Mr. Carneal built them himself all over the ranch and was thereby enabled to raise the rent without reducing the renters' profits. The system attracts the best class of tenants. Two of them have been on the ranch five years; one of them three years. Each of them has an automobile.

Disking provides all the seed-bed necessary for the biggest crops in this district and is preferred because it saves labor, avoids turning up mustard seed that have fallen into the cracks, and does not leave clods and crevices under the surface to dry out the grain roots.

Grain is bound and threshed for all tenants by the stationary thresher on the Carneal ranch. But the straw is blown not into piles outside, but into some fourteen scattered barns, where it is fed directly to cattle during the winter.

The land of each renter is worked in a three-year rotation, about one-third of it being in grain or grain hay every year, one-third in pasture, and one-third fallow. The pastured land is rented for cash because there is no other satisfactory way to divide the profits from it. The crop land is rented on shares. The rotation is better for renter, landlord and land. A good crop assured on one-third of the land every year is better and far cheaper to produce than the average crops produced by common farming. Mr. Carneal figures that if it costs six sacks of wheat to raise a crop of seven sacks per acre, there is one sack profit. If the crop is increased to eight sacks, the profit is increased nearly 100 per cent. The rotation has far more than justified itself in this direction. The crop this year is a good one, while elsewhere in this district a great many very discouraging failures have been realized.

Co-operative Livestock Breeding.

It was early seen that continual cropping was robbery of the soil unless fertility were returned. Cattle were the solution, and Devons were selected because much of the ranch is hilly. The Devon is still believed most economical for beef production, but the tenants all have dairy herds now and the Devons are being reduced. Mr. Carneal recently bought a milking strain Durham bull, which is used free to the renters on the herds of all, because he believes this breed the best for milk production where they must go far and range the hills for feed. Each renter has two or three Berkshire sows, which are bred free to Mr. Carneal's registered Berkshire boar on account of the ranging qualities of this breed. To feed grain to hogs would be almost folly in Mr. Carneal's mind, but to let them pick up the waste is good patriotism. Except waste materials, the hogs are fed nothing at all until about farrowing time, when the sows are fed a little every night to get them into the habit of coming to the house. Coyotes might easily get the pigs in their first two or three weeks if born and left afield. After they are old enough to run to the sows, they are in small danger. One renter sold his pigs this season for $247, having never fed them grain at all except the stubble.

Grain Straw into Feed Barns.

Grain straw is not wasted on this ranch. The grain is bound into bundles and stacked beside some 14 barns scattered about the ranch. It is threshed by a stationary thresher and the straw blown directly into the storage space with no handling. The sides of the barns are composed of vertical slats as a part of the racks into which two or three days' feed may be thrown at once from the interior. Shed roofs protect the cattle as they eat from the racks, and dust does not fall in their eyes as it would from sloping slats. The straw not only saves more expensive feed and the labor of handling it, but it keeps the digestive tracts in good shape while cattle are eating lush grass, etc.

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EDITORIALS

FUTURE STATE OF JOHN BARLEYCORN.

WILL California lose her chief cereal in the effort which is now being made for the nationalization of barley? For about twenty years barley has been our chief cereal—following wheat, which fell from leadership in the '90s, and beating the old cereal chieftain at the rate of seven to one in some years. This increase in production became profitable in three ways: (1) Our growing local feed demand for our multiplying meat and motor animals (which had not then learned to consume gasoline); (2) the development of the European malting demand for bright, plump California barley; (3) the contribution of California to the beery fame of Milwaukee and St. Louis, as the quenching of American thirst with Canadian barley juice became more expensive to the maltsters. It really looked as though California barley might have a free field for expansion ahead, although the interior Northwest States had learned our John Barleycorn game and were disposed to play it to their limits. Our cereal sky is not now so clear and it is quite a question how long we shall be able to get away with twenty or thirty million dollars a year for our barley product.

NEAR BEER AND CLOSE MONEY.

TWO conditions affecting such an income from barley will occur to all who give the matter any consideration. First, how will the prohibition movement hit beer? Will it knock it out or only knock the alcohol out of it? If the latter, the guzzler can surely stand up to the bar longer and will have no limitation but the potentiality of his waist measure—and that, in turn, will be largely dependent upon how liberal ready-made tailors can be induced to be in the allotment of cloth at the girth in ratio to the length of the legs. If we could have a law that the girth (for instance) should be not less than twice the length of the leg, all men would have a better chance to keep their loose ribs afloat on an inland sea and the horizon line in the barley field would take on brighter colors, because in such a case there may be a demand for more rather than less barley.

The other obvious condition is what barley will be worth after the war. It will, of course, be much less than present prices, but will it fall below any profit to the California grower? The answer is not so obvious as the question. According to our figuring, based on the census of 1910, the value of barley from the separator in the field in 1899 was 40c per bushel and in 1909 it was 70c per bushel. Another lot of figures from the reports of the U. S. Department of Agriculture place the average field value of a bushel of California barley in 1913 at 68c; in 1914 at 59c; in 1915 at 62c; in 1916 at 95c, and in 1917 at $1.20. On these figures (including the high prices of 1907 to 1909) the farm value of a bushel of barley for a decade previous to the upgrade of 1916 would be about 66c—or about 85c per cental.

CAN WE GROW 85c BARLEY?

WE did grow it: at a range of from 25,427,000 bushels in 1908 to 46,500,000 in 1910 (65 per cent greater than the product of any other State), and though it was nip and tuck to get any profit out of it there must have been some profit on the average, for it is inconceivable that we would have kept on growing barley for a decade and losing money all the time. Can we do it again? Our judgment is that we cannot. Shall we have to try? That is the main question and the answer to it answers everything: because, if we have to try, we won't—and that will be the paradoxical end of it.

The question of how we did manage to grow 85c per cental barley at some profit is pertinent. It seems to us that the chief factor in it (remembering that our average acre-yield was only 28 bushels) was the cheap harvesting of it, which our harvest meteorology enabled our California-made harvesting machinery to accomplish. Our builders of combined harvesters proclaimed the kaiser's trust in "me and gott" and got away with the swag; it works better in farming than in welt-politik! But the time has passed when the possibility of profit in 85c barley could slide through on its harvesting end! That very end has itself lost its glide. A combined harvester cannot be bought for its old price and it probably never can be again. Some of the caterpillars and tanks which will be junked at the end of the war may serve good agricultural purposes, but they cannot be transformed into those magnificent warships of the field—the combined harvesters. They will require new materials and labor, and both are likely to have permanently increased cost. Besides the greater investment which an outfit will require, the man-power for operation will probably cost more than ever. It is apparently hopeless then that we shall have such cheap harvesting in the future as that which formerly made 85c barley carry a margin of profit for the grower.

Can any other factor in the production be cheapened to cover the coming increase in cost of harvesting? Possibly some one may suggest that the tractor will do it. That point is worth considering, for we see no other phase of the cultural operation which can be cheapened. But in this connection it must be remembered that before tractors were modernized and popularized as they now are, gas motors were already doing more for barley in this State than for any other crop. Many motors used in harvesting served also in plowing, harrowing and seeding—chiefly for the barley crop. Therefore, power-culture figured to some considerable extent in the possibility of 85c barley in the past and that discounts its future contribution. Is it possible now that the wider use of the tractor will compensate the barley grower for the increased cost of every tool and supply he uses and for the doubled cost of farm labor? The chance of this does not look good to us. The increased use of the tractor seems to be the only recourse in the effort to stay with the barley crop which California imperatively needs, but even the tractor can never again pull a profit out of 85c barley.

A DRIVE FOR NATIONALIZATION OF BARLEY.

THE reflections in which we have been indulging are provoked by the appearance of a special publication by the U. S. Department of Agriculture entitled "Cultivation and Utilization of Barley," which is Farmers' Bulletin 968, by H. V. Harlan. It has an outspoken promotive purpose—not specifically stated to meet a "war need" but inferentially in that line, for this is the chief inscription on its emblazonry:

Barley should be more widely grown in the Northern and Western States. It is a protection to our grain supply, as it produces a good non-glutinous flour and can be milled by wheat mills with little change of machinery.

It is an excellent grain feed for stock, being almost the equal of corn. It, however, competes with corn in few places, as it is mostly grown outside the limits of profitable corn culture. It produces more pounds to the acre than oats or wheat. It supplies the needed grain feed for increase of livestock which some time must come with diversified farming in the areas where grain farming is now the only enterprise.

To add attractiveness to this appeal for a greater barley product, the publication has a colored cover which is gray in tone and therefore does no credit to the natural beauty of the barley grain, but is still notable, as it is the first instance, so far as we have observed, in which Uncle Sam has undertaken a "farmers' bulletin" with a colored cover. Away from this coast, a thought of the use universally made of barley might cause one to wonder whether Uncle Sam's gayety may not be mistaken for anti-prohibition propaganda, in spite of the very sober declaration quoted above.

The publication goes into detail about the growth of barley—dividing the country into three main divisions: the "arid region," extending from the Pacific Coast eastward to a line halving all the States from Texas to North Dakota; the "humid spring" region, northward of a line extending eastward from Oklahoma eastward to New Jersey; the "humid winter" region, from the last mentioned line southward to the Gulf of Mexico. A map is given with a point for each 5000 acres of barley now grown, and this results in a pretty free spotting for California and the States northwest of Chicago and a scant fly-specking for the rest of the country, with most of the Eastern and Southern States free even from that.

The publication is very interesting and well prepared. It is rather notable as an effort to bridge the country for barley—employing the cantilever method of projection from California and from Wisconsin to span the great plains region: another cantilever starting from Wisconsin toward Florida, with nothing rising from the latter abutment to meet it. It is quite clear that the conception of a publication of this kind has arisen from the war and that its motive is to increase the production of food for man and animals. How far such a conception is otherwise safe and likely to be permanently serviceable may be questioned. Experience in many parts of the area included has definitely rejected barley as inferior to other crops, either agriculturally or economically. In other parts of the area (in the arid portion), barley has been fully approved by experience as the best feed grain to grow—so far as it is profitable to grow any. We are not objecting to this barley propaganda either from a war view or any other, but still we have a conviction that it is not a justified effort. Two lines of plant introduction and promotion seem justifiable: one is that of untried plants for experimental results; the other is improved varieties of types already demonstrated to be serviceable. Barley is too well known to enter the first category and is excluded from the second by the fact that it is not serviceable except in specific regions where decades of experience show that reliance can be placed upon it.

CAN WE FACE A NATIONAL UPLIFT OF BARLEY?

PROBABLY California can survive a national uplift of barley better than other States can. California has already won out with a grain which nine-tenths of the farmed area of the United States rejected as inferior for its conditions and uses. Of course, California would prefer to make the effort to grow barley profitably without competition with the results of a national uplift coming just at a time when St. Louis and Milwaukee seem most likely to lose at least some facets from their amber coronets through prohibition amendments, but that disfigurement will be first seen from the Northwest. If Europe tries to forget its war woes in an ocean of malt liquor, as seems likely, California will have the best chance to minister to that, for our barley is brighter, plumper and already better known than any other American product and it is grown nearer to salt water than any other and can probably be more cheaply laid down abroad. But the chances at the malt houses, either in this country or abroad, are but secondary in the present outlook for California barley. Its chief chance must lie probably in the local use to be made of it, and this is largely conditioned on the rate of speed with which our animal industry, which has been rapid in growth recently, continues to develop. It seems to be the conclusion of the experts in that line that world prices for all animal products will remain for years and perhaps permanently on a higher level than heretofore experienced—even after the war inflation goes out

of them. That is a reasonable expectation and, so far as can now be seen, it is the chief support for our barley production. Though we are increasing somewhat in corn and considerably in sorghum grains, it is not likely that either will supplant barley, because barley is the best plant to turn even a scant winter rainfall into a good crop, for it has sense enough to grow while the water falls and therefore wastes least of it.

ARE WE FAIRLY TREATING BARLEY?

CALIFORNIANS are not to be credited with much contribution to the greatness of barley in this State. It has usually grown itself and turned favoring conditions of soil and climate to its own account with little help from the growers. It is true they have paid some attention to choosing well-behaving varieties, and what we have called "common" for several decades has gained fame in other States to which it has been taken, but beyond choosing a few varieties from many which have been brought in for trial, Californians have done little to help barley to be good. They have grown it without spending a cent for fertilizers: they have not fed it as well as they did the tramps who used to throng the roadways. They have only accidentally given it a place in a reasonable rotation and have paid but little attention to the lessons of such accidents. As our crop-planning must become more systematic if we are to live on the land with all the increases in costs of production which have now arrived, it is clear that a great crop of barley must return the money which it can make out of the aviation-captures by beans and alfalfa and must recover the expenditure for deep tillage which sugar beets and other root crops require. Even if we cannot continue to grow barley as a sole crop for such yield and prices as were formerly secured, it is still quite probable that with such prices as higher valued animal products warrant and with such greater acre-yield as better farming and rotation will insure, barley will be a great cereal in California long after current war prices have disappeared and after picture books prescribing barley for parts of the country not well fitted to answer its requirements or for fields which can otherwise be made more profitable, may be forgotten.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Is It "Dodder" or "Morning Glory"?

To the Editor: I have about 25 acres, leveled and checked, ready for fall seeding of alfalfa. This land was prepared last fall and seeded to barley for hay. After cutting, as water was not available for corn, I let the piece go, intending to put in alfalfa this fall early. I notice now, however, that "love vine" or "dodder" is all through the star thistles that came up after the hay was cut. Would you advise putting in alfalfa or again seeding for hay, putting in corn next spring? I am afraid the dodder will kill off the alfalfa, but thought that the cultivating of the corn would kill it off.—M. L. E., Cottonwood.

You surely have raised an interesting question, and as you sent no specimen of what you call "dodder" we have to indulge in a few conjectures. Do you mean that the dodder attaches itself to the star thistles, twining around and digging itself into the stems? If so, it is one of the hundred or more species of cuscuta, but whether it is the one which is parasitic on alfalfa we do not know, for we never saw dodder on a star thistle, though we have seen these loving parasites on many other plants. It is doubtful whether, if you do find such a plant on the thistle, it would take to alfalfa, for the dodders pick out their host plants with some discrimination.

But suppose that the plant which you fear is a higher-up member of the convolvulaceæ than a dodder and contents itself with running over the ground and climbing the star thistles but not biting into the substance of the stems, and supposing that it has good-sized leaves and flowers instead of no leaves and very minute flowers, as the dodders do—then your intruder is morning glory and not dodder.

Our course in either case would be to go ahead and put in the alfalfa this fall. If the pest is not alfalfa dodder, it will not bother you. If it is morning glory, the best way to fight it perhaps is to smother it with a good stand of alfalfa well irrigated. If it is really dodder, you can run it out by pasturing or by close mowing, which prevents it from going to seed. Dodder has to come from the seed every year. The reason it is sometimes bad is because people are slackers. You go ahead with your plan; put up a good fight; don't be doddered yourself!

Summer Pruning of Apricots.

To the Editor: Our apricot trees grow very vigorously in this county, and particularly so in the Van Nuys section, and the custom has been to prune them very severely in the winter. The result has been that the trees are going to vegetative growth and produce little fruit. The question is how to prevent this. I have thought of three treatments: No pruning at all for a season or so, light winter pruning, a moderate summer pruning. It is my opinion that these three treatments will act to check the trees in their growth and induce better fruiting. I have understood that many apricot growers are coming more and more to a very light winter pruning, with moderate summer pruning just after the fruit is off.—Reader, Los Angeles.

You have the right idea about summer pruning of apricots. Such practice is approved by many years of experience in parts of the State where the tree makes excessive wood growth. Where the growth is less, the winter pruning seems sufficient. In the apricot chapter of our book, "California Fruits," you will find pruning after fruit gathering prescribed and an account by Mr. Neff of Anaheim, who was formerly a large apricot grower, gives detailed suggestions. The practice does not insure bearing of shy varieties like the Moorpark, but it probably helps them also. It is not safe to leave the trees unpruned, for they will break to pieces if they set a heavy crop.

Mildew in Sprouting Barley.

To the Editor: What conditions favor mildew in sprouting barley? I soak my barley in oil cans 10 to 12 hours and then put it in boxes 12 to 18 inches about three inches thick and cover the barley with a wet sack, and a dry sack over it to check evaporation, and place the boxes in the shade; and I repeat wetting the sacks night and morning. About the fifth day the mildew forms. I have washed out my boxes with formaldehyde solution. The bottoms of the boxes are made of old sacks. What amount of formaldehyde is about right to disinfect the boxes? Will boiling water do?—B. W. M., Redding.

Mildew cannot be wholly prevented by any disinfection of the containers before sprouting, though that is desirable to delay the attack. The sacks, the air and the water may contain the spores. Apparently the reason why it is so bad in your case is because the grain is kept too moist and has too little ventilation. If kept a little drier and still moist enough to grow well, you will have less mildew. Possibly a little more heat will also help. One pound of formaldehyde to 40 gallons of water or sufficient treatment with boiling water will kill the spores on the boxes.

Selling Direct to Jobbers.

To the Editor: Kindly tell me why a farmer cannot sell his fruit direct to some jobber. If I can do so, how can I get in touch with some reliable firm?—J. H. W., Fowler.

We know of no reason why you cannot make such a sale if you can find a jobber who wishes to buy such an amount as you have to offer. Jobbers are understood to be operators who buy products in bulk after they are graded, standardized and packed in commercial shape—generally with recognized brands which are in good request among retailers. Therefore, a packer usually comes between a grower and a jobber or a cooperation of growers does the packing and sells in bulk to jobbers or does its own distribution to retailers, or both. We do not know how you can get in touch with such a dealer as you desire. Perhaps by consulting your neighbors who have similar products you can find out who wishes to buy in your section.

What Can Be Done with Morning Glory?

To the Editor: We have patches of morning glory which are doing considerable damage. A crop of hay has just been harvested from a portion of the infested land and a crop of sweet peas will be removed in a few days. Would you advise plowing now, and then cultivating each week for the purpose of killing the weed, and do you think such process would destroy the glory so that the land would be clear of it for next season? Or do you consider that it is necessary to devote a whole year to continuous cultivation in order to kill it?—A. D., Watsonville.

If the work is well done as you propose and a flat weed cutter is used which completely undercuts the surface so no shoots are allowed to appear, you can so reduce the plant that its growth next year will be so weak and so late that crops maturing early in the summer will be practically uninjured by it and you can then treat the pest again as you propose to do this year. We have little faith in eradicating the plant, but it can be kept below the point of much injury on open land.

HAS YOUR SUBSCRIPTION EXPIRED?

(8-3-18)

The yellow label tells.

WIFE SHOWS BETTER JUDGMENT.

Red Bluff, Cal.

My wife subscribed for your valuable paper last year. She sure showed better judgment than I, for I thought I had all the papers I could read, but I find time to read it and find it very interesting. (Signed.)

History teaches us that many great men owed much of their success to the intelligent advice and good judgment of their wives.

A check, a money order, a dollar bill or postage stamps will show good judgment.

HAS CHIEF ASSET FOR ACHIEVING GREATNESS.

Elizabeth McHugh, Subscription Clerk

Rye Hay and Straw.

To the Editor: Kindly inform me as to feeding value of rye hay as compared with other grain hays and alfalfa for work horses; also the feeding value of rye straw as compared with wheat and oat straw. Could rye straw be used as a filler together with silage?—J. S., Doyle.

Oat hay is the best of the grain hays and rye is the worst from the points of view of nutritiveness and digestibility. As compared with alfalfa hay for horses, good oat hay is probably superior and rye hay inferior—though it is hard to compare things which are quite unlike in some respects and had better be mixed than contrasted. Oat straw is the best of the cereal straws, barley next and rye and wheat worst. As a filler the value of rye straw depends upon what the silage is made of: it balances better with alfalfa silage than with corn silage, but on the whole we would rather put rye straw under a horse than into him.

Cure for Crown Gall.

To the Editor: Is there any cure for crown gall? I have it on some peach trees and on one apricot tree.—J. W. R., Folsom.

This trouble is often called "root knot" and you are in luck not to have more of it. Some years ago a Napa county orchardist announced a cure which consisted of boring a hole into the substance of the knot and filling the hole with bluestone solution—as strong as dissolving in cold water would make it. This did more, however, than was desired, for it killed both tree and knot in too many cases. The present prescription is to remove the knot cleanly, without injury to adjacent bark, and paint the wound with Bordeaux paste—allowing it to dry before replacing the earth. This usually kills the knot growth at that spot.

Falling Tomatoes.

To the Editor: Why do tomato blooms fall off even after the little tomato has formed? The first blooms produced tomatoes; since then they fell off. I irrigate them lightly every five days.—C. A. T., Red Bluff.

Several possible causes are usually alleged. The trouble usually occurs on plants which are induced to make too free growth by over-rich soil and too much moisture. The plants do not require so much irrigation if the soil is fairly retentive.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 30, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.20	.11	62	50
Red Bluff	...	...	...	100	66
Sacramento	...	...	...	100	56
San Francisco	...	...	.01	70	54
San Jose	...	...	...	84	50
Fresno	...	...	...	102	60
San Luis Obispo	...	...	.01	82	48
Los Angeles	...	.00	...	83	60
San Diego	...	...	...	76	62

Prunes—Growing and Curing

[Written for Pacific Rural Press by John J. Fox.]

In three weeks' time the prune harvest will be under way, and growers have been busy cleaning and repairing trays and boxes, getting wood to the dippers and rolling down the soil for picking. This has been a pretty hard year on prune trees, for, although the crop is not heavy, this second dry year resulted in a very heavy June drop—the heaviest we have known, followed by a July drop, which in some orchards was fully as heavy. A part of the early fall of fruit seemed to be due to injury by thrips on the little stems, but in July it seemed to be an effort on the part of the tree to relieve itself. Even where irrigation is practiced there was some July drop.

LOSS BY JUNE AND JULY DROPS.

This is going to affect the yield not a little. Some men have estimated 15 per cent to 20 per cent of loss. This, however, will be partly made up by the increased size of the fruit remaining on the trees. There is very little new sturdy growth in old trees this year and it depends a little on the fall how the young buds develop and fill out for next year. This is a year when all sucker wood should have been removed throughout the growing season. So little of it is wanted, except to renew a limb, and it robs both fruitwood and fruit of nourishment.

Prunes this year will be generally small in size except where irrigation is practised, and even there there will be a lot of small fruit.

Quite a number of growers put in pumping plants this year where water was available, in an effort to bring their trees through in good shape—orchards that never before had been irrigated.

Here, we notice that those trees that were irrigated early in the season look quite the best. They have large flat leaves of good color. The late June watered trees look fairly well, but show many small yellow leaves, some of which still spoil the general appearance of the trees. In orchards that had a good drenching up to the middle of July there are some cracked prunes, except where they had had a previous flooding. But the fruit here generally looks good.

A CULTURAL CONTRAST.

We know of two orchards, on the same tract, side by side, the same age and equally good trees. One is always shallow plowed and generally laid away early. This one had a crop we would have estimated at 3½ tons to the acre a month ago. The other has always been plowed deep and kept well stirred throughout the growing season. This year the owner put in a temporary pumping plant and both trees and fruit look well. His crop should be, say, 1¾ tons (dried) to the acre and from appearances should make 60s or better. The unirrigated orchard adjoining will run pretty close to 100s. These two orchards are on a strong clay loam bottom. The irrigated orchard was also plowed in February, because of the dry winter, though it is generally plowed in March. The unirrigated one was plowed in April and lost quite a little moisture while waiting for another rain which never came.

HEAVY PRUNING.

Mr. Ham Johnson of Napa has been doing some summer pruning on his old prune trees this year and it will be interesting to see the outcome of this—quite heavy cutting. There is no doubt that growers will be actively engaged this year in pruning as soon as the crop is off, not only to relieve the trees but the better to observe dead or moribund wood, of which there will be a great deal after this dry year.

The drouth and low water table, which latter seems almost unprecedented, are chiefly responsible for the dead wood and this condition has been rendered worse in various sections by the attacks of "thrips," canker worm, tent caterpillars, red spider or bean thrips.

The mealy plum louse has not been bad generally, except in some cases on young trees just coming into bearing, so the number of split prunes from this cause will be negligible. The cool weather along the coast sections through July has been very helpful.

HINTS ON CURING.

If there should come a very hot spell during harvest, most men will have enough trays this year to stack their fruit and conserve its quality. If one can spare the labor it pays to take pains and watch this matter closely, especially with regard to Imperials and Clairacs. Two or three days at the critical period of exposure to a blazing heat and the best prunes (Imperials) settle down on the trays like fried eggs and are then often damaged in the turning. At the present price especially, it pays to move your Imperials, when ready, by hand and later to be ready to stack them if necessary. This year it will pay to take infinite pains over the curing of the crop, which will all be wanted. A field grader is almost a necessity, for unless it is used, the small prunes are dried hard by the time the large ones are cured. We all know what this means on the grade sheet, but how many of us pause to consider how much we lose also at the scale.

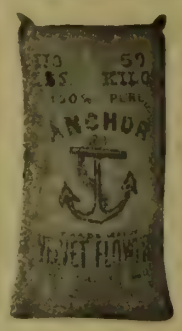
"DRYING" AND "CURING."

We have learned the difference between "drying" prunes and "curing" them, but the owner must stick to the drying yard if he wants his fruit cured right. The French must be doubled or stacked, or both, at the right stage or sometimes only moved on the tray. But to save on labor in the handling of the curing and cured fruit is false economy.

I hope in later articles to deal with results in different sections, with pruning, cover crops and spraying respectively.

Fruit and alfalfa growers in several districts of Yolo county are complaining of insufficient irrigation water owing, they claim, to an undue diversion of water by the Yolo Water and Power Co. to the use of the rice growers.

SULPHUR



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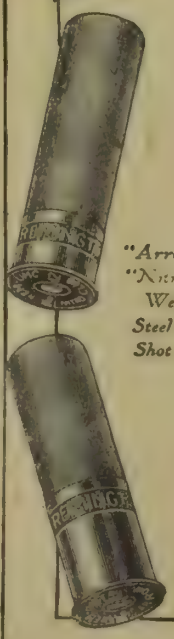

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WOOLWORTH BUILDING NEW YORK CITY

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Can't Afford Unirrigated Prunes.

"Try leaving a few rows of your prunes unirrigated this year to determine the value of irrigation definately," we suggested to James Sherriffs of San Benito county. "Prunes are worth too much. I can't afford to lose them by such experiments," said Mr. Sherriffs, whose pumping experience has convinced him that pumping pays for itself plus a profit. "Without irrigation the fruit is smaller, the leaves fall sooner, even before the fruit drops, and the next crop is reduced. I sometimes get four tons dry per acre and three tons is a fair average crop, with irrigation. They dry away about 2¼ to 1."

Give Melilotus Early Start.

The success of a melilotus cover crop depends largely on getting a good start in the fall, as experienced by W. E. Jones & Son, who have for some seasons grown melilotus among their almonds near Banning in Riverside county. Such cover crop sown late in September, 1916, on sandy gravel over porous subsoil, followed by furrowing and irrigation, proved far better than some of the same seed planted similarly in October, 1916, after the first rain. Where it got a good start before cold weather, it grew a little all winter and shot ahead when a warm spell came. Last fall, owing to scarcity of water, it did not get a good start and the growth was poor.

Bush Berry Shortage.

A shortage of blackberries, loganberries, raspberries, etc., appears likely during the next few seasons, due to the fact that much of the berry production has been from bushes and vines interplanted between orchard trees which have become too big to continue the double cropping. Berries come to full bearing the second year. Plants will not be ready for shipment until November, but orders for them should be filed early.

Water Increases Apple Sizes.

"Newtown apples will stand all the water you want to give them," says E. A. Hall, of Watsonville. The water increases their size, but that is not objectionable, as many 3½-tier Newtowns are used for baking. Bellflowers, which are mostly eaten fresh, should not grow over the four-tier size. The last irrigation may be applied a month before picking.

Where Alfalfa Cannot Rob Trees.

A case where alfalfa in an almond orchard does not rob the trees of irrigation water is that of the thrifty trees belonging to R. E. Liguori, in Livermore Valley. "A foot of water on the alfalfa would be out of sight in two hours," says Mr. Liguori. "The water goes down quickly, but not sidewise, and the alfalfa shows lack of water before the trees do."

Sulphur Per Ton of Peaches.

To the Editor: How much sulphur must I buy per ton of peaches which I want to dry?—H. M., Livingston.

[Answered by Cal. Peach Growers, Fresno.]

Used in connection with the ordinary compact sulphur house, one sack, or 110 lbs. of sulphur is enough for 15 tons of fresh fruit.

Water the Apricots Well.

The time to begin growing next season's apricot crop is just as soon as the present crop is off. Dig a few holes to see how far it is to moist earth—the moisture from below. Then put on enough water to meet that sub-moisture. But do it early enough so the growth that follows will ripen before freezing.

Folly in Shipping Poor Pears

[Written for Pacific Rural Press.]

The Pear Growers' Association is endeavoring to reduce the quantity of poor pears sent to San Francisco to get in the way of good fruit and to waste the shipper's labor and freight money. It is reported that one day last week an examination of the thousands of boxes piled upon the wharf showed that the growers, or their tenants, have been putting everything in the way of windfalls and wormy pears into the boxes, mixed in with the good windfalls, and with the good No. 2 pears.

The previous week, when only 300 to 400 boxes a day were coming in, the retailers bought such pears, took them to their stores or peddling wagons, sorted them over, threw away the wilted, the wormy and the rotting pears, and laid aside the good 50 per cent of the pears to ripen up. When they had enough for their immediate wants they would not buy the mixtures of trash and good pears when over 2000 boxes a day were coming in. Therefore, the grower who throws into the boxes all the refuse pears is bound to lose.

The growers on the Sacramento river will save, on the estimated tonnage of 3000 tons of windfalls, if they will sort them over and ship only the good ones, at least $7,000. What's the use of paying charges and using boxes to transport something to market that not only brings you nothing, but costs you $5 to $7 a ton loss?

Brown Scale on Apricots

To the Editor. What would you consider the best spray to be used now on apricot trees that are badly infested with brown scale? I intend to have the orchard irrigated as soon as the crop is off. The renter received two big crops, but this year the apricots were both small and smutty, through neglect.—W. K. B., Santa Rosa.

[You cannot spray apricot trees for scale while they are in foliage. Use lime-sulphur solution — winter strength—any time after the leaves are off and preferably when the buds begin to swell in spring. The fruit is probably small for lack of proper cultivation or insufficient pruning and thinning or both. It may help you to prune this year as soon as the crop is off.—Ed.]

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Authoritative tests have proved that as high as 50 per cent increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

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will be raised in America this year than ever before. Make every acre you own or rent produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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Government Wants More Wheat

[Written for Pacific Rural Press.]

Under date of July 22, the U. S. Department of Agriculture has asked farmers to sow 47,500,000 acres in winter wheat this fall. This would yield approximately 667,000,000 bushels—the greatest winter wheat crop in history. While the request specifically mentions 45,000,000 acres as the area to be sown, it asks farmers if they cannot raise the total to 47,500,000 acres. The latter acreage would be a 12 per cent increase over last year, and would provide abundantly for the needs of the allied nations. When harvest time rolls around it will be known as the "Liberty wheat harvest," according to the plan of the department. Officials also plan corresponding increases in the production of spring wheat and livestock.

BILLION BUSHELS SOUGHT.

The last crop report forecast a 1918 harvest of 890,930,000 bushels of winter and spring wheat. If weather conditions next year are favorable, the 1919 harvest of winter and spring wheat will be well over the billion mark in bushels. From the 45,000,000 acreage, however, a total of 636,000,000 bushels would be raised, on the basis of an average yield of 15.7 bushels per acre and an abandonment of 10 per cent of the area sown on account of winter kill. Even with a normal good crop, such as is evident for this fall, the country's reserve supply, or "carry over," is practically exhausted, it is said, and, at all events, is the smallest on record. It is up to the farmers this fall and next spring to build up a sufficient reserve.

VARIOUS STATES.

This is how the department figures some of the States will have to increase their winter-wheat acreage this fall over 1917 to make successful the "Liberty wheat harvest" of 1919:

	1917 Acreage.	1918 Acreage.
Arizona	44,000	48,000
California	489,000	538,000
Utah	244,000	275,000
Nevada	5,000	10,000
Idaho	302,000	405,000
Washington	422,000	850,000
Oregon	562,000	692,000
Ohio	2,145,000	2,500,000
Indiana	2,645,000	3,100,000
Illinois	2,602,000	3,200,000
West Virginia	535,000	590,000
Iowa	450,000	900,000
Missouri	2,875,000	3,235,000
South Dakota	164,000	182,000
Nebraska	3,135,000	3,762,000
Kansas	9,479,000	9,479,000
Kentucky	952,000	1,142,000
Tennessee	840,000	1,010,000
Alabama	144,000	158,000
Mississippi	36,000	45,000
Texas	1,622,000	1,730,000
Oklahoma	3,264,000	3,400,000
Arkansas	288,000	317,000
Wyoming	80,000	92,000
Colorado	462,000	508,000
New Mexico	270,000	283,000

Many States are not asked for increases, such as Kansas, which appears in the table. They are States that have suffered from drought conditions. If conditions become favorable, however, an increase will be expected for them. In Michigan, Wisconsin and Minnesota large increases of winter wheat acreage is not suggested because of heavy increases for rye.

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COLLECTING WAGES FOR PIECE WORK.

To the Editor: Is it true that the Labor Commissioner will not help a man to collect wages due him if he has worked by the piece and not by the day?—G. C. A., San Francisco.

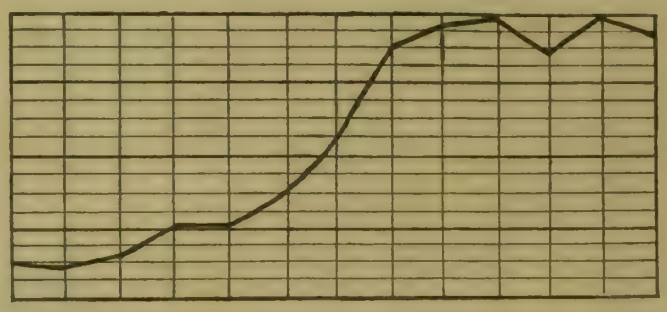
In answer to the inquiry signed "G. C. A.," permit me to advise that this office has not, to my knowledge, refused to assist in the collection of wages due a laborer who was working on a piece-work basis, if the complainant actually performed the work. We have refused to collect such bills for contractors, who were employing labor on a piece-work basis, the orchardist or farmer having refused to pay for the reason that the contractor had failed to fulfill the contract or agreement entered into. As regards an individual, this office is ready and willing at all times to render every assistance possible.

MANURE IN CONVENIENT FORM.

Over in Nevada manure from large herds of sheep and cattle fed on alfalfa oil cake and other highly nitrogenous foods has accumulated for years. The dry climate removes the moisture but prevents leaching or fermentation. The Pacific Manure and Fertilizer Company of San Francisco are operating a grinding mill of between two and three hundred tons per day capacity and pulverizing this highly concentrated manure and putting it out under the name of Groz-It. It is odorless and free from flies, insects, weed seeds and other objectionable features and contains many times the plant food value of ordinary manure, being especially rich in potash.

At present the greater part of the output is being shipped across the continent to Eastern and Southern States, in spite of the fact that the freight makes it $10 per ton higher there than here. O. W. Lehmer, general manager of the Yosemite Railroad, tried out a few tons on his citrus trees at Live Oak some time ago and is now using it exclusively in his grove at Live Oak in San Bernardino county.

During the month of June $8,343,430 were loaned to farmers of the United States by the Federal Land Banks on long-time first mortgages, according to the monthly statement of the Farm Loan Board. The Federal Land Bank of Spokane leads in amount of loans closed—$1,262,800. The bank at Berkeley, covering the Eleventh District (California, Utah, Nevada, and Arizona), loaned $468,200.



Why live stock prices go up and down

WHEN there is more dressed meat on the market than there is consumer demand for it, meat and live stock prices go down.

But when the consumer demand for meat is greater than the supply, meat and live stock prices go up.

This is the law of supply and demand. It is the law that determines the prices the producer gets for his cattle.

* * * * *

Between the producer of live stock on one hand and the consumer of dressed meat on the other hand is the service of the packer.

The packer turns the live stock into dressed meat and by-products and then distributes them to the retailer.

Out of every dollar the packer receives for this meat and by-products he pays 90 cents, approximately, for the cattle.

The remaining 10 cents on the dollar must pay for dressing, freight to market, operation of distributing houses, and in most cases delivery to the retailer.

Out of what is left must come the packer's profit. For Swift & Company during 1917 this amounted to a net profit of ¼ of a cent per pound of beef. On *all* products, it was only a little over half a cent per pound.

A reasonable profit margin is necessary to enable the packer to operate without endangering the efficiency of the business and its value to the producer as a marketing agency for live stock. Complete elimination of these profits would have practically no effect on the farm prices of live stock nor the retail prices of meat.

Swift & Company will gladly co-operate in the carrying out of any national policy that will tend to steady the prices of live stock and meat.

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Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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GROWING LEGUMES WITH GRAIN

To the Editor: This company is farming approximately 6000 acres to grain this season. This land is the usual red color upland. We wish to know whether vetch inoculated with nitrogen germs and planted with wheat, barley or oats would increase the yield of grain enough to warrant the expense. The cost would be $2 an acre for inoculation and $1.20 an acre for the vetch seed. Please let us have your opinion. — Sacramento Suburban Fruit Lands Co., Sacramento.

[Answer by Prof. J. W. Gilmore.]

Several different species of legumes have been planted with small grain both winter and spring, in many parts of the country. This practice, however, has not been successful except possibly in a few isolated instances. The main difficulty is that the legumes and the grains do not ripen at the same time. In some instances, too, the grain and seed of legumes are difficult to separate. This would be especially true in the case of wheat and rye. Moreover, it generally happens that the competition between the grains and the legumes for space, light and moisture are great detriments to growth and development, especially yield of grain, than the advantages derived from the presence of the legumes. On the other hand, legumes of various sorts and grain have been planted together for hay with excellent success. This is especially true with oats and barley with peas, rye and wheat with vetch. In saying these things I do not wish to discourage the writer's desire to experiment, for we do need more experimental evidence on this question in California. Moreover, I would not go to the expense of $2 per acre for inoculating the seed if the experiment were tried. The Division of Soil Chemistry will supply directions for inoculating the seed, even if this were necessary at a cheaper rate.

(To emphasize one of the points made by Prof. Gilmore, we would add that to get a good crop of grain by rainfall on uplands usually requires all the moisture which one has reason to expect and to divide the moisture with a growth of legumes will be to run the risk of having too little water in the soil in the spring to make a grain crop. To increase the chance for grain, the field should be as clean of any other growth as practicable.—Editor.)

NEED OF IRRIGATION AVOIDED.

Charles Gelbke, who has 15 acres of extra-growthy pear trees on heavy loam soil in Contra Costa county, rightly ridicules the idea of cultivating so deep in dry weather with shovel cultivators or springtooth harrows that moist dirt is raised up to dry. His trees never had water until this spring, when they needed it on account of the drouth. Cultivation cannot make moisture where there is none. In normal years he held enough moisture by harrowing or clod mashing in the afternoon what he plowed in the morning and by using either disk harrows, weed cutters or shovel cultivators, with shanks about ¾ inch wide and broadened at the lower ends, to stir the subsurface without raising it where it would dry out more. A surface mulch was made and kept loose without mixing subsurface soil with it.

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You May Help Draft Good Seed Laws

[Written for Pacific Rural Press.]

The draft of new seed laws to be presented to the coming Legislature is to be worked out at a meeting of all people interested, to be held soon at San Luis Obispo under the auspices of the State Horticultural Commission. Senator Rigdon, who attempted to get such a bill through the last Legislature, will undertake that part of the work again. The plan to be presented by the State Horticultural Commission through O. W. Newman, who has been working on this problem some years, is to provide a workable separate law to encourage what Chief Deputy State Horticultural Commissioner George P. Weldon says is the most important thing—the scientific improvement of our various seeds, principally by selection of the best plants and heaviest seed and the certification of such by the State. Potatoes and cantaloupes are especially in need of such improvement. The tendency is generally to sell the best and earliest, leaving the culls to furnish seed. The Rockyford cantaloupe is known everywhere because a seed growers' association has standardized the selection and certification of the seed. Breeders would begin to select melons as soon as the first ones ripen, choosing those on best bearing vines, having the heaviest netting.

Potatoes are on the decline in yield per acre in California for lack of better seed. We have a potato inspection and certification law which is in general quite satisfactory, except that it provides no money with which to boost the work. The result is that so few growers have asked for certification that the traveling expenses have been so heavy as to discourage even these. With a competent man paid to carry on propaganda, this condition could be reversed. The demand for certified seed is far beyond the supply and at good prices. W. V. Shear, who has been considered the best man in California for the inspection work, but who is raising potatoes of his own in Modoc county because inspection work does not keep him busy, writes to Mr. Weldon that nearly all of the potato growing States have inspection and certification and the movement everywhere is making great progress except in California, where it is going backward. He urges that the potato certification law be amended to include sweet potatoes, onions, beans, celery, asparagus, beets, cabbage, etc., when grown for seed. Mr. Weldon agrees emphatically and points out that with these lines added to the potato inspection and with a small initial appropriation, enough inspectors would soon be needed to have one in each district. With the basic principles of plant breeding in mind, such inspectors could soon become expert in judging the quality of various truck crop seeds.

The growers themselves whose potato crops are now inspected pay for the inspection, and there has been no difficulty collecting on crops that are certified. But some collections have been difficult where certification was found impossible and an amendment is needed to cover this point.

Separate from the seed certification law is another proposal to strengthen the inspection of seeds on the market in regard to adulteration, weed seeds, ability to germinate, trueness to name, etc. Anyone who has sown foul weeds, wrong varieties, or weak seed realizes the value of such a law.

Before the primaries is time for farmers to ask candidates regarding their attitude on better and purer seed and to insist on their support of a workable law to that end.

SIDEHILL STRAW WAGON.

A sidehill grain hay and straw wagon which does not tip over is in use on T. D. Carneal's ranch in Alameda county. The rear axle is lengthened from the left end to about ten feet between the wheels and the wheel on the left side has been replaced by one with a flange which cuts into the ground and helps prevent slipping.

SQUIRREL EXPERIENCES.

"I sprinkled two quarts of poisoned barley in the cow paths where squirrels run, one morning early this July, and six hours later none of it was left, but I found dead squirrels," said A. E. Balmer, a fruit grower of Contra Costa county pretty well surrounded by pastures, grain fields, and range land. This seems to indicate that even while grain is plenty in the fields, squirrels will pick up poisoned barley that lies handy. Mr. Balmer one night heard dirt rolling down the hill. He set two traps in the forks of a tree root, expecting to get skunks, but in the morning two squirrels were waiting for him. Thirty apricot trees bore such a crop this spring that they had to be thinned before cherry picking time. While Mr. Balmer was busy on cherries the squirrels cleaned off the apricots "until there were not thirty fruits left on the thirty trees." He had wrapped newspapers loosely around the trunks so they would rattle, and squirrels left them alone until fogs stopped the rattling and squirrels climbed over them. Squirrel extermination seems to be making no headway in this district.

Farmers using lime are urged not to wait until the time of greatest demand, but to anticipate their needs and order early.

Napa County Fair

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Resaw Silo Spoiled Feed.

Resaw silos are likely to spoil more silage in one season than the difference between their cost and the cost of a good air-tight one. J. M. Christen of Pacheco, who has a high producing dairy herd, is one who has found this true during this summer. Barley and bur-clover silage put up in May is rotten all around the edges and has to be thrown away. The rest of this silage is good feed, well cleaned up by the cows, although black and aromatic when taken from the silo. Cows eat 12 or 14 pounds per day, besides other feed while heifers get nothing but dry pasture and 10 pounds of this silage per day. It was put up when the barley was in the milk and the clover green but beginning to dry up. Mr. Christen thinks he did not use enough water, as the silage does not seem so good as vetch and barley silage previously used.

Bulk Grain Being Handled.

Grain is being handled in bulk into the 150,000 bushel elevator erected at Monroeville this season and everything is working fine, saving labor and sacks. The sack situation is not bad compared to what it would be if a normal yield per acre were being harvested. But we do not know that the sack and labor situation will be any easier for grain farmers next year, though we are expecting better rainfall and better crops. It is already time to begin planning for grain elevators to handle next season's crop.

Onion Seed Yield Spotted.

Only 40 to 50 per cent deliveries can be made on contracts for onion seed owing to the "seedburn" of June, according to T. A. Cox of the Pacific Seed Growers Co. The crop is now being gathered but it is still too early to tell accurately. The greatly increased acreage planted this season has been under such extremely varied conditions that many failures are reported with fields yielding all the way up to 1200 pounds per acre.

Wide Firebreaks Around Stacks.

Loss of grain or straw by fire is a public as well as a private loss, according to President Wilson. More growers than ever before have plowed firebreaks around their stacks, but many of these are not wide enough to stop fire if the wind is blowing. After taking all the trouble to get teams and plows to the stacks, very little more effort is required to plow a firebreak twice as wide as seems necessary.

Tomatoes Enclosed by Box.

Black aphis on our tomatoes has kept the sprayer busy whenever an odd moment appears; but one tomato plant has been free from the pest and has set fruit. It was protected by a tall, narrow, bottomless box, from which the tops are now protruding. The plant is thriftier than the rest in the patch, due both to its freedom from aphis and probably to its protection from wind.

Save the Cabbage Stumps.

From Christmas until April, deliciously sweet, tender, stringless cabbage sprouts are available from T. C. Holmes of San Francisco. In cutting his cabbage in the fall, he selects 20 or 25 of the largest stumps, cuts off their side roots and plants them deep. To retain an appetizing green color in cooking, a pinch of soda is added to the water. Fifteen or twenty minutes boiling are needed.

Tomatoes Need Water.

We have seen advice to withhold water from tomatoes persistently while they are blooming. If we did that we wouldn't get any tomatoes in our garden this season, whereas, with repeated soaking irrigations since the plants were big enough, they have made fine growth and are setting lots of fruit.

NAPA COUNTY FAIR.

The management of the 1918 Napa County Fair has found that canvas will not be available this year for the housing of exhibits. Arrangements have therefore been made whereby the exhibits will be housed in an immense tule constructed pavilion. This pavilion will be 200 feet long by 100 feet wide. It will be decorated with ferns and flags in the interior. Arrangements have already been made for an immense flower show in conjunction with other agricultural exhibits. This promises to be the most artistic exhibit ever shown in Napa county.

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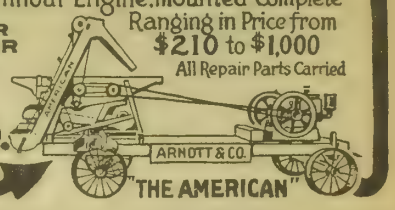

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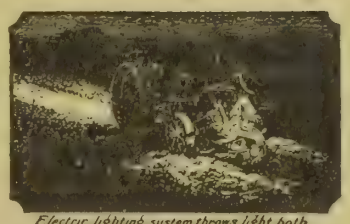

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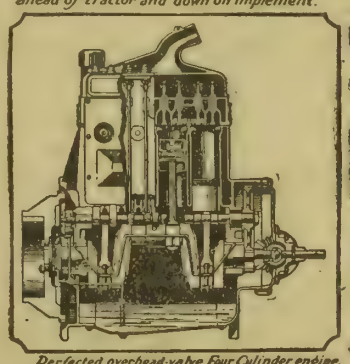

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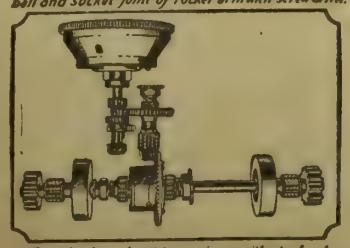
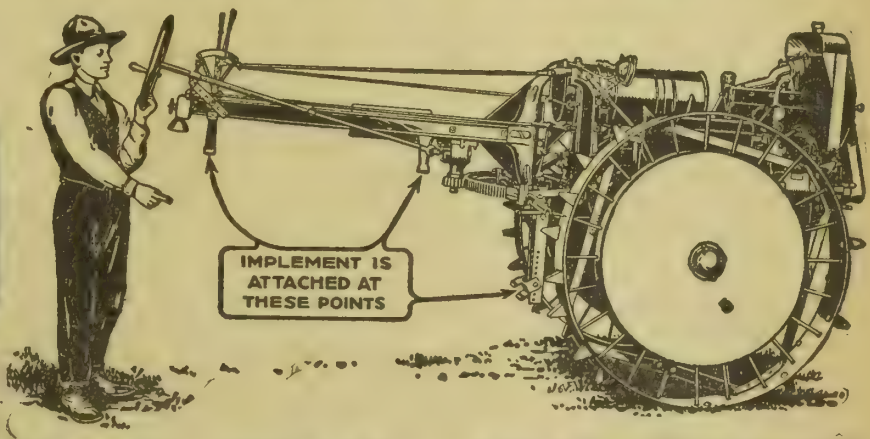
Diameter of connecting rod bearings 2¾ in. compared to piston diameter of 3½ in. insuring long life.

Valves placed in perfect adjustment by turning down ball and socket joint of rocker arm with screw-driver.



Completely enclosed transmission with steel cut gears, Hyatt bearings, differential lock, and brakes



MOLINE UNIVERSAL TRACTOR

It Solves The Farm Help Problem

EVERYONE who knows what a tractor should do, agrees that the Moline-Universal has three distinct advantages over all other tractors: lighter weight; greater economy and ease of operation; ability to do all farm work, including cultivating; and ONE-MAN control of both tractor and implement from the seat of the implement, where you have always sat, and where you must sit in order to do good work.

Aside from these distinct advantages which the two-wheel construction gives, the Moline-Universal Tractor, Model D, is still the best tractor on the market. In every detail it has been refined and perfected to the utmost limit of modern engineering knowledge.

Self Starter—Electric Lights

The Moline-Universal is the only tractor regularly equipped with a complete electrical starting, lighting, governing and ignition system. The starter saves many hours of productive work, besides eliminating back-breaking labor. Electric lights enable the tractor to be worked at night during rush seasons.

An electrical governor perfectly controls the engine speed. By simply turning a dial, within easy reach of the operator, engine manitains any speed from ½ to 3½ m. p. h., and automatically handles all changes in load.

Perfected Four-Cylinder Engine

The perfected four-cylinder engine is the latest development in overhead-valve construction. With a bore of only 3½ inches a 2½-inch crankshaft is used. The strength and thickness of the crankshaft eliminates all vibration. Oil is forced through hollow crankshaft to all the main and connecting rod bearings under a pressure of 35 pounds to the square inch. The bearings float on a film of oil, so their surfaces never touch.

Double valve springs give unusually quick action with soft seating. Rocket arms are swiveled on ball and socket joints that may be turned down with a screw driver, placing the valve mechanism in perfect adjustment at all times. This engine develops unusual power and is very economical in operation.

Steel Cut and Hardened Gears

The transmission is completely enclosed, with drop forged, hardened, and cut steel gears running in oil that reduce power loss to a minimum. All gears are mounted on heavy duty Hyatt roller bearings, with high grade ball bearings fitted with adjustable collars to take up end thrust. Fifteen Hyatt roller and five ball bearings are used in the Moline tractor. Seven splined shafts are used in locking gears to shafts. This is the strongest construction known, and has the additional advantage that it makes the transmission easy to take apart.

For pulling in soft ground, the two drive wheels can be made to revolve as one by means of a differential lock, doubling their pulling power.

Complete Enclosure of All Parts

The final drive is completely enclosed in dust tight shields, the edges of which are sealed by heavy grease used to lubricate the gears. Every part of the Moline-Universal tractor is protected against friction and wear.

All working parts are accessible. All the weight is so well balanced on two wheels that the rear end of the tractor can be supported with one hand.

The Moline-Universal Model D will give you longer and better service at less expense than any other tractor. It is built for positive reliability.

Our catalog describes the Moline-Universal in detail. Send for it. Address Department 97.

MOLINE PLOW COMPANY, Moline, Ill.

Manufacturers of Quality Farm Implements Since 1865

General Agricultural Review

FAIR DATES.

Monterey county—Salinas, July 30 to August 3.
Mendocino county—Ukiah, August 5 to 10.
Humboldt county—Ferndale, August 19 to 24.
Ferndale — Humboldt County Agricultural Fair Association, August 21-24.
Napa county—Napa, August 23, 24, 25.
State Fair—Sacramento, August 31 to September 8.
Exposition—Oakland, September 9 to October 6.
Glenn county—Orland, September 15 to 21.
Kings county—Hanford, September 23 to 28.
Fresno county—Fresno, October 1 to 5.
Southern California Fair—Riverside, October 8 to 13.
Liberty Fair—Los Angeles, October 12 to 26.
Livestock Show—San Francisco, November 2 to 10.
Indio—Indio Fair, auspices Board of Trade, November 15-16.

Field Crops.

The 1918 wheat crop in Kansas will probably total 102,000,000 bushels, according to the latest estimates.

Steps toward organization of an association of barleymen are being taken by the barley growers of Merced.

Several cantaloupe and melon growers have been arrested in Tulare for offering for public sale green fruit.

Hop growers of the Sacramento Valley are getting together to mature plans for the protection of their industry.

Sacramento Valley hop growers have set the wages for hop pickers this season at one cent a pound. The season opens August 10.

Hops and corn in the Ukiah and Potter valleys are not doing so well as the farmers would like, but the grain crop is good and is being threshed and delivered.

J. T. Brown, grain expert and one of the Food Administrators, has made the announcement that the Government will set no price on grains with the exception of wheat.

The U. S. Department of Agriculture is to investigate the destruction of rice by the ducks in the Sacramento Valley. There was considerable damage done to last year's crop.

Deciduous Fruits.

It is reported that the demand for Gravenstein apples in the Sebastopol district this season is very strong.

Quite a little fruit not coming up to the standardization laws is being confiscated here and there in the State.

Apricot drying is now on in the Armos district near Watsonville. The fruit is large-sized and well sugared.

C. D. Flowers, president of the Pear Growers' Association of Ukiah, has five acres which are six years old. He says they will easily yield ten tons this season.

Vandals are abroad in the orchards of Santa Clara county. It is reported that 300 apricot trees, valued at $3,000, were cut down wantonly in one orchard.

It is reported that California dried fruit packers will be allowed one cent per pound manufacturing and packing cost on 50-pound boxes of dried peaches, prunes, apricots, pears and other fruits packed in the same manner this year.

The California Peach Growers, Inc., located in what was the North Ontario packing plant, is now handling the apricots of the Prune and Apricot Growers' Association. All the association apricots in the valley will be cared for at this plant.

Butte county owners of black walnut are being urged to get in touch with the War Industries Board. Touching this matter an Eastern paper says: "If an agent sees a tree today, by tomorrow there'll be a sign on it reading "Property of the United States."

A party of officials of the Southern Pacific Co. have been looking over the fruit situation in Sutter county from the shipping standpoint, especially as to handling the cling peach output, which will be heavy this season. They say that plenty of cars will be furnished.

Fruit growers of Loomis, Penryn and Newcastle are donating a full car of fruit to be sent East for the benefit of the Newcastle Chapter of the Red Cross. The donations came from large and small growers and all races of men in the fruit business. From tree to car is donated.

The Department of Agriculture has issued a definite standard for evaporated apples and it will be necessary to conform thereto if they are to comply with pure food requirements. It reads: "Evaporated apples are evaporated fruit made from peeled, cored and sliced apples, and contain not more than 24 per cent of moisture as determined by the official method of the Association of Official Agricultural Chemists."

Citrus and Semi-Tropical.

What constitutes a record price for an orange grove in Tulare county was paid recently for the Copa de Oro Ranch, bordering the foothills near Exeter. It comprises 20 acres and brought $26,000, or $1.300 an acre.

Meetings of the citrus growers in the Porterville district are being held to discuss the best methods to dispose of their by-products. Growers believe a plan can be worked out whereby something can be realized from their culls.

Dr. W. P. Kelley of the Citrus Experiment Station at Riverside is now located in Lindsay. He will have field men in all parts of the district, who will supply data on irrigation, cultivation and other phases of the orange problem.

The heavier demand for the smaller sizes of olives this season and the larger tonnage being used for the processing of green olives and the manufacture of oil, is tending to restore the custom of buying olives orchard run, rather than on a graded basis.

From an inspection of the orange and olive groves in the Oroville district by County Horticultural Commissioner Earle C. Mills, it is estimated that the orange crop of Oroville district would not exceed 45 per cent of normal, and the olive crop 55 per cent.

In the thermal belt west of Owensmouth, Los Angeles county, the ground was broken recently for the preliminary work of planting several hundred acres of Valencia orange and lemon trees. The property is all under the Owens River aqueduct system, insuring an abundant supply of irrigating water.

The production of the orange growers in Southern California is very spotted, it is reported, and while some orchards will have a normal crop there are others in which the production will be scarcely anything. As a whole a 50 per cent output for the South is thought to be a safe estimate.

Grapes.

The grape crop of Imperial Valley, mostly early Thompsons and Malagas, amounted to about 160 cars.

Some shipping grapes have been condemned lately by the inspectors in Fresno and Tulare counties. They were picked too green.

The Muscat curing and boxing rate is raised from the $17.50 of last year to $20 per ton this year, an increase of 14 per cent, the difference being due to the higher rate of day wages which will prevail during the turning and stacking and boxing period, says the president of the San Joaquin Valley Fruit Growers' Association.

Miscellaneous.

In Argentina the cash price for wheat is $1.44 per bushel. Cash corn is selling there for 62c per bushel.

An agreement reached between the Oakdale and South San Joaquin Irrigation Districts and the Sierra and San Francisco Power Co. provides for the use of the water stored in the reservoirs of the power company at a price of 75c per acre foot.

At a recent meeting of the grain growers, held at Davis, with Mr. Merritt of the Food Administration it was thought advisable to form a State Grain Growers' Association, to look after the production and marketing of grain crops. To this end a State meeting will be held at Sacramento, August 8, at 10 a. m., each county to be represented by three delegates.

THE WORLD'S RECORD

for Tire Endurance

Established by

BRAENDER

Bull Dog Grip, Non-Skid

TIRES

at

Indianapolis, Speedway

has never been equalled!

Registered Trade mark

This wonderful demonstration of wear-resisting qualities built into Braender Tires astounded the racing world and was made by Ralph Mulford on the Indianapolis Speedway with the first set of Braender Tires ever used in track racing.

The four Braenders carried the heaviest car in the race and were the only tires that went through the entire grind of 500 miles without a change.

The performance eclipsed any record of tire endurance ever made on any track anywhere, **and still holds good.**

You can buy the same quality tires from any Braender dealer—safe, strong, speedy, they are dependable on track or road.

READ THIS!

"I came into possession of one Braender Tire in August, 1917, it being on a car which I traded for, since which time I have run this tire over 2,000 miles. It holding up so well caused me to inquire as to its age. I find it to have been in use about 3 years and in good condition yet; has never had a puncture or a break and has never been off this wheel.
I do not know of a dealer in this county and with the tire still in use with a reputation of over 3 years, I would like to have the agency of this tire in Cobb County.
(Signed) C. B. NORTON.
April 1, 1918. Smyrna, Ga."

Write for particulars—Dealers write for proposition and get share of territory.

BRAENDER RUBBER & TIRE CO.,

Factory and General Offices: RUTHERFORD, N. J.

Branches: NEW YORK - PHILADELPHIA - CHICAGO

Distributors in practically all sections

Registered Trademark

Calco Troughs

Buy sanitary Hog Watering and Feeding Troughs—made entirely of rust-resisting Armco and Cast Iron—for less money than it will cost you to build wooden disease traps.

Compare these prices:

Diameter	Depth	Length	Price
10¼"	5 3/16"	40"	$3.25
10¼"	5 3/16"	60"	3.90
14"	7 3/16"	24"	4.15
14"	7 3/16"	120"	8.30

Other sizes from 24 to 120 inches priced from $2.60 up.
Easily cleanable—sanitary—with metal cross bars to make trough rigid and to keep hogs from lying in troughs.
Shipped complete and ready for use upon receipt of your order stating size and shipping station.
Folder giving other sizes on request.

California Corrugated Culvert Co.

Los Angeles, 417 Leroy St.
Berkeley, 406 Parker St.

for Hogs

The annual grape packing season has begun in Tulare county.

Every Engine Owner should have this FREE BOOK

It shows the important part piston rings play in producing power, saving gasoline and oil. Tells how you can have a clean, dependable motor. It will enable you to judge for yourself the claims of all types of piston rings. For your own satisfaction, profit and protection—send for your copy today.

McQuay-Norris Manufacturing Co.
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Manufacturers of
McQuay-Norris LEAK-PROOF Piston Rings

HORSE SHOE TIRES

Relieve the autoist of tire worries while on paved, unpaved or mountain roads.

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433-5 W. PICO ST.,
LOS ANGELES.
Dealers Anywhere.

Gardner's Bean Harvester

meets the requirements of the rancher and is within easy reach of all.
Ask your dealer about it, or send direct to factory.

Gardner Harvester Co.
902 E. Fourth St., Santa Ana, Cal.

FOR MILKING MACHINES

Clear and Clean as Water

B-K keeps tubes and cups sweet and clean. Penetrates milk solids—kills the bacteria. Is clean—harmless—cannot taint milk. B-K makes rubber parts last longer—cannot harm metal. Used and recommended by Milking Machine Manufacturers for years. Cheapest in actual use—sold under guarantee. Get B-K today—end sour milk troubles. Send us your order and your dealer's name. Send for dairy bulletins and "trial offer."

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3434 So. Dickinson St.

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Twice the Power at Half the Cost
Sizes 2 to 30H-P.--Select Your Own Terms -- Direct-from-Factory prices. Write your own order--Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE--by return mail, Postpaid.
Write Today
WITTE ENGINE WORKS
2860 Oakland Ave., Kansas City, Mo.
Empire Bldg., Pittsburgh, Pa.
Money Back if not satisfied on my New 90 Day Engine Offer

FEED CONDITIONS IN SOUTHERN HALF OF STATE.

[Written for Pacific Rural Press by Ord L. Leachman.]

In Stanislaus county we find feed conditions very good, but the possibility of a shortage of water in the early fall will shorten the last two cuttings of alfalfa. The dairy industry is handicapped by the labor shortage, but many are installing milking machines with satisfactory results.

Through Merced and Madera counties the situation is not so good, as there is less irrigation and more dry farming. Farmers are saving all feed possible, such as wild hay and straw, which was formerly wasted. Some are erecting silos, others are drilling wells and pumping water for corn and other second crops. As a whole, they will have feed enough to carry them through the winter.

In Fresno county the ranges are about the same as Merced and Madera counties, but in the irrigating sections there are more grapes and fruit. Some are combining grapes and livestock, which is very profitable, as the cull raisins are used for hog feed, while cattle and sheep find plenty of rough feed in the vineyards after the grapes are harvested.

In Kings county alfalfa and corn in many fields and a large amount of pasture look fine for the stockman. In the Stratford district many tons of alfalfa hay are piled along the road for shipment. The alfalfa and corn crops are the foundation for so many prosperous dairy and hog ranches found in Kings county.

Many sections of Tulare county were overrun with grasshoppers, which in many cases have almost ruined the crops, but the farmers have put in second crops and with the use of more silos and feed choppers they will have some surplus feed.

We found Kern county feed very short, except in the irrigated districts, but the stock looks good under present conditions.

Los Angeles, San Bernardino and Riverside counties are very short of feed where dry farming is done, but are normal in the irrigating sections. They will need to import some feed.

The prospects are fine for a bumper bean crop in Ventura and Santa Barbara counties, which insures the stockman great quantity of bean straw. The alfalfa condition is about normal.

San Luis Obispo and Monterey and part of San Benito counties depend more on the rains, therefore feed conditions are bad. In many sections cattle are being shipped to feed in other parts of the State, and unless there are early rains there will be some losses.

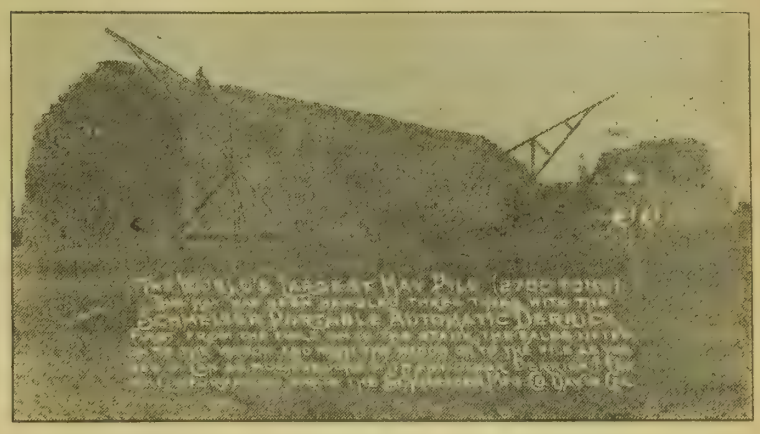
BENEFICENCE OF BEANS.

To the Editor: I made a good bunch of horse bean hay. The cows licked up every inch of it. I am now thinking of trying several acres and getting it off in time for pink beans. Two bean crops make these old worn-out hills near Soquel bring good grain crops.—D. B. Stanforth, Santa Cruz.

The collection of the $7,000,000 inheritance tax due the United States Government from the estate of the late Henry Miller is now in progress.

The fine new $300,000 horticultural building will be ready at the opening of the State Fair this season and State Horticultural Commissioner G. H. Hecke is urging County Commissioners and fruit growers to boost for the best county exhibits ever put out.

"The Schmeiser Way Makes the Farm Pay"



If you are paying more than 35c per ton for stacking your hay, you are losing money. You can stack it for less than that if you use the

SCHMEISER IMPROVED PORTABLE AUTOMATIC DERRICK

WILL DO THE WORK OF 12 MEN.

"The World's Greatest Hay Stacker."

Stacks hay baled or loose, Saves Labor, Saves Time, Saves Money.
More Schmeiser Portable Automatic Derricks are sold on the Pacific Coast than all other hay stackers combined. The reason is:

"The Schmeiser Way Makes the Farm Pay."

For particulars, write today to

SCHMEISER MANUFACTURING CO.
12 Mechanic St., Davis, California

Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; Schmeiser Alfalfa Land Leveler and Checker; Wooden and Steel Checkers with Swivel Wheels, and

SCHMEISER IMPROVED PORTABLE AUTOMATIC DERRICK

WE SELL MARTIN DITCHERS.

Original MILLER Bean Harvester

Beware of imitations, Buy the genuine.

LE ROY PLOW CO.
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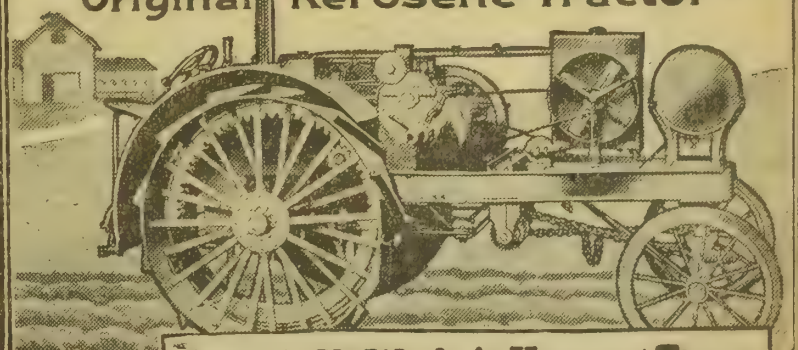
WATERLOO BOY
Original Kerosene Tractor



Speeds Up Work At Harvest Time

You need to do some fast work when your standing crops are ready to cut; and you can rely upon the Waterloo Boy one man, three-plow, cheap fuel tractor to make every minute count.

One man can harvest 25 acres per day with the Waterloo Boy and an 8-foot grain binder, or 10 acres per day with a corn binder—has a threshing record of 16 loads clover in 4½ hours.

Stands Severe Endurance Test

The Waterloo Boy motor has pulled a 25-H. P. load for 312 hours without stopping. A test run of eight months showed average kerosene consumption of less than 1½ gallons per hour.

As efficient in the field as at the belt—pulls three 14" bottoms in heavy soil, with ample reserve power. Light weight, large, wide wheels, with powerful quick-starting motor and easy control enable the Waterloo Boy to do good work "where heavier tractors would not dream of working," writes one owner.

Remember, the Waterloo Boy is made and backed by a responsible manufacturer, and has over four years' proven success to its credit.

Illustrated Catalog sent free, shows why thousands of farmers are buying the Waterloo Boy. Write for it.

Waterloo Boy at Work

John Schoepf & Sons, Seward, Nebraska, write: "We plowed 42 acres with 60 gallons kerosene in 5 days; we shelled 18 loads corn in 2½ hours; we threshed 16 loads clover and alfalfa in 4½ hours with a No. 6 huller, the largest in this section. We think the Waterloo Boy as powerful and as cheap to operate as any tractor."

Waterloo Gasoline Engine Company
6000 W. Third Avenue Waterloo, Iowa

The Engine Selected by over 150,000 Farmers

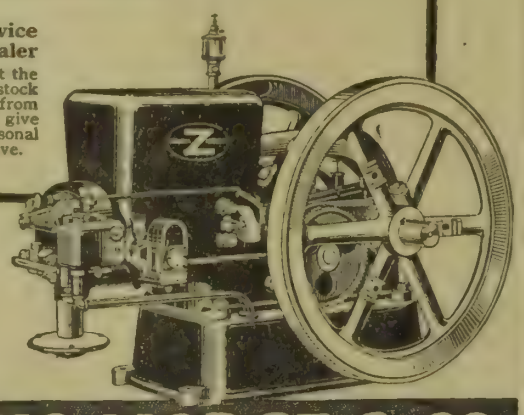
RECORDS made by over 150,000 practical farmers buying over $10,000,000 worth of Fairbanks-Morse "Z" Farm Engines have never been equaled in Engine history.

Demand, as they did:

1. Fairbanks-Morse Quality.
2. Economy in first and fuel cost, and low upkeep.
3. Simplicity and Staunch Durability.
4. Light-weight, Substantial, Fool-proof.
5. Gun-barrel Cylinder Bore.
6. Leak-proof Compression.
7. Complete with Built-in Magneto.
8. More than Rated Power.

You Also Get Service from your Local Dealer

Your local dealer has just the type "Z" for your needs in stock —waiting for you. Buy from him. He is prepared to give prompt delivery and personal service right where you live.



The 3 and 6 H. P. sizes are built to use kerosene, distillate, stove oil, tops or gasoline. The 1½ H.P. size uses gasoline only.

FAIRBANKS, MORSE & CO.
Chicago — Manufacturers

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

CUTTING BEANS BY TRACTOR.

To the Editor: In your article of June 29, "It Pays Us to Let George Do It," you mention pulling a bean vine cutter with a small tractor. I am trying to figure how to pull a bean cutter with an 8-16 I.H.C. tractor, but the spacing of the beans and tractor wheels does not seem to allow it and the width of the tractor wheels (12 inches) offers some difficulty.—R. L. Irwin.

The writer of the article plants his beans to fit his tractor and uses extra long lugs of the sort that fasten through the wheel rim, each one being only about three inches wide and projecting in line with the spokes. This helps avoid the threshing of such as are run over by the wheels. With your tractor similar lugs could be used, but you would have to adjust your drawbar to pull the cutter right with considerable side draft. We believe it has plenty of power and is built all right for such a job cutting two rows at once. There is no ready-made way of widening the distance between wheels or of using narrower rims on the machine. It may become necessary for a man to follow the machine bunching the vines out of its way on the next round.

MOTOR TRUCKS SAVE FOOD.

Decreased production of perishable foodstuffs due to labor shortage and the time required to haul to market is announced by the Food Administration. Meanwhile motor truck express lines have been established in many parts of the country to pick up small lots of perishables and other farm produce, haul them to market and bring back supplies, thus releasing the farmers for more time at their special work, actual production of food. Around Washington, D. C., motor truck loads of fruit and vegetables are delivered direct from producers to home canning clubs in the city at wholesale prices.

Arrangements are being perfected in a number of fruit growing sections to supplement the usual shipments by rail and boat during the rush period by using motor trucks. It has been found that a large number of trucks owned by farmers are used only a few days each week and the Highways Transport Committee of the U. S. Food Administration is attempting to have these used daily.

ALFALFA CUTTER AND MOLASSES MIXER.

A forty-inch Acme feed cutter with molasses mixer attachment was recently bought by the Western Meat Company, after demonstration in the South San Francisco yards. It was sent on to Visalia to prepare feed for sheep and another was ordered. It cuts the alfalfa clean into short lengths as fast as two men pitch it into the hopper. The chopped stuff drops into a trough containing two flights of conveyors which mix it with molasses or other feeds and shove it evenly into an elevator. A blower could be attached instead of the elevator if desired. One of the important pieces of work done was to chop rice straw and mix it with molasses, which makes a good maintenance ration for cattle. The machine is a new size and with a different feed but with the same knives as the Acme cutters, which have been used two or three years. Its capacity is about four tons per hour. Forage is too necessary and high priced this year to waste 20 per cent of it by feeding whole when it can be chopped at a cost of $1 per ton and all of it used.

SECOND ANNUAL PACIFIC AUTO SHOW.

Time—February 16 to 24.

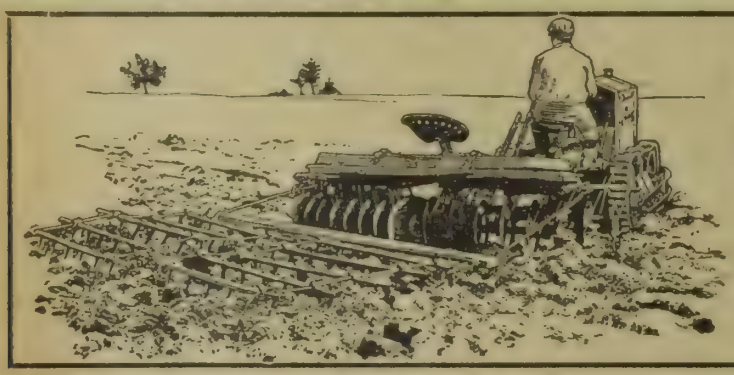
Place — Exposition Auditorium, San Francisco.

Purpose—Showing of 1918 models of passenger cars in connection with truck exhibit and accessory display.

The manager is George A. Wahlgreen and the show will be held under the auspices of the San Francisco Motor Car Dealers' Association. We are promised the most beautiful show of its kind from an artistic and decorative standpoint ever held in the West. There will be 75 exhibitors of passenger cars of different makes, 45 truck exhibitors, 90 accessory exhibitors, also special music by Ferdinand Stark's orchestra. There will be special rates to San Francisco on all railroads under the certificate plan. The space in passenger car display will be 50,000 square feet; in truck exhibit, 21,000 square feet.

TRACTOR SAVES IRRIGATION WATER.

Irrigation water is expensive and should not be allowed to evaporate from the soil more than necessary by waiting too long before cultivation. James Sherriffs of San Benito county has a bean tractor which he found highly desirable in harrowing quickly after irrigation. He had already plowed a heavy covercrop under, had disced it twice and harrowed.



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So. California Distributor
Cleveland Tractors
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All So. California Territory Open for Live Agents

Cleveland Tractor
NEW MODEL
$1,600.00
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2076 Center Street BERKELEY, CALIFORNIA
SEE ADVERTISEMENT ON OPPOSITE PAGE.

Cleveland Tractor

A Tractor That Does The Things You Want a Tractor To Do

The Cleveland Tractor is not confined to a narrow field of service. It does the things you want a tractor to do.

It plows, it harrows, it plants, it reaps. Its great power and small size enable it to work satisfactorily in difficult, awkward places. It works efficiently under and among small trees, close up to fence corners, around boulders, on hillsides, over ditches, gullies and rough ground.

With 600 square inches of traction surface, it goes through sand, gravel, gumbo, mud and even wet clay without packing the soil.

The Cleveland Tractor lays down its own tracks, crawls on them, and picks them up again as it goes along—just like the famous war "tanks."

It does *faster* and *better* work than was possible before. It plows 3½ miles an hour—eight to ten acres a day—equal to the work of *three* good men with *three* 3-horse teams under favorable conditions.

But the Cleveland is *far more than just a tractor.* With pulley and belt, it will saw, cut ensilage, pump—and do the things you demand of a stationary engine.

In addition it can be used for hauling the manure spreader, for grading, dragging logs and pulling road machinery.

It develops 12 horsepower at the drawbar and 20 horsepower at the pulley. Yet with all this power the complete machine weighs less than 3200 pounds, and can be housed in less space than is required for a single horse.

Rollin H. White, the well-known engineer, designed the Cleveland Tractor. It is built under his personal supervision, and is constructed for long service. The track sections are joined with hardened steel pins which have their bearings in hardened steel bushings. Gears are protected by dirt proof cases and are of the same high quality as those of the best trucks. The finest materials are used throughout.

Farming today demands the most comprehensive machinery obtainable—machinery that is useful in doing *many* different things—machinery that is adaptable to widely varying conditions.

Thousands of farmers are looking to the Cleveland Tractor in the present crisis. And the Cleveland is meeting the demands—severe as they are—and is *making more money* for its owners.

It is truly the tractor that does the things you want a tractor to do.

Nearly every farm can use one or more Clevelands to speed up production and cut down costs. Write *today* for complete information and the name of the nearest Cleveland dealer.

The Cleveland Tractor Co.

19079 Euclid Ave. Cleveland, Ohio, U. S. A.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Mrs. T. A. Grady of Modesto has purchased a foundation herd of four Holsteins from A. M. Bibens.

R R. Ross of Tulare bought his first registered Holstein cow at the Frank Laurance auction sale.

Whittier State School reports its whole herd of Holsteins to make an average of three pounds of butter per day on official test.

Alternate green and dry alfalfa every day or two in feeding cows, says Jos. Metcalf of Monterey county. The change makes them do better.

Alex. Whaley of Tulare sold a young Holstein bull to W. W. Coke of Ontario. Mr. Whaley bought a registered Holstein heifer at the auction sale of Frank Laurance.

A junior two-year-old Guernsey owned by L. Dee Smith of Berkeley recently completed a seven-day test, making 21.5 pounds fat, equivalent to 26.9 pounds 80 per cent butter.

J. W. McAlister & Sons of Chino report sale of three Holstein bulls to Burr Creamery, Los Angeles, also one bull to Burt Kennedy of Arlington and one to M. L. Finch of Gardena.

Milking machines on the J. B. Cooper ranch in Monterey county resulted in no loss in the production of about 100 cows when installed last August. The men milk and strip 28 cows per hour.

A Holstein cow, Eske Hetty, the first British-bred cow of any breed to yield 19,324 pounds of milk in 365 days, was recently sold for $17,500 to the Olympia Purebred Stock Farm of Essex, England.

Dairy stock breeders showing at the California State Fair, August 31 to September 8, will receive cash premiums totaling $7,700, an increase of several hundred dollars over previous years.

Raphaela Johanna Aaggie of Napa Hospital Holstein herd has completed 180 days' strictly official test with a record of 18,784 pounds milk. She will continue on test for the balance of the year and has a splendid show of making the world's record.

Stadler Bros. of Riverside are preparing to show some of their fine Holsteins at the Los Angeles Fair. They have 115 head of registered Holsteins headed by King Pontiac Netherland Segis 3rd, who is producing about 75 per cent heifer calves.

Dr. H. W. Hand of Glenn has purchased from C. P. Hembree of Monmouth, Ore., the Jersey champion cow, Imported Brilliant Spray, and now has her in his California herd. This cow was grand champion at the California State Fair last year and will be shown this season.

The honor cow for May in the Oregon cow-testing association for butterfat production was Baby, a Jersey, owned by Joe Durrer, Tillamook, with 1785 pounds milk and 80.33 pounds fat. For milk production a Holstein owned by A. O. Jackson of Hebo took the honors, 2014 pounds milk and 70.5 pounds butterfat.

The Orland Jersey Cattle Club held a lively meeting at the Dr. Hand Farm, Thursday, July 25. It was decided that the club have a special "Jersey" booth at the Glenn County Fair, which will be held September 16-21 at Orland. The club is going to make a heavy entry at this fair. The Orland Jersey Cattle Club will be well represented at the California State Fair also. Dr. Hand and S. F. Williams are going to enter a carload of their fine stock.

Beef Cattle.

The Hereford Association of California is expecting to make some fine displays at some of the stock shows to be held in the bay cities this fall. Many very fine beef cows will be shown.

The Tagus Ranch of Tulare is pasturing about 700 acres of alfalfa, which is fenced in 40-acre tracts and used successively. They also have 700 acres of alfalfa from which they are cutting hay.

Curtis Miller of Ukiah, a farmer, reports the feed conditions in the ranges good and cattle in good shape. He says any man can keep posted as to the crop conditions and many other things worth while by reading the Pacific Rural Press.

Swine and Swinemen.

W. H. Taylor, superintendent of the Anita Baldwin Rancho, reports an average sale of 30 head of registered hogs per month.

Peters, Lamson & Walker of Devore, near San Bernardino, have moved all of their 1000 head of Durocs to the Sweetwater ranch at Bonita, Cal., San Diego county.

The Conejo Ranch of Newberry Park is feeding about 700 head of Durocs and Hampshires and is expecting to show one carload of each breed this fall in the different shows. They recently bought 16 sows and three boars from Herman Toelle, a Duroc breeder of West Point, Neb.

Sheep.

B. E. Nixon has just imported from the East a fine Shropshire ram to head his flock at Revada Farm.

The first car of wool for the season was shipped from Ventura by the Ventura Wharf and Warehouse Company last week. It went to Boston.

An expert sheep shearer employed on a ranch near Alturas earned $800, or over $29 a day, recently, for a period of 27 days, by shearing an average of 200 sheep daily.

JERSEY BREEDERS

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited.

A. A. JENKINS, R.D. 1, Tulare, Cal.

VENADERA HERD
REGISTERED JERSEYS

Young bulls from dams and granddams in Register of Merit.

GUY H. MILLER, Modesto, Cal.

YOUNG BULL CALVES

Fine individuals, with Register of Merit backing.

T. B. PURVINE, Petaluma.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit cows. Write for information.

W. J. HACKETT, Ceres, Cal.

Reg. of Merit Cows D. F. Conant, Prop.

Rancho Santa Marguerita
MODESTO, CAL.

Limited number of Bulls for sale

Live Oak Stock Farm
F. A. MECHAM ESTATE

P. O. Address:
Petaluma, Sonoma County, Cal.
Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of

Red Polled Cattle,
Shropshire Sheep,
American Merino
and Rambouillet Sheep

SHROPSHIRES,
RAMBOUILLETS
and
AMERICAN
MERINOS

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize winning rams at the P. P. I. E. Strong, hardy, range raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Also a fine lot of young Red Polled bulls and heifers sired by Teddy's Best of Jean Duluth Farms.

Shropshire Rams
IMPROVE YOUR LAMBS

The G. C. Wheeler sheep ranch of Reno, Nevada, has sold all but 2000 of their purebred Shropshires, which Wheeler Bros. have brought to the old Taylor Ranch, near Santa Rosa, Cal. These are vigorous, hardy animals, all descended from registered rams and from the original importation made from England by Governor Sparks of Nevada.

Their new location is being fitted as a breeding and show ranch. Come and see them or drop a card telling what you want.

Ewes and yearling and two-year-old rams for sale.

SANTA ROSA The Shropshire Farm CALIFORNIA

FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena

FOR SALE 1000 one and two-year old
Shropshire Rams

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

Phone No. 251-F-2 C. E. BARNHART Suisun, Cal.

ELKHORN FARM AYRSHIRES
ARE BACKED BY WORLD'S CHAMPIONS.

A young registered bull will breed MORE production, stamina, size and type into your herd. Prices are reasonable.

Whether you buy or not, visit the farm at Elkhorn, eight miles south of Watsonville, on the main line of the S. P. Railroad. Inspection invited. Write for particulars.

J. HENRY MEYER, Owner
R. F. D. No. 2, BOX 82, WATSONVILLE, CAL.

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING COMPANY LOS ANGELES

Livestock Miscellaneous.

Rations for milch cows and work horses have been established in England and other livestock must live without any concentrated feeds.

Mrs. W. Anderson of Oak Ridge Farm at Kenwood, Sonoma county, has a registered herd of large Yorkshire hogs and a herd of purebred Jersey cows. She is now looking for a small flock of sheep and believes that a small farm can be made to pay. It is with the aim of helping in the big crisis of the world that Mrs. Anderson intends raising hogs, sheep, cattle, hay and grain this coming year.

The Frye Ranch near Oakville, Napa county, owned by the State and now under the management of the Napa State Hospital, is being developed into a sheep and cattle ranch to supply mutton and beef for all the Northern State institutions. The ranch comprises a large acreage of hill range and valley land. An abundance of water is available and is being developed for irrigation purposes. The acreage in alfalfa will be immediately increased from 75 to 200 acres and a silo will be erected this fall. Manager Owen Duffy expects to establish in the near future a purebred beef herd.

MILKING SHORTHORNS FROM THE EAST.

Thos. Harrison of Glen Ellen has a carload of milking Shorthorns coming from the East. Among them is Braemer Beauty, a Canadian prize winner with a record of over 9000, and a yearling bull out of imported cow and sired by one of the best bulls in England. Both of these are from the Otis herd.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

BIG TYPE POLAND-CHINAS—See us at the State Fair with 16 pigs sired by Model Wonder, Reserved Grand Champion of 1917. We have two good boars of serviceable age for sale. Write us. Dimmick Bros., Box 811, Lemoore, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES — The Easy Feeding Mellow Type. All bred sows and gilts are sold. I have 15 gilts that were farrowed in May, 1917. These will be bred for September farrow. All are sired by Billiken. One young service boar that is just 13 months old. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

BERKSHIRE GILT FOR SALE—An outstanding pig, just old enough to breed; guaranteed to please. Glenwood Acres Stock Farm, Paso Robles, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, Box 724, W. Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

FOR SALE—Two King Colonel yearling boars sired by King Colonel, dam Crimson Wonder. Good enough to head any breeder's herd. Price $200. Two very typey fall boars and several fall gilts. H. P. Slocum & Son, Willows, Cal.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

LONE OAK DUROCS—Now booking orders August delivery, boar and sow registered weanling pigs. D. & H. J. Baughman, Oakdale, Calif.

RANCHO DEL SUR DUROCS—An exceptionally good December boar. Also few spring boars and gilts. Donald Graham, Lancaster, Cal.

FOR SALE—Boar, J. K.'s Model Chief, under two years; sire, Model Chief; dam, Beauty I Am. Price, $100.00. J. Stith, Hollister.

DUROCS—Defender, Clinton B. and Golden Model strain; the big type. Allen Thompson, Tulare.

BOUDIER DUROCS sold out excepting some choice boars ready for service. Breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY weanling sow pigs from champion stock. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DOS HERMANOS DUROCS—Boars, gilts, and weanlings. Hans Duveneck, Ukiah, Cal

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—4 Holstein-Friesian bulls from 8 to 18 months old. Pedigreed stock. Fine individuals. Will be registered on sale. Geo. C. Roeding Co., Fresno, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

Sling Carriers
Fork Carriers
Steel Track
Grapple Forks
Harpoon Forks
Slings
Track Fittings
Power Hoists
Field Stackers
Hay Rack Clamps
Combination Rack Irons
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High Grade Pulleys
Litter Carriers
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Barn Equipment of all Kinds

INSURE YOUR HAY CROP WITH
LOUDEN HAY TOOLS

Get your hay crop under cover in record time this year. Beat the rain to it! Cut your labor cost! You can do it with Louden Hay Tools. Simple design and strong construction make them trouble-proof, even in the hands of inexperienced help.

Free Book of Barn Plans

112 pages of the most practical barn plans ever published. Treats every phase of modern barn construction. Shows more than 75 plans. Sent free with your request for the big Louden Catalog.

California Hydraulic Engineering and Supply Co.,

68 Fremont St., SAN FRANCISCO
424 E. Third St., LOS ANGELES

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

Jerseys.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

Guernseys.

FOUNDATION HERD A. R. GUERNSEYS—Two head A. R. cows and young bull; dam 654 b. f. and three-year-old sister 684 lbs. Address "Inquiries," 511 First National Bank Bldg., Berkeley, Cal.

HIDDEN VALLEY FARM GUERNSEYS—Herd headed by Argies Prince, first prize at Sacramento, 1917. Bull calves for sale. A. J. Welch, Redwood City, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Mayfield, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy, $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

WRAY BROTHERS, Davis, Cal.—Breeders of registered Hampshire sheep. Some fine two-year-olds and ram lambs for sale.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

AUCTION SALE—Wednesday, August 7, 1918, on Jacob Ranch, 7 miles west of Stockton, 1½ miles northeast of Holt, California. On the above date we sell to the highest bidder, the complete dairy herd and equipment owned by Mendosa & Gomes, consisting in part of 160 head dairy cattle; 88 head milch cows, mostly second and third calf Holsteins, some Durhams; 40 two-year-old Holstein heifers, springers; 16 yearling Holstein heifers; 17 Holstein heifers, 1 to 5 months old; 2 two-year-old Holstein bulls; 2 sows with litters; 10 head horses, including 4 work horses, 1 driving mare, 3 two-year-old colts, 2 yearling colts; 2 farm wagons; 1 milk wagon; 1 buggy; 1 John Deere hay loader, new; 2 Milwaukee mowers; 1 rake; 1 hay derrick; 2 sets work harness; and all the other implements on this well equipped ranch. Sale begins at 10 o'clock a. m. A fine lunch will be served at noon. Terms of sale, cash. Owners, Mendosa & Gomes, Holt, Cal. Auctioneers—Col. Ben. A. Rhoades, Los Angeles; Col. Cy. N. Clark, Modesto. Sales Manager, C. L. Hughes, Ochsner Bldg., Sacramento.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

WANTED—100 to 1000 young Hereford or Durham cattle. Write or phone, Alan Milnes, Phone Farmers 231, Riverdale, Cal.

Fitting Hogs to Win at the Fair

Written for Pacific Rural Press by R. H. Whitten, Los Angeles

IT IS SAID that Noah was the first financier, as he floated quite a lot of stock most successfully. But he was no more of a financier than the hog breeder of today can be if he will show his stock successfully, for the show ring offers an unequalled opportunity to acquaint the public with one's stock, create a demand for it, and secure much profitable business.

Furthermore, the true value of his animals is made known to the breeder by putting his herd in competition with other herds. Until it is measured by such comparison he can make very little progress in its development. The mistakes in selecting animals and in his methods of fitting them are made manifest, and if he will go to the fairs determined to bring back as much knowledge as possible, as well as a good bunch of ribbons, he will find the opportunity for excellent schooling.

Nowadays there are few tricks in the trade of showing hogs, and the chances for carrying away the blue and purple ribbons depend on having the right kind of hogs, properly fitted and trained.

QUALITIES A SHOW HOG MUST POSSESS.

There are three things that a show hog must possess—size, quality, and bloom. And to have all three features combined in one hog is enough to tax the skill of the breeder to its full capacity. It is a task requiring deep thought and careful preparation.

Select only animals that are healthy and vigorous, with strong backs and good feet and legs. Without these characteristics to start with, it is a waste of time to attempt to put on fat. Never pick out a pig of the roly-poly, butterball type, for it will not respond to feeding. A hog must have a good frame to start with, and must be a good feeder. Don't waste time on one that is a dainty eater.

Be particular to select animals that not only are good individuals, but also are uniform in type, and even in size for the different ages. This will enable you to make a better impression with your herd groups.

SELECT THE ANIMALS EARLY,

as it is much better to bring them along gradually for a comparatively long period than to force feed them for a short period. They will stand heavy fitting much better, and their breeding qualities will be less likely to be injured. The boars, especially, need to be selected early, as it takes longer to fit a boar than it does to fit a sow. It is better to show sows one year old or over in pig if possible, as they show better in this condition, and any danger of future barrenness is thus overcome. They should be bred to farrow soon after the last show of the season is over.

In selecting the show herd put in a few extra animals, so that you can reject some later on if any bad features develop.

Decide as early as possible where you will show, so that you can have your hogs ready at the right time. Finish is the big factor in winning recognition in the show ring. Your hogs may be of the right type and have size and scale, but if they lack in fitting they will not be able to win against animals of equal individuality that are shown "in bloom."

BLOOM IS THE MOST DESIRABLE THING IN A HOG.

When so fitted it is at its best, but this bloom only lasts a short time. It is like a peach that, when ripe, is at its best, but soon begins to decay. Consequently, your most important problem is to put your hogs in proper bloom at the right time. If you start too late, they will have to be rushed so fast that they cannot be put in proper condition, and if you start too early they will be at their best before the date of the show.

The hogs should be allowed the run of a good pasture of alfalfa or some other forage crop, if possible. The boars should be kept away from the sows, and all over six months of age should be kept in separate pens. Several sows may be kept together, but they should be selected so that they will feed evenly. If any are timid, and are driven away from the feed trough and fall behind, they should be removed to other pens so that they may have a better opportunity for development.

FEED THE HOGS WHAT THEY LIKE.

There are no hard-and-fast rules as to what hogs should be fed. Don't spend too much time figuring out a balanced ration. It is more necessary to feed what the hogs like. No two hogs feed alike, and an intense study of their individual requirements is one of the secrets of success. Some hogs will do well on a certain ration while others won't touch it. A thin, hungry hog will eat almost anything, but after one has been on full feed for some time he gets independent and wants a frequent change.

Feed the young animals three times a day and the older ones twice. See that they are free from worms and lice, and keep before them constantly a tonic which includes wood ashes, charcoal, salt and air-slaked lime. To prevent any weakness in the pasterns or feet, it is well to use bone meal—either mixed with the feed or tonic or kept where the pigs can have access to it.

Scales are almost a necessity. The hogs should be weighed every week, and you should know how much they should weigh each week to have them at a certain weight by show time.

GIVE THE ANIMALS PLENTY OF EXERCISE.

In addition to proper feeding, the show herd must have plenty of exercise. Hogs get lazy from fattening and unless they are forced to take regular exercise they do not show well, because, while they may be in the best of flesh, they cannot walk with ease. They should be walked a half mile or more daily. This hardens the muscles and assures the desired firmness of meat. It also provides an opportunity for training them to walk and stand as will be required later in the show ring. "Whip broke" hogs show best in the ring, so drive them at home with a whip instead of a club. Do not walk the hogs in the heat of the day. Furthermore, hogs should be fed in the cool of the morning and then left alone to digest the food.

CLIP A HEAVY COAT OF HAIR.

Very seldom will you have any trouble with the skin and coat of a good, thrifty pig, but sometimes old boars and sows shed only on the sides, and the hair on top is much longer than the new coat on the sides. If you have this trouble, or if hogs do not shed properly by the middle of July or first of August, they should be clipped all over. This should be done also in case a hog has a rough coat, so that it

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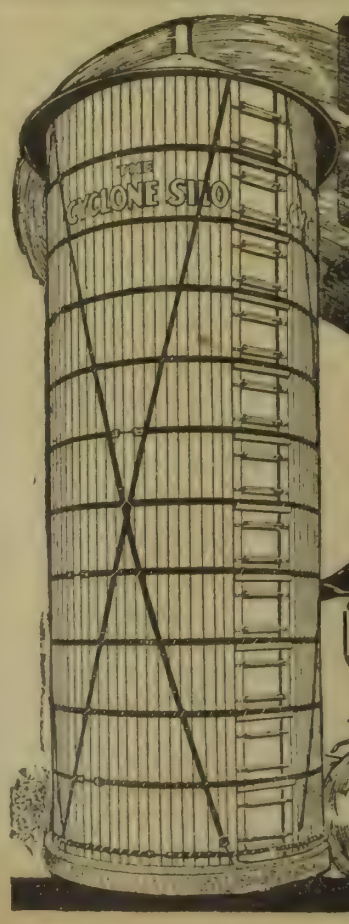

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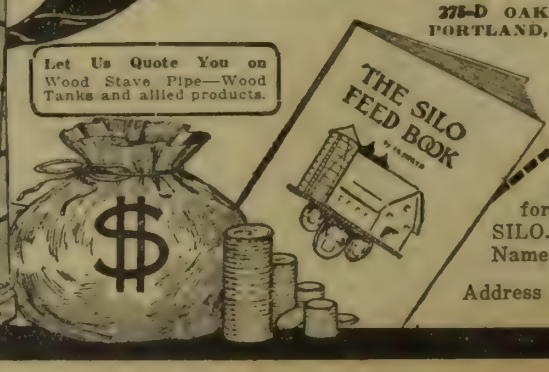

P-R-P

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Dear Sir: Please send me your Silo Feed Book and information about the CYCLONE SILO.

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will have a new coat of hair on show day. A hog should never be shown with a long coat of heavy hair.

A liberal use of crude oil on the hog's skin will do much toward preventing large creases, as it keeps the skin soft and pliable. The care of the feet is one of the important points in fitting a hog. Watch them closely and keep them well trimmed, for if the toes are allowed to grow long they are apt to break up into the quick, which will cause the hog to go lame and probably to break down in the pastern of the well foot by carrying all of the weight on it. Also, after a hog becomes loaded with flesh, his feet will not stand his great weight unless they are properly trimmed.

Before leaving home, wash the hogs thoroughly, and if they are white ones they probably will require several washings to entirely remove the scale without irritating the skin.

UPON ARRIVAL AT THE FAIR GROUNDS, bed down the hogs, give a light feed and let them rest over night. The next day get busy and put them in the best possible shape. White hogs will have to be washed again; perhaps the red and the black ones. In dressing them to soften the hair, do not smear them. A light dressing is all that is required, and this should be so thoroughly worked in that it will not rub off readily when the hogs are being handled. Use equal parts of sweet oil and wood alcohol.

The hogs should be fed about the same as when at home, except that the feed should be a little more laxative. The pens should be cleaned out and rebedded each morning after feeding, the alley cleaned, and swept, all refuse taken away.

Feed lightly the evening before show day, and either feed late on show morning or give a filler just before driving into the arena. This tends to keep the hogs quiet and gives them a full flank. On show morning give the hogs their final grooming, brushing and oiling.

Have your hogs in the ring promptly, for a laggard always incurs the displeasure of the judge. Keep your eyes on your own hogs, and don't mind the other fellow's entries.

Half-length whips, known as sulky whips, are the best to use in handling hogs in the ring, as full-length whips are in the way in such close quarters.

DON'T GET GROUCHY AT JUDGE'S DECISIONS.

Obey the instructions of the judge promptly and courteously, and if he does not place the ribbons on your hogs don't get sore at him. You should not exhibit animals at any show unless you are willing to abide by the decisions of the judge. The directors do their best to secure judges of good reputation, who understand their work and who will be conscientious in making the awards. It is your privilege to ask the judge in a courteous way why he placed the ribbons as he did, but don't, don't kick. After the awards have been made, hang your ribbons over the hogs to show their winnings.

Forget about the horse races, balloon ascensions, side shows and other attractions. Stay right on the job and you will spend your time in the most profitable way. There is a tide in the affairs of every exhibitor which leads to fortune, and it is—TIED DOWN TO BUSINESS.

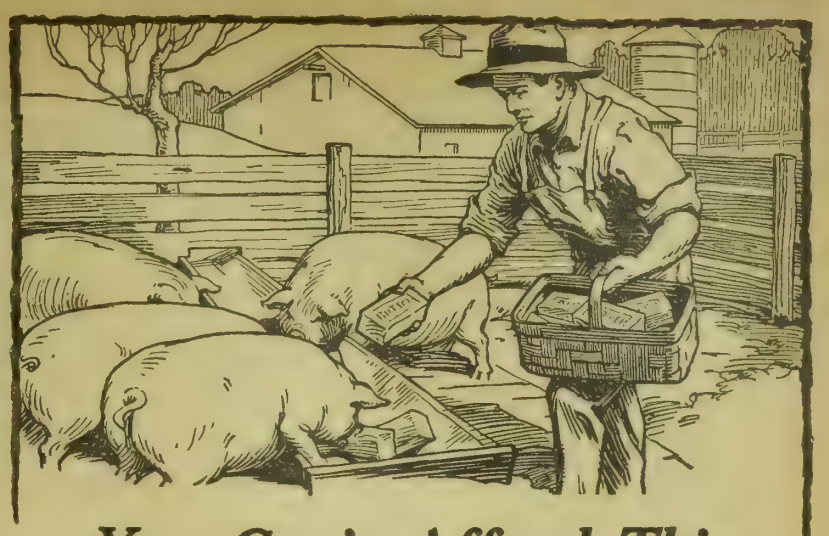
PERMANENT CATTLEMEN'S ORGANIZATION.

[Written for Pacific Rural Press.]

The most democratic organization of California cattlemen possible to work out was effected at the Cattlemen's Convention at Davis, June 28. The State is divided into five zones to correspond with the five markedly differing sets of feed conditions. Cattlemen in each zone are to elect five representatives to the central body of the State organization. One man is to be elected in each district as vice-president of the State Association and he will probably be one of the State Executive Committee of five. The president is to be elected by the central body of twenty-five, who will meet annually on the second Saturday in December. Dues are to be $2.50 per year for cattlemen with 50 head or less, and an increasing scale for men with bigger herds. All cattlemen of the State are urged to join and help make the association an effective unit in winning the war by accomplishing those objects much needed for prosperity of the industry and increase in beef production. D. J. Stollery and L. A. Nares of San Francisco are secretary and president until fall.

BOILED BARLEY FOR HORSES.

A horse breeder fitting 27 head for the fairs last fall suddenly found half a dozen of them breaking out with sores and he did not exhibit. He decided that the cause of the sores was the feed and the hot weather. To make them sleek and fat, with easily digested food, he was feeding them boiled barley hot. This year he is not feeding that way, but is giving green feed and not too much grain, none of which is boiled.



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No farmer is rich enough to feed 40-cent butter to his hogs or his calves in partially skimmed milk.

It's a waste of money.

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It's a waste that your pocketbook, your neighbors, your country, all condemn.

But it's a waste that is going on today on every cow-owner's place where an inferior or half-worn-out cream separator is being used, or where the farmer is skimming by the wasteful "gravity" method.

And it's a wholly unnecessary waste, too.

Because a De Laval Cream Separator will soon save enough cream to pay for itself, and put a stop to all the waste of cream and time and labor for many years to come.

There is no other cream separator that can compare with the De Laval in clean skimming, capacity, ease of operation, freedom from repairs, and durability. It's the world's greatest cream saver.

Order your De Laval now when you need it most and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

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With a Money-Maker Cutter, your silage *don't* need to be too green, too ripe or frosted. You can cut it slowly, and let settle—fill the silo *chock full.*

Money-Maker Cutters are up to the standard of Indiana Silos. They cut like a new pair of scissors all the time. The Patented Safety Yoke makes it *impossible* to *get your hands* into the *cutting rolls.* Cushion Drive *absorbs shocks* of operation—*adds long life.*

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Send me, FREE, your large Catalog of (Make X before Catalog wanted)
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VETERINARY QUERIES

[Answered by Dr. Edward J. Creely.]

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

Tuberculosis Most Likely.

To the Editor: My young pigs have been dying off. They begin getting thin, then they begin to cough and choke, and finally die. I found lungs enlarged and spotted with white spots. Is it tuberculosis?—C. V. M., Davis Creek.

Your pigs most likely have tuberculosis. Investigate your milk supply at once. If you receive the milk from a creamery, heat it to 150 degrees Fahrenheit for at least 30 minutes and then cool down before feeding. If you feed milk from your own cows, you should have all of them tested to see which one is affected. Some cows have so-called open tuberculosis, when the tubercular germs are discharged with the excreta and body fluids and swine become infected by rooting in the pasture and coming in contact with it.

Pigs Have Gastric Disturbance.

To the Editor: My two- to three-weeks-old suckling pigs, fat and fine, suddenly are seen to be shivering and trembling; next they walk in a weaving, swaying manner, then lose power to stand and tip to one side and lie on side with feet waving in air until death, which occurs in one and a half to two days.—W. W., Manton.

The pigs most likely have some gastric disturbances. Feed the sows good, clean food. I would suggest keeping the sow and pigs by themselves when weaning. Be sure that the milk you feed is heated to at least 140 degrees Fahrenheit and then cooled down.

Sheep Have a Nasal Discharge.

To the Editor: What causes sheep to have a discharge from the nose—thin, watery fluid? Is it a disease, or contagious, and how cured?—E. J. M., Williams.

A slight watery discharge is normal, but under certain conditions becomes a disease due to inhalation of dust, smoke or gases. If the discharge is due to this, removal of the above causes ends the trouble in a few days. If you keep your sheep in a crowded pen, scatter them out if possible.

Distemper in Dog.

Take any old rusty tin can and scrape enough tin off to make enough for about the size of a C. C. pill and give it in the morning in a piece of bread or meat. In 24 hours give a good dose of castor oil, in 24 hours another dose of tin, and then in 24 hours a dose of castor oil and your dog will be well.—J. W. Rogersdale, Folsom, Cal.

Formula for Tincture of Iodine.

To the Editor: How much iodine flakes or crystals should be used to the quart of alcohol in making up iodine for use on stock?—G. W. F., La Honda.

The Pharmacopoeia of the U. S. A., 1890, gives the following formula: Iodine crystals, 2 ounces; alcohol, 1 quart.

Diagnosis Indefinite.

The inquiry of J. E. R., Modesto, cannot be answered without a fuller statement of the symptoms.

California Can Almost Feed Her Cattle

[Written for Pacific Rural Press.]

The delegates sent from local cattlemen's associations all over the State to the late convention at Davis named two men from each of the five districts into which the State was divided to act on a committee to summarize the feed situation for the State. Following is a digest of their report:

Question 1. Ability to care for cattle on hand. In District 5, comprising Southern California and including Santa Barbara and Inyo counties, the cattle can be carried through the season if all bean straw is held for feed and not used for fertilizer; if the protein and fat content of cottonseed meal be set by the Food Administration in connection with the price; and if no feeder or stock cattle are shipped in from without the State. District 4, including the San Joaquin Valley and its foothills as far north as Galt, can take care of all its cattle provided a market for feeders is created in Imperial and other feeding localities. District 3, including the coast counties from Santa Barbara to San Francisco, can take care of its cattle if a proper price is set on beet pulp and if no cattle from outside are allowed on the beet tops and if no beet tops are plowed under. District 2, including the Sacramento Valley, Amador, El Dorado, Placer, Nevada, Yuba and parts of Mono and Sierra counties and the coast north from San Francisco, can take care of the cattle now within the district if no outside cattle are shipped in. District 1, including the northeastern mountain counties, seems to be in the worst condition and a great many feeder cattle must be disposed of. But if no cattle from outside the State are allowed to be shipped in except the usual number owned by local feeders, until after January 1, the market so created within the State will consume most of their surplus.

The committee recommended that within each district all roughage feed be conserved for stock and a survey of such be turned in to the head committee for the information of stockmen who wish to buy such.

It was also suggested that rice straw would keep cattle from starvation and it could be delivered for $6 per ton f. o. b. cars at a profit to the raiser and would save much beef.

A resolution was drawn in favor of growing grain and hay instead of cantaloupes, which require more labor and are of less food value.

A motion in favor of municipal stock yards developed the sentiment that the time is not yet ripe for such, other than private co-operation of small feeders in their local districts.

Silos and silage were highly recommended and stockmen were urged to get all the information possible from the Agricultural College at Davis, the United States Department of Agriculture at Washington, and through other mediums.

My Range Bulls Sire My Show Winners

The blood of the young Shorthorn stock I send to the fairs is the same as that in the range stock I offer for sale. All are purebreds from registered bulls and from the females on which my father kept up the registration papers from 1872 to 1893. More champion Shorthorn cows and bulls have come from my herd than from any other on the Coast. I have the facts to prove it and I am proud of it. You will make no mistake in getting some of this blood in your herd. I can supply animals singly or in uniform car lots.

SHROPSHIRE AND MERINO SHEEP ALSO FOR SALE.

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Shorthorns and Berkshires

At this time we are having a great demand for Berkshires, and while we are pretty well sold down, yet we can supply your wants. Write for prices.

ORMONDALE SHORTHORNS

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Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

Dairy Shorthorns for Milk and Beef

Dairy Shorthorns lead in butterfat production in many cow-testing association reports. Their calves make fine beef more economically than other dairy breeds. Dairy Shorthorns are the best breed to range hills and stubble for roughage where help is scarce. My young bulls can increase the production of your herd when their calves come to milking age. Write for details of a few bulls I have to sell.
W. T. ROBERTS, Prop. Willow Brook Farm PENN GROVE, CAL.

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Shorthorns and Berkshires
WRITE FOR FULL PARTICULARS
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Four Head—Two to three years old.
Six Head—Ten to twelve months old.
BRIGHTON FARM HERDS.
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Poland-China gilts from stock selected for prolificacy, big show type, from the best blood of Kings county, but now located in Solano county. Also a few service boars. Ask us about their breeding or come and see them.
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Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

CULL OUT THE SLACKERS.

There are few changes to make this week in the poultry yards except to keep up the culling process. No matter if only half a dozen non-producers are culled out, they leave so much more feed for the producers. This culling business carried on in a methodical manner, instead of spasmodically, will eventually give you a profitable flock of poultry. Watch for those hens that commence to lose their feathers first and cull out the poorest, the good ones will be back to laying again in early fall when eggs are getting scarcer. A chicken buyer told me a few days ago that there is nothing doing in chickens any more; he has to quit and go to work. That indicates more shortage, and the reason a great many people have had to reduce their flock or go out of the business entirely is because they kept a flock composed of two parts non-producers. Nobody can afford to do that when feed is so high; besides, we are all coming to the conclusion that even if we can afford to do so, it is not right on account of the waste involved. We are just as much wrong in keeping the non-producers unknowingly because its everybody's business to know these things. How long does a dairyman keep a dry cow? No longer than he can get word to the butcher. He can't do it and stay in business. Neither can the poultryman keep non-producing hens and stay in business.

TURKEYS' FEET SWOLLEN.

To the Editor: My turkey hens are troubled with swollen feet. I've lost one and upon examination find the feet are full of gray pus.—O. I. J.

Bumble foot is the only thing I know of that causes the feet of turks and chickens to fill with pus. This is generally caused by a bruise or the presence of some foreign body. Whatever the cause, the cure lies in getting it out of the system by treating both internally and externally. Give the whole flock a dose or two of castor oil, allowing a good teaspoonful to each bird and mixing it in warm water so as to get it all over and in the quantity of mash you mix it in. Give no more than they will eat up quick, and repeat the dose three times in one week, at the same time feeding plenty of green feed and induce the hens to exercise for what grain you feed them. For those with very badly swollen feet where pus is formed, open the cavity with a sharp knife that has been sterilized and wash out the place with carbolated water as strong as your hands will stand. Dry off and keep the birds on a clean straw floor until well. For those that are swollen and no pus is formed paint the whole foot or feet with iodine. Sometimes the cavity will need opening again, owing to germs getting in the wound again, but you need not lose any if you look after them.

BLACKEYE BEANS FOR POULTRY

Question 1. Do you plant the blackeye beans in rows? Yes.

Q. 2. Do they make vine or bush? They are a bush bean.

Q. 3. Is the bean shelled, or ground, or fed whole? The bean is allowed to ripen like other beans, then gathered and either threshed out with sticks, or if a person has a quantity get a bean thresher in to do the job. We got ours cleaned at the mill and split or ground into small pieces, about like cracked corn. At first the chicken will not take to the beans because, as a matter of fact, chickens do not like any kind of beans. But even though they walk over them at first, when they see nothing else coming they soon give in. The best way to break them in, however, is to put the beans in a sack, tie it up and leave it laying around; you can always trust a chicken to eat what it thinks is not intended for it.

As with everything else, it requires judgment in changing feed. I always mix the feed, then they eat what they like first, try a little of the other, perhaps go away, but eventually they will return and eat more or less of it until gradually it is all eaten up.

MITES IN NEST.

Somebody wants to know if mites ever get in the nest boxes. Indeed they do, and when a hen stops on the nest over night its almost sure death to the hen. Nest boxes should be cleaned out at least once in two weeks and once a month sprayed with distillate or some commercial germ destroyer, going into every crack and crevice, then paint the inside with a straight solution of Kreso Dip or some of the commercial liquid insect killers. Put clean hay or sawdust in and sprinkle liberally with a good insect powder, which helps drive the body lice from the hens, or, if tobacco stems can be bought cheaply, crumble or cut up a few and keep continually in the nests and you will find your hens will not be troubled with many lice.

STARTING WITH CHICKENS.

Raising chicks in the fall without artificial heat can be done, but it requires constant care and watchfulness, and as you would have to buy or make fireless brooders there would not be much saving in it. A little warmth is more satisfactory both to chicks and to care taker. The Victor Incubator Co. of Decatur sells a good individual brooder that accommodates three hundred chicks well.

If you send me a three cent stamp I will send you the man's name of the $2 hen. Always glad to help, but we have to draw a line on expenses these days.

THE AMERICAN HEN IN THE BILLIONAIRE CLASS.

The president of the National Poultry, Butter and Egg Association, in a recent address to that organization at Chicago, stated that the poultry industry of the United States was now in the billion dollar class, the wholesale value of eggs alone in 1917 being $725,000,000. The producers, he said, got over $600,000,000.

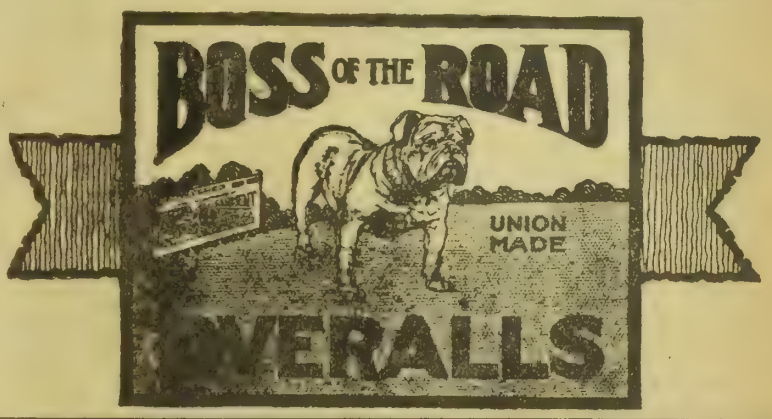
Good Overalls Pay For Themselves

In the added comfort and safety and clothes-economy they give you—Boss of the Road Overalls easily pay for themselves. That's why they're good overalls.

We use the toughest indigo blue denim—properly cut and fashioned for comfort and wear. Double-stitched seams; hold-fast, patent buttons. Workmanship the best—materials the strongest.

Just a few reasons why it is *always* good economy to buy Boss of the Road Overalls—*a Neustadter product.* Look for the Bull Dog on the label. It is your protection. Never has this trade mark meant so much to you as it does today.

San Francisco NEUSTADTER BROS. Portland



Chickens Must Lay

when they are fed according to NATURE. This means balanced rations. COPRO not only makes better layers but reduces the cost of feeding as well.

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contains 16.4% Protein, practically all digestible. It is likewise high in percentage of fats.

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At the Livestock Show to be held at San Francisco, November 2 to 9, a big poultry exhibit is being arranged for. The poultry department will be under the auspices of the San Francisco Poultry Association, with George E. Croley in direct charge. Three judges will be used.

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FALL CHICKS—Aug. 12th forward! Book orders now. R. I. Reds, White Rocks, Black Minorcas, White, Brown Leghorns. Circular with prices and information free. Mission Hatchery, Campbell.

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry and Hatchery, Palo Alto, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

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PETALUMA, CAL.

Mrs. Best's Letter.

PROBLEM'S IN FOOTWEAR.

THE TAX ON SHOES.

My Dear Friends: A great many of the large shoe stores are having clearance sales, and while the reductions are not always heavy, any amount is worth saving now. That is especially true in the knowledge of the proposed tax on all shoes over a certain price. The consumer will have to pay that tax, of course. So it might be well worth while to look into the shoe needs of the entire family. The more conservative lines are usually less reduced, unless the lines are very much broken and an effort is being made to close out the broken sizes. All of the good houses do a mail order business and great care is taken to send what the customer desires at the desired price.

WOMEN'S SHOES TO BE STANDARDIZED.

It is reported that in another year women's shoes are to be standardized—no high heels, no fancy leathers, and all to be of a uniform height. Low shoes continue to be very popular, especially in the dark brown calfskin. These shoes hold their shape and wear very much better than those of the same last in the lighter kid. All tan and brown shoes should be well polished before wearing, to keep them from spotting with water.

WHITE SHOES HOLD THEIR POPULARITY.

White shoes in both high and low models, cloth, kid or buckskin, are seen a good deal everywhere and seem to be as permanent a part of every woman's wardrobe as a sweater.

SILK SOCKS EXPENSIVE GOING AND COMING.

For wear with the low shoes, a good looking stocking is necessary and they are certainly going skyward in price. Silk stockings have advanced in price and retreated in quality, so that you get the worst of the bargain in both ways. The fine lisle thread and good grade cottons have kept pace also.

White stockings are very popular with high shoes of any color, and with the low shoes stockings of the same color are usually worn.

ROSABELLA BEST.

SUGAR ALLOTMENT.

The allotment of sugar for August will be considerably cut down on account of the serious shortage. California will be allotted a certain definite amount and it cannot be exceeded because additional sugar is not available.

No householder may purchase more than twenty-five pounds for canning except on a special order from a county food administrator. Heretofore this was in the form of a request, but now it is an order. Dealers must keep a record of two and five-pound purchases and mail a copy of this record to the local food administrator each week.

Sugar purchased for canning or preserving must be used for that purpose only and should not be diverted to ordinary household uses. Any appreciable surplus left from that purpose should be returned to the grocer during the present emergency shortage and not retained for table or cooking.

MISS HEAD'S SCHOOL FOR GIRLS
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MISS MARY E. WILSON,
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THE HOME CIRCLE

WARNING TO HOUSEKEEPERS.

The California State Board of Health is authority for the statement that no home-canned vegetables should ever be eaten without being re-cooked before serving. Also that no home-canned fruits, especially if put up by the cold-pack process, should be eaten if there is the slightest suspicion of fermentation. This advice is not given to discourage the home canning of products, but to acquaint the public with the facts relative to severe cases of food poisoning through the use of tainted home-canned products.

Housewives recognize that the present methods of home canning in the hands of untrained workers are not entirely safe, due to the inability to develop a high enough temperature to kill all organisms.

However, the poison produced by these germs is easily killed by boiling for a short time, so make it a rule to cook all such products before serving and avoid all danger.

BOTTLED FRUIT JUICES.

Bottling fruit juice is a simple process and lightens the labor of saving the fruit. The juices of all fruits may be bottled in season and used for summer drinks, or sherbets, or for the making of pudding sauces. In the winter, they may be made into jelly as needed or combined with dried fruits for preserves.

To prepare, cut and crush large fruits, stem grapes, use berries as picked. Heat slowly to simmering point. The flavor is finer if the fruit is not allowed to boil. Do not heat citrus fruit. Strain the fruit through a cloth bag and allow the juice to stand in a cool place to settle.

To bottle, scald the bottles and fill to within one and one-half inches of the top. Put corks in lightly and set bottles on rack in a boiler, or tie down the corks and lay bottles on side with enough water to cover them. A screen at the bottom of the boiler will prevent breaking. Heat the water to the simmering point and keep at this point thirty minutes. Remove the bottles, stand on end and dry the cork. When nearly cold press in the cork and cover with paraffine or sealing wax. A sealing wax may be made by melting together equal parts of rosin and beeswax. Store upright in a cool place.

HOME-CANNED MEATS.

PICKLED TONGUE.

Place a fresh tongue in hot water, let come to a boil and boil gently until tender. Remove from water, skin, put back into water and let cool. Slice in thin slices, put layer of sliced tongue in bottom of an earthenware crock, then a layer of sliced onions, a few thin slices of lemon, salt, pepper, a little sugar and mixed spices. Repeat until all material is used, having the onions and lemon on top. Cover with a mild vinegar.

PRESSED BEEF TONGUE.

Take 1 beef tongue, 1 veal shank, put on to boil in cold water and cook for three hours. When tender, skin the tongue, cut in slices or put through a coarse meat grinder. Add salt, pepper, cayenne and two tablespoons catsup, put into a mold and cover with the liquid in which it has been boiled. When cold it will be firm enough to turn out on a platter.

POTTED LIVER.

Wash and cut up two pounds of beef liver. Cover with cold water, let come to a boil and simmer until tender. Press through a potato ricer, add one-half cup of butter or butter substitute, one-half teaspoon of salt and a dash of pepper. Beat the mixture to a smooth paste and add a good-sized minced onion and a few sprigs of parsley. Put in jars in a cold place and it will keep for some time.

When the housewife can find such an excellent meat substitute and concentrated food as cheese almost at her very door, it is a duty to use it as much as possible. If purchased by the whole cheese, cover the cut edge with melted paraffine to prevent mold.

HUNGER
For three years America has fought starvation *in* Belgium
Will you *Eat less*—wheat meat—fats *and* sugar that *we* may still send food *in* ship loads?
UNITED STATES FOOD ADMINISTRATION

The Allies' Food Margins Are Thin

IF THE UNITED STATES fails to send the food that is asked of us, we lessen the perilously thin margin between mere food-lack and food disaster, and the Teuton yoke settles a little more heavily on Europe's galled shoulders—but heaviest of all on broken Belgium.

—U. S. Food Administration

THE CROSS.

On the Grave of an Unknown British Soldier.

The Cross is twined with gossamer,
The Cross some hand has shaped with care—
And by his grave the grasses stir,
But he is silent sleeping there.

The guns speak loud; he hears them not.
The night goes by; he does not know—
A lone white cross stands on the spot
And tells of one who sleeps below.

The brooding night is hushed and still,
The crooning breeze draws quiet breath.
A star-shell flares upon the hill
And lights the lonely house of death.

To Freedom's cause his life he gave
And dared the battle, purpose sure.
A hero. Write upon his grave:
"He died that England might endure."

THE FATHERLESS CHILDREN OF FRANCE.

A very strong appeal is being made to the American public to contribute to the support of the fatherless children of France. Three dollars a month will support or contribute largely to the support of one orphan child in its home. This money may be contributed through the local headquarters and it is certainly a worthy charity.

It is desired that in order to save postage and office expenses no monthly bills be sent out, so anyone assuming the care of a French child for a given time should remit the money promptly, preferably six months at a time.

If you have no local organization, you may carry out this charitable work through the San Francisco headquarters, 108 Sutter street. The committee desires to increase its membership and hopes that there may be many new subscribers to this worthy cause. Address The Fatherless Children of France at the address given above.

CUT AND STORE WOOD.

The war is making enormous additional demands for coal and fuel oil and to insure a full supply of fuel for next winter, the cutting and storage of wood is advised. It is necessary to get fuel to the big cities and industrial plants in its most compact form. They are the coal burners of America. The wood burners are the farmers and the residents of small towns where wood is nearby and can be delivered by the wagon load. This appeal is directed to the farmers. Make the woodpile a part of the landscape as in the early days. Cut wood and burn wood.

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Save it

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NOTRE DAME, INDIANA

Good Health

[By H. E. Pastor, M. D.]

Does Clipping Hair Improve It?

To the Editor: Please tell me if cutting the hair off will cause it to grow thicker? I am 17 and have had my hair cut when quite young, but with no apparent result. If cutting it does not do any good, can you suggest anything else? What is good for a dandruff remedy?—R. E., Watsonville.

We do not think hair grows stronger, or longer, or thicker as a result of frequent cutting. It is our observation that where the custom of letting the hair grow long prevails the growth is thicker and the tendency to baldness less. If the scalp is diseased, treatment may be applied more satisfactorily when the hair is short or shaved off altogether. Perhaps short hair is more conducive to cleanliness and good ventilation than long; nevertheless, on the whole, wearers of long hair, whether men or women, have better heads of hair and retain it longer than do wearers of short hair. We printed a dandruff remedy last week. Whisky and quinine, a grain of quinine to the ounce of whisky, is another good remedy for dandruff and a tonic to the hair. Rosemary is considered an excellent application to stimulate the growth of the hair by increasing the blood supply to the hair-bulbs. It is often combined with the tincture of cantharides. Regular rubbing with the fingertips is helpful. Another good thing for the hair is not to think too hard or worry too much.

Is Ordinary Butter Dangerous?

"Is butter made from the cream of tubercular cows fit for use, and can we feel sure that all creamery butter is made from inspected cream?" we are asked. Well, we wouldn't knowingly use it, nor would we shy away from a golden cube of the butter of commerce through a haunting fear of its tubercular origin. We doubt very much if all the cream from which store butter, or other kinds, is made is pasteurized, even in these days of scientific and scrupulous sanitation, yet it is bought and eaten without question and without serious consequences so far as this deponent knoweth. And this has been the custom from time immemorial. We think the percentage of risk in this common practice is negligible. But don't eat market butter or drink market milk if you are afraid of it. The mental state brought on by fear may bring on something as bad as tuberculosis.

If You Want an "Inexpensive" Piano
Don't Buy a "Cheap" One

There is a big distinction between the words "cheap" and "inexpensive." Some folks like to get things "cheap"—only to find that in the end they proved to be the most expensive—because they had to buy another that would give service.

Now we do not sell "cheap" pianos, but we do carry a number of "inexpensive" instruments. The prices are within the reach of almost every home. These Pianos will render many years of satisfactory service—they are good, substantial values and are worth every dollar asked. We gladly arrange convenient terms of payment.

We invite you to call at any of our stores—or write us asking for illustrated catalogues and prices.

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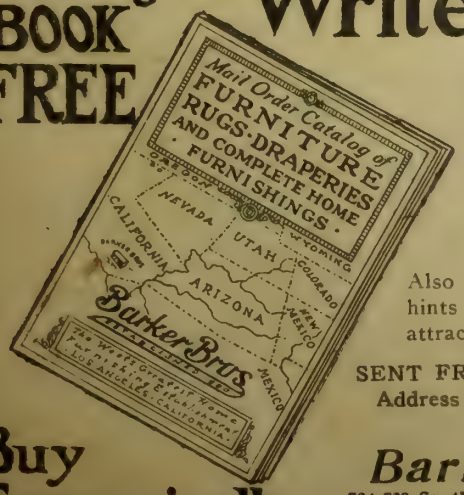

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Agricultural Summary

Thompsons Top the Record.

The two first cars of Thompsons from San Joaquin Valley sold for the highest prices in the history of the valley. The initial shipment, from the North Dinuba Packing Company, sold in New York at an increase of almost $1.50 per crate over last year. Sgobel & Day, Fresno shippers, announced the sale Friday, July 26. A fine quality of Thompsons is beginning to move to Eastern markets in large quantities. Shippers and packers attribute the excellent price to the high-grade quality and the unusual demand for San Joaquin grapes. They predict one of the greatest seasons of prosperity, but are doing all in their power to convince growers of the practicability of keeping shipments even and not glutting the markets.

The initial 1918 table grape shipment from the valley brought $3.93 per crate, or gross $3,834 per car. This and the second car was shipped via express by Sgobel & Day. The second car of Thompsons brought $3,680 in the New York market Monday, July 29. The early shipments of valley grapes are sent mostly out of Dinuba and other points of Tulare county.

Apricot Optimism.

At a meeting of farmers in Los Angeles recently E. N. Richmond of San Jose, in charge of the dried fruit department of the Food Administration, encouraged apricot growers by prophesying a wide market for their product next year. He argues that the dried fruits now under license — prunes, apples and peaches—are being ordered by the Government in such large quantities that it will turn the general trade to apricots. Bidding for this fruit is very active at the present time. It is rumored that a large packing corporation controls about 50 per cent of the crop, and that independent packers are hot-footed after the balance, running up the price several cents over opening quotations. The Prune and Apricot Growers have withdrawn apricots from the market for the time being and expect under the prevailing strong demand to clean up the entire crop shortly. A yield of 22,000 tons is the estimate for this season.

California's Fruits Abroad.

It may interest California fruit growers and others concerned to get a glimpse of prices of dried fruits in the United Kingdom of Great Britain. The following is from Consul General Robert P. Skinner, London, England, under date of July 2. The Ministry of Food, under date of June 25, 1918, has directed that from and after July 1 dried fruits may be sold at retail in the United Kingdom at prices not exceeding the following:

	Price per pound.
Dried pears	$0.32
Dried apricots	.32
Valencias	.28
Muscatels	.28
Sultanas	.28
Any other variety of raisins	.28
Currants	.28
Dried plums and prunes	.28
Dried peaches or nectarines	.28
Apple rings	.24
Dried apples	.24
Figs	.16

Tomato Crop Not Promising.

The early crop in Los Angeles county is light this year. It is reported that worms have reduced the volume of shipping stock 50 per cent in certain districts where Earlianas are produced. The crop of the Stone variety is larger and better. In Central California prospects for good yields are not generally favorable. Deficiency of moisture in certain districts of Alameda, Sonoma, Sacramento, Santa Clara and other counties gave plants a poor start and the serious development of diseases subsequently affected the crop. Unofficial estimates of the acreage and condition of the crop in important counties follows: Santa Clara, 10,000, 75; Alameda, 6500, 50; Sonoma, 2500, 80; Sacramento, 1600, 65; San Joaquin, 3000, 86.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, July 31, 1918.

WHEAT.

The release of those who had voluntarily agreed to total abstinence from wheat flour is regarded as a general easing up of both the wheat and flour conditions.

BARLEY.

Little business is being transacted. The supply coming in is sufficient to take of the demand, which is light.

Choice feed, per ctl............$2.40@2.50

OATS.

The market for oats is quiet, with red feed nominally unchanged. Some red seed has come on the market and is being quoted at $2.75 to $3.25.

Red feed, per ctl...............$2.50@2.65
Red seed .... 2.75@3.25

CORN.

There is very little yellow corn on the market and no Eastern. The prices for Eastern corn given below are nominal.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked ....$4.20@4.25
Milo maize .... 3.95@4.05
Egyptian .... 4.05@4.10

HAY.

Receipts of hay for the past week were 3142 tons, about the same as the previous week. The receipts have been heavy for two succeeding weeks. Concessions in price have been made so that at times hay sold at as low a price in the city as was charged in the country districts. Although the range of prices given as current quotations have not been changed, if hay continues to arrive in the same volume lower prices will prevail.

Wheat No. 1...................$22.00@24.00
do, No. 2..................... 19.00@21.00
Choice tame oat............... 24.00@26.00
Wild oat, new................. 18.00@22.00
Barley, new .... 18.00@22.00
Alfalfa, first cutting........ 16.00@20.00
do, second cutting............ 22.00@24.00
Stock .... 18.00@20.00
Barley straw ....50@80c

FEEDSTUFFS.

Rolled barley and rolled oats were reduced in price this week.

New alfalfa meal, per ton......$33.00@34.00
Coconut cake or meal.......... 44.50
Cracked corn .... 86.00@88.00
Oilcake ....$75.00@76.00
Rolled barley .... 54.00@55.00
Rolled oats .... 56.00@57.00

POTATOES, ONIONS, ETC.

The onion market continues firm, but potatoes were somewhat easier. Garnet Chiles are now practically off the market. On the street they sold from $2 to $2.25. Garlic continues firm, with an upward tendency. Nearly the entire market shows a tendency to fall off in prices. The Bay tomatoes are now coming in and sell at $1 to $1.25.

Peas ....6@8c
String beans, per lb............3@4c
Wax beans, per lb...............4@5c
Carrots, per sack...........50c@$1.00
Rhubarb, San Jose, per box....$1.00@1.25
do, Strawberry, per box..........None
Summer squash ....50@75c
Cucumbers (hothouse), per box....50@75c
do, Alameda, lugs................50@75c
Eggplant, per box............75c@$1.00
Lettuce, Sacramento, crate.......75c@$1.00
Tomatoes, per crate—
Merced ....50@75c
Bay ....$1.00@1.25
Potatoes
Garnet Chile, on street.......$2.00@2.25
Whites .... 2.25@2.60
River Reds ....$1.50@1.65
do, Yellows .... 1.85@2.10
Garlic, new ....12½@15c
Green corn, Alameda, per sack..$2.00@2.50
Okra ....8@10c

BEANS.

The bean market was very quiet. A good sale of pinks is reported and the price stiffened in consequence.

Bayos, per ctl...............$ 7.75@ 8.00
Blackeyes .... 7.00@ 7.25
Cranberry beans .... 11.50@12.00
Limas (south, recleaned) .... 12.50@12.75
Pinks .... 7.10@ 7.25
Red kidneys .... 11.50@12.00
Mexican reds .... 7.75@ 8.00
Tepary beans .... 8.50@ 9.00
Garbanzos .... 7.50@ 7.75

POULTRY.

The poultry market as a whole is firm. Fryers and young roosters were more plentiful and as a consequence prices slumped. The receipts of broilers were not up to the demand and prices advanced 3 to 5 cents.

Turkeys, live, per lb., young.......28@30c
do, dressed ....32@34c
Broilers, 1½ to 2 lbs..................36c
do, 1¼ lbs..........................40@42c
do, ¾ to 1¼ lbs.....................42@43c
Fryers ....36@37c
Hens, extra, per lb., colored.......30@31c
do, Leghorn ....26@28c
Smooth young roosters, per lb. (3 lbs. and over)..........36@40c
Old roosters, colored, per lb.......20@21c
Geese, young, per lb................22@23c
do, old, per lb........................21c
Squabs, per lb......................40@42c
Ducks ....25@27c
do, old ....23@24c
Belgian hares (live) ....15@17c
do, dressed ....19@22c

BUTTER.

Butter was steady throughout the week and showed a fluctuation of only a half a cent for extras. Butter has been strong throughout the month of July. It touched the top price, 53½c, on the 18th and 19th instant, for extra and was low on the first day of the month, when it was quoted at 48½c. Extra firsts showed fluctuations of only two cents during the month, from 47c to 49c, while the firsts varied only a half cent, from 46½c to 47c. The high price of butter on July 18 brought out a considerable quantity from storage, which had a steadying influence.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	52½	52	52	52	52½	52
Prime 1st	49	49	49	49	49	49
Firsts			Nominal			

EGGS.

Eggs were firm during the past week and each description touched the high price of the month and the season. During the entire month eggs showed a steady tendency to advance in price and the opening prices on July 1 were in each case the lowest for the month. During the month extras fluctuated from 45c to 49½c; extra firsts were not dealt in to any great extent and sold both high and low at 45½c. There was more business transacted in firsts, which varied from 40½c to 45c. In the extra pullets there is always a lively market and the price varied during the month from 40c to 47½c. Extra pullets firsts opened the month at 38½c, but the price was soon advanced to 44c, where it continued through the rest of the month.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	48	48½	49½	49	49½	48½
Extra 1sts	45½	45½	45½	45½	45½	45½
Firsts	45	45	45	45	45	45
Extra pullets	46	47	47½	47	47½	47
do, Firsts	44	44	44	44	44	44

CHEESE.

Cheese closed the month strong. The demand for California Y. A.'s practically came to an end early in the month. The advance in quotations of fancy California flats was 2½c during the month. California firsts advanced the same amount, while Oregon triplets advanced 2c.

Fancy California flats, per lb........27½c
First California flats 25c
Oregon triplets, fancy 27½c
Oregon Y. A. fancy 26½c
C. S. Oregon triplets, fancy............26c
do, Oregon Y. A. fancy..................26c
Monterey cheese ....21@23c

FRESH FRUITS.

The berry market is stronger on decreased shipments, while the prices of Turlock cantaloupe have shown weakness throughout the week. This fruit is now arriving in prime condition and at present prices should find ready sale. Grapes are lower and the general trend of the fruit market is downward.

Apples ....$1.50@2.50
Apricots, per crate .... 1.00@1.25
Peaches, 4-box crate .... .75@1.00
Figs, black, per box...............None
do, double layer ....$1.00@1.50
Strawberries, per chest......... 7.00@9.00
Blackberries, per chest.........9.00@11.00
Raspberries, per chest.......... 8.00@9.00
Loganberries, per chest......... 7.00@9.00
Gooseberries ....5@8c
Plums ....$1.00@1.50
Cantaloupes, flats 75c
do, ponies ....$1.25@1.50
do, standard .... 1.50@2.00
Watermelons, per lb................1½@2c
Pears, box ....75c@$1.00
do, Bartlett ....$2.00@2.50
Grapes, Seedless .... 1.25@1.50
do, Malaga .... 1.75@2.00
do, Fountainbleu .... .90@1.00

CITRUS FRUITS.

Grapefruit is steadily climbing in price in this market, and it is reported that some growers are demanding as high as $5 f. o. b. shipping point. Oranges are stronger, with narrowing ranges, but with no advance on the top price. Lemons sell at last week's quotations.

Oranges:
Valencias, fancy ....$6.75@7.00
Valencias, choice .... 6.25@6.75
Lemons:
Fancy, per box .... 7.00@7.50
Choice .... 5.50@6.50
Standard .... 4.00@4.50
Lemonettes .... 5.50@6.00
Grapefruit, fancy, new .... 4.00@5.00

DRIED FRUITS.

The apricot crop is rapidly passing out of the hands of the growers. Dealers have already appeared in the apple districts in Sonoma county and it is reported that a few tons have been bought at prices ranging from 12½c to 12¾c. A standardized price may be named by the end of another week.

Prunes, graded, price to growers:
gain in dip 1c
Prunes, graded prices to growers:
20-30, inclusive, per lb..............15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8½c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121, inclusive, per lb............4½c
122 and up, per lb.....................4c
Prunes, ungraded price to growers:
30 and larger, per lb., flat...........15c
31-33, inclusive, per lb., flat.......13½c
34-41, inclusive, basis 10c
42-43, inclusive, basis 9¾c
44-51, inclusive, basis 9½c
52-54, inclusive, basis 9c
55-60, inclusive, basis 8¾c
61-75, inclusive, basis 8½c
76-81, inclusive, basis 8¼c
82-85, inclusive, basis 8c
86-90, inclusive, basis 7¾c
91-95, inclusive, basis 7½c
96-98, inclusive, basis 7¼c
99-101, inclusive, basis 7c
102-121, per lb., flat.................4½c
122 and up, per lb., flat................4c
Apricots ....12@15c
Figs ....12@16c
Raisins
Muscats 5½c
Thompsons 6¾c
Sultanas 6½c

HONEY.

No further advance in quotations is announced. Local dealers say the price of honey is too high for anything but export business, and this demand seems to take care of all offerings.

White, extracted 21c
Light amber ....18@20c
Amber ....15@18c

RICE.

Agreements are being completed between the rice millers of the country and the Food Administration with regard to the rice crop of 1918. The main provisions of these agreements are that the miller shall pay definite prices to the grower for rough rice and shall not sell clean rice at more than prices named in the contract, ranging from 7⅝c per pound for choice Japan to 9½c for Fancy Honduras. It is hoped that the result will be a stabilization of the rice industry and the distribution of rice to the consumer without speculation or manipulation. Consumers will, in the opinion of the Food Administration, be able to purchase rice at a price of approximately 10c to 12c per pound, depending on remoteness from the milling centers.

HIDES, SKINS AND TALLOW.

The prices of wet salted hides, as appearing below, are those fixed by the War Industries Board and are mandatory on all dealers:

Taken off after May 1 and before August 1:
Cows and steers, all weights,
No. 1 .... 16½@17½c
Bulls and stags.....................13@14c
Kip ....20@21c
Calfskin ....32@33c
Horse, dry, per lb:
No. 7 large ....$2.25@2.50
Medium .... 1.75@2.35
Small .... 1.00@1.50
Salted .... 3.00@5.00
Colts ....25@75

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, Cal., July 30, 1918.

Irrespective of the fact that the week previous developed a record for the season for high prices and an unusual demand throughout the country, conditions remained this past week about the same, in fact there is a continued activity among the trade and competitive bidding and ability to dispose of and distribute the fruit to advantage has produced good results. Even under heavier offerings of Bartlett Pears, there has been only a slight decline in a few markets. We look, however, for a somewhat easier tone on Bartletts this coming week on account of the fact that the offerings will be the heaviest of the season to date.

Peach and plum shipments have been light, the demand exceeding the supply.

The offerings of Elbertas will increase from now on, both from the Valley and Placer County. The offerings will not be heavy in the auctions during the next two weeks, due to the fact that a liberal proportion of the stock has been sold at private sale.

There will be a noticeable falling off of plum shipments from now on and there is every evidence of an advancing market.

Information received from the Northwest advises that Washington Bartletts are on the market and are being quoted from $1.60@1.75 f. o. b. shipping point. We do not anticipate that these prices will affect our California quotations, as there is a difference in the quality of the Washington pear as compared with California stock.

Thompson Seedless are now being shipped from the Fresno district and the movement is heavier than it was originally anticipated, on account of the high market.

Malagas will begin to move this week and as soon as this variety is on the market the shipment of Thompsons will cease.

There is nothing new to report on Tokays, but the stock is beginning to show color and early shipments will begin to move about the 12th or 15th from the Vacaville and Winters districts.

Following are the averages:

New York—Bartlett pears, $5.05; Wilder H/B, $2.25; Malaga grapes, $4.15; Thompson Seedless, $3.93; Burbank plums, $1.97; Gaviota, $2.07; Wickson, $2.22; Tragedy, $2.13; Santa Rosa, $1.98; Cal. Blue, $2.07; Eureka, $2.05; Climax, $1.83; Kelsey, $2.40; Hiniori, $2.05; Splendor, $2.07.

Boston—Tragedy plums, $1.82; Santa Rosa, $1.86; Gaviota, $2.08; Duane, $1.60; Climax, $1.70; Botan, $1.23; Wickson plums, $2.13; Burbank, $1.64; Cal. Blue, $1.81; Splendor, $1.80; Ogon, $1.65; Bartlett pears, $4.63; Malaga grapes, $3.79; Thompson Seedless, $3.85; St. John peaches, $1.55.

Chicago—Bartlett pears, $4.02; Malaga grapes, $3.63; Thompson Seedless, $3.15; St. John peaches, $1.47; Tragedy plums, $1.93; Wickson, $1.91; Burbank, $1.80; American Blue, $2.06; Diamond, $2.02; Santa Rosa, $1.72; Gaviota, $2.08; Sugar, $2.06; Satsuma, $1.54; Cal. Red, $1.65; Climax, $1.58.

Total shipments July 20th to 26th: 197 peaches, 239 plums, 578 pears, 39 grapes.

Total shipments to date, 1918, 3754 cars.

Total shipments to date, 1917, 3577 cars.

LOS ANGELES

Los Angeles, July 30, 1918.

BUTTER.

While last week's advance was maintained the past week and the trade absorbed all offerings, the tone of the market was hardly so firm. Receipts for the week were 301,400 pounds against 344,800 pounds the same week last year. There was withdrawn from cold storage during the week 206 pounds against 8134 pounds the same week last year

California extra creamery..............51c
do, prime first 50c
do, first 49c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	51	51	51	51	51	51
1917—						
Extra	41½	41½	41½	41½	42	43

EGGS.

The last half of the week the feeling was weaker. Demand is fairly good. Receipts by rail for the week were 1522 cases against 1428 cases the same week last year. Truck receipts are about four times as heavy as the arrivals by rail, making the supply for the week 7610 cases against 7140 cases the same time last year.

Daily quotations—

1918—	Tu.	Wed.	Thu	Fri.	Sat.	Mon.
Extra	46	47	47	46½	46½	46½
Case count	46	45	46	45	45	45
Pullets	44	44	45	45	45	45
1917—						
Extra	38	38	37½	37	36	36
Case count	37	37	37	37	36	36
Pullets	34½	35	34½	34	33½	33½

POULTRY.

Under the arrangement with the Food Administration, whereby prices are fixed once a week by a committee of producers and wholesale dealers, and higher prices agreed upon, the consuming trade is holding back and buying sparingly. Hence a slow market. The following prices were agreed upon last Friday, July 26, and hold good until the coming Friday:

Broilers, 1@1¼ lbs..................29@33c
Fryers, 2@3 lbs. 33c
Roasters (soft bone), 3 lbs. and up.....33c
Stags and old roosters, lbs 19c
Hens ....20@27c
Tom turkeys ....30@33c
Ducks ....22@28c
Geese 15c
Squabs, live, per lb. 30c
Squabs, dressed, lb. 40c

VEGETABLES.

Market well supplied the past week and all good fresh stuff met with a fair demand. Potatoes less active and lower. Onions unsettled. Garlic a little higher for best stock. Peppers are coming in more freely and lower. Lima beans dull. String beans in fair demand. Tomatoes steady. Cabbage steady and firm, but demand light. Corn steady and in fair demand. Summer squash dull. Egg plant dull.

We quote from growers—

Potatoes, new, per lug.................60@65c
New potatoes, per cwt. ....$1.50@1.75
Garlic, per lb ....5@6c
Onions Stockton Yellow Danvers, cwt. ....$2.00@2.25
Onions—Small Bermuda, per crate..80@90c
Garlic, lb. ....5@7c
Cabbage, per 100 lbs. ....$2.00@2.50
Bell peppers, per lb ....6@8c
Chile peppers, per lb.........................5@6c
Peas, Northern, per lb. ....10@12c
Summer squash, local, per lug.....25@30c
String beans, per lb. ....4@11½c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb....4@5c
Cucumbers, home-grown, per lug..25@40c
Corn, per lug of 3 doz...................60@75c
Lima beans, per lb. ....3½@4c

FRUITS.

Market well supplied the past week and all choice stock in good demand. Poor stuff hard to move. Prices show but few changes. Apricot season drawing to a close, while the receipts of peaches are increasing. Grapes coming in more freely and selling well. Lots of plums coming in; they are moving fairly.

We quote from growers:

Apricots, per lb. ....3@4c
Figs, Black Spanish, 7-lb box......50@75c
do, White, 7-lb. box.....................50@60c
Peaches, freestone, per lug......$1.00@1.50
do, clings, per lug.................. 1.25@1.60
Pears, per lb. ....5@7c
Crabapples, per lug ....90c@$1.00
Beauty plums, per lb. ....6@7c
Climax, per lb. ....5@6c
Tragedy, per lb. ....7@8c
Satsuma, lb. ....5@6c
Burbank, lb. ....4@4½c
Santa Rosa ....6@7c
Grapes—Imperial Valley Malagas, per lb. ....6@7c
Thompson's Seedless, per lb.............6@7c
Apples, Red Astrachan, per lug....65@80c
do, White Astrachan, per lug....65@80c

BERRIES.

Strawberries under light receipts sold higher the past week. Blackberries lower under freer offerings; demand fair. Raspberries coming in less freely and best bringing a little more money. Loganberries are also higher.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate....$2.25@2.75
Poor to choice, per 30-basket crate .... 1.75@2.00
Blackberries, 30-basket crate.... 2.40@2.60
Raspberries, 30-basket crate..... 2.25@2.75
Loganberries, 30-basket crate... 2.75@3.00

MELONS.

Home-grown coming in more freely. Cantaloupes in good demand at the decline. Some casabas arriving and they are meeting with fair demand. Watermelons now in better supply and lower, but are selling very well at quotations.

We quote from growers:

Cantaloupes—
Tip Top, home-grown, standard crate ....$1.50@1.75
do, do, pony crate .... 1.40@1.50
Casabas, per lb........................2@2½c
Pineapple, standard crate.......$1.50@1.75
do, jumbo crate .... 3.00@3.25
do, Paul Rose, standard crate. 1.90@2.00
Shipped-in cantaloupes, small, pony crates ....$1.25@1.35
Watermelons, per 100 lbs....... 1.25@1.50
Honeydew melons, special........... 2.00
do, do, flats.............................. 1.25

BEANS.

Market is quiet. Limas have become dull. Other beans are neglected. Prices unchanged.

HAY.

The past week was dull. Receipts were not heavy, but ample for the demand. Buyers taking lots only for immediate use. Prices unchanged.

We quote f. o. b. Los Angeles—

Barley hay, per ton ....$24.00@26.00
Oat hay, per ton .... 25.00@27.00
Alfalfa, northern, per ton .... 21.00@22.00
Alfalfa, local, per ton .... 22.00@24.00
Straw, per ton .... 9.00@10.00

COTTON.

The visible supply of cotton in the world is 3,136,000 bales, or 225,000 bales more than this time last year. Exports as reported by the Cotton Exchange up to date have been 4,104,000 bales, against 5,541,000 bales the same time last year. This caused a slow market the last days of the week. Monday, Augusta closed in New York at 24.76c and October 24.54c, against 25.72c a week ago. Spot middling in New Orleans 29.75c.

Special Livestock Market Report

San Francisco, July 31, 1918.

CATTLE—The cattle market is featureless just now, and the only noteworthy change is a further decline in the quality of the stock offered. Good choice steers sell readily at quotations, though the poor stuff is hard to move. Calves find ready sale.

Grass Steers—
No. 1, weighing 1000 to 1200 lbs.....11½c
No. 1, weighing 1200 to 1400 lbs..11½@12c
Second quality ....10@11c
Thin ....8@9c
Cows and heifers—
No. 1 ....8@8¼c
Second quality ....7@7¼c
Common to thin ....4@5½c
Bulls and stags—
Good ....6@7c
Fair ....5@6c
Thin ....4@4½c
Calves—
Lightweight 11c
Medium 10c
Heavy ....7½@8c

SHEEP—Mutton stock continues to be scarce and everything offered in this line is eagerly taken up at good prices. Lambs are also hard to get and the tendency of the market is upward, though consuming demand is light.

Lambs—
Yearlings ....12@12½c
Milk ....14@14½c
Sheep—
Wethers ....11@11½c
Ewes ....9½@10c

HOGS—The supply of hogs is fair, though the market continues strong and a higher price level may be reached.

Hogs—
Hard, grain-fed, 100@140...........16¾c
do, do, 140@300...................16¼c
do, do, 300@400...................16½c

Los Angeles, July 30, 1918.

CATTLE—No change this week. Thin cattle, canners of all kinds, dull and weak at quotations. Choice fed steers, however, are scarce and what are offering find a good market. Calves continue in good demand at old prices.

Per cwt., f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs..$10.00@12.00
Prime cows and heifers........ 8.00@ 9.00
Good cows and heifers......... 7.50@ 8.00
Canners, per cwt................ 5.50@ 6.00
Calves, per cwt................. 8.50@ 9.50

HOGS—The market keeps up under light receipts. Killers all wanted a few for the fresh meat trade. The demand the past week was limited and the market was kept up by scarcity rather than the demand.

Per cwt. f. o. b. Los Angeles—
Heavy, averaging 275@300 lbs..$14.50@15.00
Mixed, 225@275 lbs............. 15.00@16.00
Light, 175@220 lbs. .... 15.00@16.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—There was less snap to this market the past week. Offerings were light and what were obtainable were mainly from California and Arizona and in fair condition only. The tone of the market was weak.

Per cwt. f. o. b. Los Angeles—
Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....13.00@14.00

Portland, July 30, 1918.

CATTLE—Steady; receipts, 150 head. Steers, prime, $11.75@12.25; good to choice, $10.75@11.75; medium to good, $9.50@10.75; fair to medium, $8.50@9.50; common to fair, $5.50@8.50; cows and heifers, choice, $8.00@8.50; medium to good, $6.00@7.50; fair to medium, $5.00@6.00; canners, $3.00@5.00; bulls, $5.50@7.50; calves, $8.50@11.50; stockers and feeders, $6.00@8.00.

HOGS—Strong; receipts, 250 head. Prime mixed, $18.10@18.35; medium mixed, $17.85@18.10; rough heavies, $16.60@16.85; pigs, $16.00@16.50; bulk of sales, $18.10@18.25.

SHEEP—Steady; receipts, 200 head. East of mountain lambs, $13.75@14.25; valley lambs, $13.50@14.00; yearlings, $9.50@10.00; wethers, $8.50@9.50; ewes, $6.00@$8.00.

Special Citrus Market Report

Los Angeles, July 29, 1918.

While the citrus growers of California have had a subnormal production this past year, they have been partially compensated for their misfortune by the phenomenal prices obtained for their diminished output. The taste for oranges and other citrus fruits has grown so that they have come to be regarded as an indispensable article of diet in most households. Owing to the extreme scarcity of the fruit, the market for Valencias has been rising steadily. The movement eastward for the past week has averaged about 35 cars daily, quite an advance on the week before. There is said to be a residue of not over 1600 cars of the 1917-18 crop yet to go, but as consumption is light during the next month shipments will be correspondingly light so as not to depress the market with an oversupply, and the small balance on hand will be judiciously spread over the period between now and the approaching navel harvest.

The warmer weather East and the gradual diminution of summer fruits has strengthened the lemon market. Notwithstanding heavy receipts of foreign lemons in Eastern markets, rather liberal shipments of California stock are readily disposed of at good prices. The prevailing quotations on good stock is $7 in the Eastern market and $6.50 in Southern markets.

Quotations New York: Valencias, $6.85 to $9.25; lemons, $4.20 to $6.20.

Boston: Valencias, $7.30 to $8.00; lemons, $5.55 to $7.10.

Philadelphia: Valencias, $7.70 to $8.85; lemons, $4.60 to $7.85.

Total shipments to close of week are as follows: Oranges, 12,352 boxes, against 34,522 boxes for the same period last year; lemons, 4,427 boxes against 6,637 for the same period last year.

Classified Advertisements

MISCELLANEOUS.

REMANUFACTURED PIPE. All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works**, 160 Eleventh street, San Francisco.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

COUNTRY LANDS.

400-ACRE IMPROVED stock and grain ranch, 3½ miles Pleasant Valley R. R. station, Mariposa county, Cal. 100 acres cleared and tillable; nearly all could be farmed if cleared of large oak and other trees; 3 and 6-room house, large barn and outbuildings; blacksmith shop and tools; fenced and cross fenced, part hog tight; nice family orchard and garden irrigated from springs. Average rainfall, 29.88 inches. Grapes, olives, almonds, etc., grow without irrigation. No alkali or hardpan. Feed in pastures and free outside range adjoining, knee high. Elevation, 1500. School and church, one-half miles. Price, $30 per acre, including 300 goats, 3 horses, 3 head cattle, turkeys and chickens, and all farm implements. $3,000 cash, balance long time, 7 per cent. Fred B. Palmer, owner, Coulterville, Calif.

FOR SALE—120 acres, 5000 cd. oak and madrone wood on same. Three miles from town. House, barn, and fenced. Forty acres farming land on same. Spring water. Will sell all or half. Price, $6000. Address, P. O. Box 344, Healdsburg.

FOR SALE—Improved ranch, big fruit crop, pipe system. Cheap if taken at once. Geo W. Cheves, Paradise, Butte Co., Cal.

FOR SALE—500 acres land. Three million feet redwood; also fir, oak, and 100 cd. tan oak. Eighteen miles from railroad. Good truck road. Seven miles from famous mineral springs. Two running springs year round. Fine hunting and fishing. Price, $15 per acre. Address, P. O. B. 344, Healdsburg, Cal.

MARIPOSA CO. RANCH FOR SALE—480 fenced hog-tight, house, 2 barns, 12 horses, 25 hogs on grain, 15 tons hay, farming implements, harness, wagons, etc. Price, $9,600. Frank Solari, Hornitos, Cal.

BE PATRIOTIC—Raise stock on productive Government land, plainly marked on county sectional maps; $2.50 any county; booklet. Particulars for stamps. Write Joseph Clark, Sacramento.

ALFALFA RANCH IN FRESNO COUNTY—50-acre alfalfa ranch, subirrigation, with substantial improvements, work stock and implements. Price, $20,000, $6,000 cash, balance long time. J. Hargeshimer, Sanger, Cal.

53-ACRE RANCH in South San Joaquin irrigation district modern improvements, horses, implements, tools, sheep, poultry—$20,000. D. M. Berry, R. R. 1, Manteca, Cal.

WANTED.

WANTED—Responsible farmer and stockman to handle 250-acre ranch in Colusa County on shares. Must have money to buy stock. Sheep preferred. P. O. B. 597, Santa Cruz, Cal.

WANTED—To rent, a ranch suitable for hogs, about 60 acres farm land, part in alfalfa. Hans Duveneck, Ukiah, Cal.

WANTED—Married Swiss dairyman wants to take charge of a dairy on shares; 40 to 50 cows. Address, Box 1190, Pacific Rural Press.

WANTED TO HEAR from owner of good ranch for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

SEEDS, PLANTS AND TREES.

FOR SALE—Baled alfalfa and grain hay, all grades and prices accordingly. Can furnish up to two thousand tons. Write at once, or better, come to see the hay for yourself. Can make immediate delivery. Bomberger & Co., Modesto, Calif.

CABBAGE AND CAULIFLOWER SEED—Also late plantings of many vegetables should be started now. Buy of C. C. Morse & Co., dealers in good seeds, San Francisco.

A New Perfection Oil Cook Stove means kitchen comfort and convenience. Ask your friend who has one. Used in 3,000,000 homes. Inexpensive, easy to operate. See them at your dealer's today.

"I Cook in Comfort Now--

—for I have just bought a New Perfection Oil Cook Stove," says this housewife.

No dust or dirt, none of the bother of coal or wood. A touch of the match and in a jiffy your stove is ready for cooking. All the convenience of gas.

Bakes, broils, roasts, toasts,—all the year round. And a cool kitchen in summer.

In 1, 2, 3 and 4 burner sizes, with or without ovens or cabinets. Ask your dealer today.

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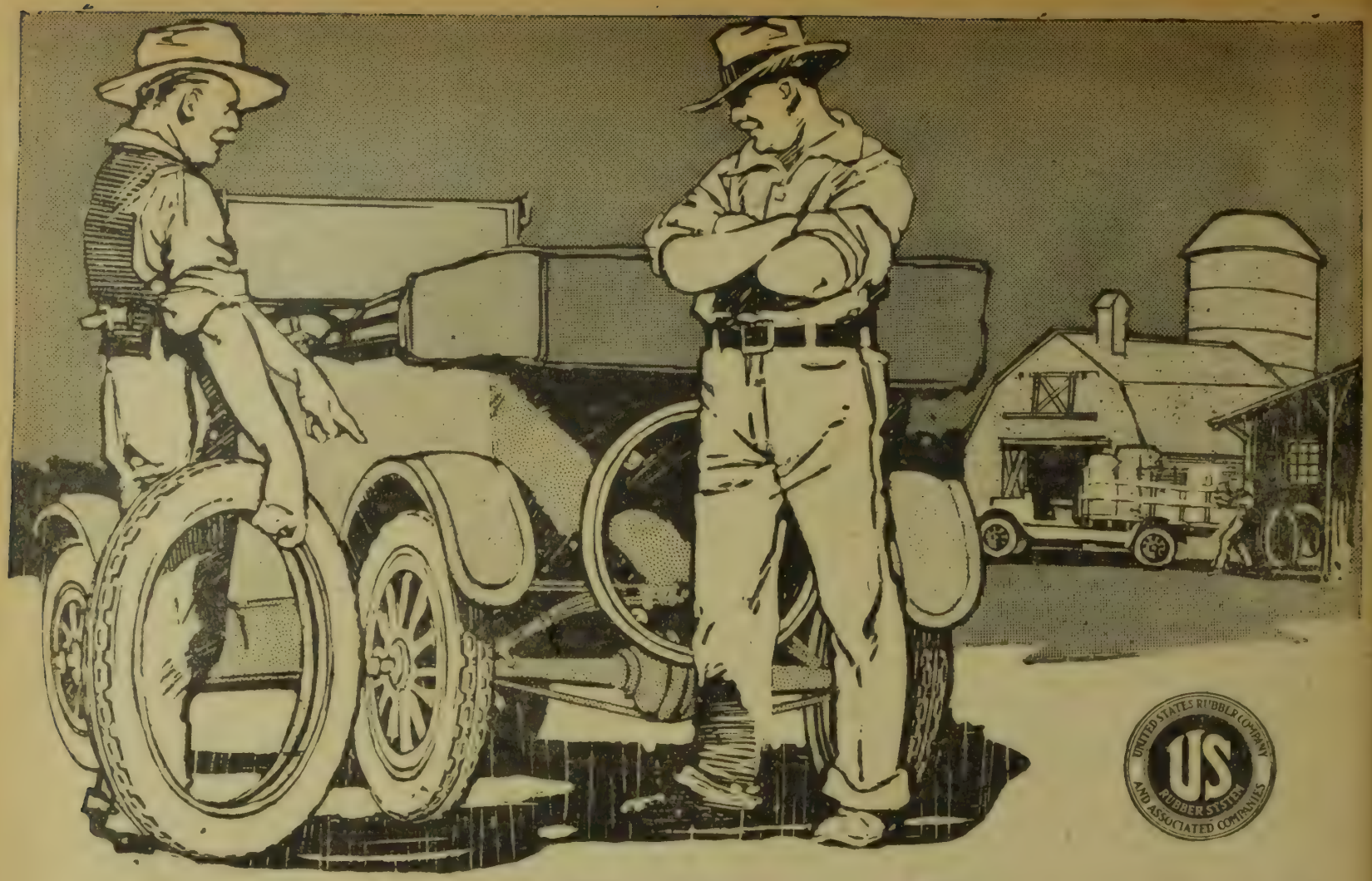
NEW PERFECTION OIL COOK STOVE



Facts vs. Guess-work

"This car is as much a part of my farm as the barn is. It's working every day. It's a business proposition. So I'm going to make her upkeep strictly business.

"These United States Tires are a beginning. I've been investigating and gathering evidence all over the country. I'll bet I've talked to a hundred farmers who drive cars. The majority vote is United States Tires for long wear and economy. It was unanimous with the fellows who are keeping books on their cars and finding out what it costs them to ride a mile or a hundred.

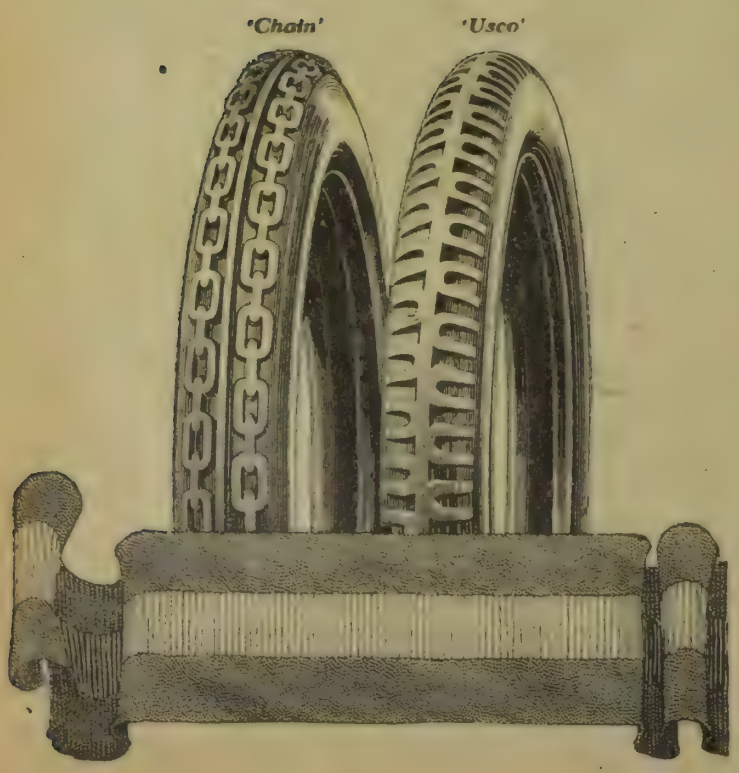
"You see I'm starting on the idea that quality pays in the long run. I'm fitting the car out right to begin with. That's the way to shove down the little old-cost-per-mile at the end of the year."

Any sound investigation of tire costs among experienced motorists will lead you to United States Tires as business-economy equipment.

There are treads and types for every purpose—all United States quality.

Any United States Sales and Service Depot dealer will cheerfully aid you in selecting the right tire for your car and your roads.

United States Tires
are Good Tires



BETTER TO GROW MORE THAN TO HAVE TO EAT LESS

Vol. XCVI—No. 6 Forty-eighth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO AUGUST 10, 1918 LOS ANGELES

7-1-20 State Library

More Wheat to Put Hun Thru Smut Machine

What Uncle Sam demands from California in 1919 in way of increased Wheat Production, and how she can atone for her past transgressions

[Written for Pacific Rural Press.]

ACCORDING to an account which he is now publishing in some of the papers, an American dentist in Berlin hammered the kaiser on the jaw for fourteen years and now confesses that he did not realize how hard he deserved to be hit. It is much the same way with the rest of the world. All liberty-loving people knew that the kaiser's kind of Germanism led straight to hell; they thought it must be leading him thereto, and it will in the end, but they did not realize that he could make the world such a hell while on his own way to another. And now every American soldier and sailor is looking, longing and fighting for a chance to do a better job on the kaiser's jaw than the American dentist did!

It is not exactly in that way, but something like it, that California finds herself in relation to wheat. For the lure of the fee, California turned from her old and honorable task of furnishing bread to Europe and took to laving Europe with beer and did not realize that she was becoming herself a pensioner on the supply of bread and reducing the world's power to save itself from cruelty and oppression. But now, in the world's extremity, California is beginning to realize it and will try in some measure to retrieve her reputation for patriotic service to this country and the world.

California has many new places to grow wheat—Scene in Owens Valley, Cal., east of the Sierra Nevada.

On page 102 of our last issue is a definite statement of what Uncle Sam calls upon California to do in 1919 in increasing her wheat production. It is a very moderate demand—very considerate of our past transgression and consequent weakness, because the increased production does not equal our eating of other people's bread but only makes it a little less. It would have been just, even if not quite merciful, if Uncle Sam should have said: "Shame on you, California: if you are not patriotic enough to use your great capacity in producing wheat and you continue to snatch white flour away from my babies in the trenches and in the path of Hun devastation, you shall live on rolled barley mash until I finish my job."

California's Greatness Through Flour.

Such a decision by Uncle Sam would not only have been just to the world but just to ourselves and would have taught us a good economic as well as patriotic lesson for the future. For it is an economic crime for California to buy wheat from anybody. It would only take a part of our land which now lies open to grain, not only to grow wheat in quantity and kind to make our own flour, but we can go so far beyond it, without reducing our other products which the world pays well for, that we could build up our milling industry, not only to a wealth-product of export flour, but to a producing force of millstuffs for home-feeding which would fill our pockets, diversify our industries, preserve the fertility of our soils and do more than any one thing perhaps to put us on the state highway to a population of thirty millions. Therefore, let no one say or even think that Uncle Sam is unjust in expecting us to grow a little more wheat next year. Bless his dear old heart: he is only asking for himself a little fraction of an achievement which will give California a new greatness and outlook when the clouds roll by!

Preaching-Up and Punching-Up.

Of course, it is interesting to preach California wheat growing. We have always enjoyed it. We made a solemn protest thirty years or more ago when some sincere and well-meaning people were strongly insisting that we ought to abandon wheat while we were increasing our fruit acreage and building the special industry which is now our greatest. We promoted fruit planting; we believed in turning land from wheat to fruit, but we believed also in breaking more land for wheat because we knew very well that we could grow wheat on heavy, tight land and at elevations not suited to most fruits—and therefore we had no objection to taking the wheat away from the fruit loams of the valleys and foothills. The very same condition prevails today, although we have now about a million acres in fruit trees and vines. There is plenty of wheat land left.

But preaching wheat on such general grounds is not the best way to get more wheat seed into the ground and that is what is now needed. If you have a boring pain in your shoulder or your shank and go to see your doctor, the chances are he will advise you to have your tonsils pulled out or he will x-ray your gums and show you the picture to prove that there are pressures rising and falling in the abscesses under your molars which rival the tides in the Bay of Fundy. Well, it is all probably true, and the way to shake off pain is to get half the things there are inside of you taken out. Do you do it? Probably: in the end but not at first. You wander down the street till you hear a vender lauding liniment which cures all pain and you grab that and go to rubbing. It is much that way with preaching: you come to the truth of it in the end, but you need something else to start you to doing things which in the end will land you in heaven. And that is where a punch beats a preach.

California Millers Give a Punch.

Among the groups of millers in this State we have one which is widely known as the Sperry Flour Co., which at several points in the State makes the wheels go 'round in warehouses, elevators and mills—taking in much wheat and sending out much fine flour, together with the offal thereof as breakfast food for every creature from a king to a kangaroo, or a cockatoo. It has occurred to these millers for some time past that for the sake of patriotism, of State development and of plain business sense, they ought to do all they can to induce California to grow more wheat. And so, besides making good mill products and making people know it, which all millers try to do, they have undertaken to demonstrate that sacks for grain and other things in wheat-

(Continued on page 129.)

PACIFIC RURAL PRESS

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EDITORIALS

THE AMERICAN WAY.

THE Huns are getting it in the neck in the American way. A third of a million of them are reported to be hors de combat since they made their last try for Paris via the Marne. That is the way to put it, of course, because it is happening in France, but nevertheless it is the American way. An American commander telephoned from an advanced position to the high command on Monday:

"My men must rest."

"Must rest!" exclaimed headquarters.

"Yes; our men are absolutely tired out running to keep up with the Germans."

The Americans are naturally peeved at getting tired because their opponents will not stand for a shot or a bayonet: they expect to get tired, of course, but they insist on doing it in an American way. They went abroad for "big game" which would turn and charge: they are weary of chasing jack rabbits and ground squirrels. However, they must be patient: it is still quite a piece to the Rhine!

But it is not in fighting alone that we are teaching Europe the American way. Our entry to the war will achieve its great purposes for human freedom and opportunity; but hardly less important perhaps will be the demonstration of the way to seize opportunity—the American way. Victor Cambon wrote recently in a teachers' journal in Paris as follows:

And while they prepare for our common victory, the Americans continue to furnish us with everything—iron, copper, cotton, machinery, and, above all, lives. In order to assure us flour and all other kinds of provisions, they voluntarily deprive themselves of wheat, meat, sugar, etc. Ships lack to transport these; they set themselves to construct more than England herself has launched. Two months suffice them to complete a vessel which with us remains two years in the shipyards.

As they pass through our country their engineers, their pioneers, their commissary, finding our implements out of date and our methods too slow, undertake at once, at their own expense, the remodeling of these old things; and it is amazing to see on their route the structures, railways, depots, warehouses, workshops cover the ground, as if the wand of a fairy had caused them to spring from the earth. Never has there been so incomparable a lesson offered to the eyes of our people.

To you, teachers, whose mission it is to instruct the French people, I have felt it my duty to tell you these facts; it is your duty to spread them among those that listen to you.

Remember that the foregoing was published in a French teachers' journal—a suggestion of what should be taught the youth of the rising generation to enable them to meet the needs of their ravaged country. One hundred and forty years ago the French spirit fired the American heart, now the American way is destined to achieve the rehabilitation of France. The butchering of the boche is indispensable, but it is a disgusting job which German deviltry forced upon the world, and it must be done in the American way.

THE AMERICAN WAY IN WAR.

AMERICA has always fought for principle—for the preservation of the integrity of our country—because it stands in the world as the foundation for the attainment and protection of human rights. France understands that better now than she did in 1864, when the French Government made an offer to intervene for peace, a peace without victory. To this overture President Lincoln replied: "We have submitted to this war; we have accepted it. We fight toward an end and for a cause which is vital to the entire world, and before God, this war shall not be finished until this end has been attained."

This is the American way, and the president of the American Chamber of Commerce in Paris translated it into modern terms when he declared in that city last year: "A hundred million Americans repeat today the words of Lincoln. They defy all, neutrals or enemies, who still doubt the complete victory of the allies. The American sword has never been drawn except for the cause of liberty; it will not be sheathed until after victory."

THE AMERICAN WAY IN PEACE.

BUT of course it is not war for its own sake, which German philosophy maintains, and not war for conquest and dominion, which German practice aims at, that is the American way in war. It is really devotion to the development of a new life in Europe which inspires our undertaking, and that, too, will be attained in the American way.

And it is not alone in devastated countries that our unselfish purpose will shine beneficently and awaken emulation of the American way. This, too, is being clearly recognized abroad. It is cabled from Madrid that articles dealing with the magnitude of the American effort are appearing in Madrid journals, contributed by Jose Martinez Rinz, novelist and literary critic, the first Spanish writer to visit the American front. Senor Rinz has declared that he will use the full strength of his pen to make his country "know the truth about the United States." He added:

In 1898 we suffered a disastrous disillusionment because of our own ignorance. It shall not occur again. The future of Spain is bound up with the future of America, and this must be recognized.

Spain is not the only country which has failed to discern the inner meaning of the American way, either in war or in peace, but probably no people ever blundered over it as the Germans did. They are just beginning to appreciate the fact that it is not the gun that fights, nor is it the man behind the gun who overcomes, but it is the spirit in the man behind the gun which wins war victories in a just cause—the same spirit which wins peace victories also—"for peace hath her victories no less renowned than war." Senor Jose Martinez Rinz is thinking and talking straight. Spain will do well to get next!

APPROACH OF THE RAINY SEASON.

CALIFORNIANS in sections where the rains are usually enough for cropping are almost always glad twice in the year—when rains begin and when they end. We have annually surprised ourselves at the way we could long for rains in the fall, after the crops are gathered, and still become so tired of them when watching for a chance to get in early spring work—but that is the common California way, in sections where the clouds count for anything at all. It is now the last of the dry months and usually the driest of them, and everyone who is not busy with the later fruits is beginning to long for rain and to be glad if he could be caught out in it. It is not strange that one should feel that way this year, for we have been vexatiously short for two years, and a lot of fruit trees are likely to be dried nearly to death unless there are early rains to help the roots resist desiccation. Of course, some can prevent this by a light irrigation if they have the outfit for it, but most of the rainfall orchards probably have to stand up and take what comes or does not come. It is announced from Sacramento that the river is lower than it has been since 1857—the water having fallen below the intake pipes in some of the older irrigation installations, and "in some cases the delay in extending the suctions has been serious for the crops. Irrigation, it is said by the farmers, has been given its supreme test this year." It seems to us that it is the lack of irrigation which has had the "supreme test this year," not the fullness of it. Surely those who secured irrigation in case of need have never been farther along on Easy street, and no one's trees are so well conditioned as theirs to go forward toward another year's production.

It is not too soon to begin to get ready for the rains if other work is done. Much land should be put in shape dry for fall sowing of alfalfa. Land which has been used for summer cropping should be leveled and leveed for a run of several years in alfalfa, because there is great prospective need of the crop and the profit promises to be great. Get in some new alfalfa and if summer crops promise good value next spring break up some old weary alfalfa next winter and get the advantage of the rotation. We should have alfalfa going in and coming out all the time.

EARLY WORK TO GET WATER IN.

SUPPOSE September does bring a lot of rain, as sometimes happens, what will become of it? Much ground is now so hard from the long drouth that the dust will cement the surface with the first dash of rain and all that follows will be quickly shunted into the run-off and, while you are waiting for rain enough to plow, what little did enter will be lost by fly-off. It will be a great mistake to let hard ground lie after you get a chance from crop-gathering to tackle it. Get a tractor to break it up dry and crush it down somewhat if cloddy. Grade and check it up if it is for irrigation ahead of the rains and you will get surprisingly deep wetting and safety in fall sowing of alfalfa or of grain, while both may be in much danger if you wait for working after rains. Get all you can done while the clock rises ahead of the sun, for Congress will be turning it back an hour in October and then you will have only an old-fashioned day to work in—and a short day and long wages do not mix well in farming.

It is also desirable to begin very early to get ready for wheat if you have land suited to it. We have an exhortation on that subject on another page. Some of the other staple crops have rather a shaky outlook for price and anyone who can wisely tie up to the old California reliance, the wheat crop, gets about as much of a cinch on the future as is possible in this wobbly world. Of course, we cannot guarantee that everyone will do as well as a Merced telegraphic reporter declares his constituents have done in this item:

MERCED, August 3.—The first wheat crop in this section of the county to be sold this season is reported from Livingston, where Love & Winton, farming a large tract, disposed of 5130 sacks, approximately 11,027 bushels, for $23,285.61, showing a profit of $2.10 per bushel.

It would be fine to tell our readers how to grow wheat so that it would be all profit—for $2.10 was evidently the selling price. But even if it is not all profit, it is splendid to put out that much wheat when wheat is our country's greatest need. Surely one way to be sure to get all there is in wheat is to begin early, get good seed, get the land in shape to catch and hold all the rain and sow early so that the plant may have a very long growing season. Therefore, we urge all with whom wheat is possible to get everything going early so that nothing will have to be jumped in at great disadvantage late in the season.

ANOTHER POINT IN FRUIT ORGANIZATION.

OUR friends in Santa Clara county are tackling another problem in fruit organization and it is surely an interesting and important one. Our first news of the proposition is that it is modeled something after the lines of the Prune and Apricot Growers and its purpose is to handle fresh fruit for local sale—presumably chiefly to canners. The reason for farther organization seems to lie in the fact that existing organizations are so strictly specialty efforts that they do not cover even all the commerce of a single fruit. The Prune and Apricot Growers do not handle shipping or canning fruits, but they do catch on when the same fruits are dried. The Pear Growers as now organized do the job for the fresh fruit for canning, but cut out the same pears when shipped or dried. The Raisin Growers cover the sun-cured grape, but not the grape when it falls on a table instead of a tray. If we are not mistaken, the Peach Growers come nearer to covering a fruit in all its conditions and uses than

any of the current "big four" associations on the deciduous line.

What is best to do to cover the exposed fractions of several fruits and bring them to the same protection which is making the handling of the covered fractions so much safer and more satisfactory? It is interesting and important. We have no particular conviction on the subject, for lack of sufficient thought and inquiry about it, but at first suggestion it seems more rational to have an association cover the whole of a fruit if possible or the whole of two fruits, if its name runs that way. In the unripe leather business, for instance, it has been the practice to have "the tail go with the hide" and the tanners have bought that way from time immemorial. There is probably some reason why a butcher does not have to sell the hide to the tanner and the tail to a soup factory. But we are not writing about oxtails but about the tail end of a fruit crop. Therefore, it seems to us that unless there should be some insuperable objections it would be better to have one association handle all there is of a single fruit—even to the pit thereof, as the Peach Association is now doing. There would seem to be some very close relations between the different uses of a fruit and the values created thereby, which could be better handled by one association than by two or three. However, the Santa Clara fruit growers are bringing themselves squarely up against the proposition and all growers will be watching to see how they hit it off!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Do Not Plant Poor Trees.

To the Editor: Of a hundred deciduous fruit trees planted this spring, at least half are now dead. The trees were ordered last fall, but were not delivered until February 22. They were so dry and poor on arrival that the inspector and the tree planter agreed that it would be a most doubtful matter to plant them. However, as the agent, through whom I bought the trees, stated that the nursery would make good any excessive loss, we proceeded. He now refuses to do anything about it. I claim damages on one of two grounds: First, either the borers were in the stock when it arrived; or, second, the exceedingly poor quality of the stock and the late planting gave the trees such a backward start that they were easy victims of sunburn and injury, thus offering opportunity to the beetle to lay its eggs. Which of these theories is more likely to be the correct one in this case?—Planter.

Your second theory is the more reasonable—but the trees should have been rejected resolutely and not planted. In our judgment, you will waste time and money in trying to recover damages for their behavior unless you have testimony to establish a verbal contract of the agent upon which you can make him or his principal responsible to make the loss good. It is idle to claim that the borers were in the trees before planting (or had been therein) unless you have testimony that their work was seen when the trees came to you. The flat-headed borer is so abundant and always so ready to seize upon sunburned bark that you cannot inferentially claim that it came in with the trees.

As for the poor condition of the trees, the late delivery, etc., you cannot recover for that because of the fact that you received and planted them, knowing they were bad and that there was risk of failure with them, and (apparently) the agent did not try to convince you that they were otherwise. Thus you become "accessory before the fact" to the horticultural crime of planting poor trees and cannot claim that you were imposed upon. In our judgment, your only chance of recovering anything depends upon whether you can establish a contract with the agent to make good if the trees failed—as your advisers claimed, and the agent apparently admitted, they were likely to do. It is possible, of course, that the nurseryman may decide that it would be better for him to supply new trees than to defend a suit which would give him much undesirable publicity. On your own part will be the decision as to whether it would be cheaper for you to buy new trees than to hire a lawyer to compel the nurseryman to give them to you.

Is the Satsuma Shy?

To the Editor: In 1913 I planted some Satsuma plum trees. They look healthy and thrifty, but they do not bear much fruit. For three years they have been white with blossoms, but they set only a few fruits. The trees are large enough to carry 300 pounds of fruit to the tree; they bear about ten pounds. One Burbank plum tree, standing in the same row, bears every year more fruit alone than all the seventeen Satsumas together. I have some French prune trees, looking healthy and clean, but they bear very lightly; this spring they hardly had any blossoms on them. I noticed lately that the bark of the trunk cracks. What can I do to them? My apricots and peach trees bear every year abundantly.—H. A., Puente.

The Satsuma is not largely grown and we do not know much about it. It is more popular in Southern California than elsewhere in the State. It is usually rather shy when young and is in contrast to the full bearing of the Burbank—which is fortunate, for the Burbank is a much more satisfactory commercial fruit. Our conviction is that the Satsuma will give you more fruit as the trees gets older. The French prune, and other plums of the domestica ancestry, are usually shy in Southern California, although in some places they bear well. Plums with Japanese ancestry are much better bearers under Southern conditions. The cracking of the outer bark, if not accompanied by gumming, is not serious. It seems mechanically necessary to permit the enlargement of the trunk. We have nothing to suggest about the treatment of your trees. The behavior of the trees which do bear indicate that the growing conditions you secure are all right.

Army Worms on Castor Beans?

To the Editor: I find among my castor beans, which are now nine inches, some whose stalks, often a quarter of an inch in diameter, are partly cut through. The only explanation I can find is a green caterpillar with one yellow stripe extending full length on each side of body. The ones found are from an inch to an inch and a half long and about a quarter of an inch in diameter. I had understood castor beans were practically immune to insect pests. The damage so far is not very serious. Can you suggest any remedy?—R. H. P., Coachella.

You seem to be growing the castors not for the army but for army worms. Army worms do not usually stop an offensive when they are partially through. Probably the castors are putting up a stiff counter-attack on their own account. As for plants of any kind being immune, we are not sure that we ever saw a plant which some fool bug would not attack, though some plants are immune enough to stop them short of serious injury. If your pests should become numerous enough to threaten, you can use the bran-arsenic bait on the ground around the plants which is used for cutworms and grasshoppers, or if they take to eating the leaves you can spray with lead-arsenate—if you think the crop will be worth the cost.

Thrips Injury to Peaches?

To the Editor: I am sending sample of peaches which have failed to develop properly. About 25 per cent of my Tuscan clings are affected in this way. There has been some fruit thus injured in the past, but never so many as this year. Please tell me the cause and remedy, if any.—A. R. D., Pomona.

The peaches are "runts," not more than half size, knobby and deformed—apparently by the uninjured parts growing over and enfolding parts which could not enlarge. This is a trouble which has occurred to greater or less extent in several parts of the State, and it has been given some study. We are not aware that the cause has been fully demonstrated, but the conviction prevails that it is the work of thrips which abraded the fruit when or soon after it formed in the bloom-jacket. The treatment would then be the distillate emulsion-nicotine spray applied as the bloom buds are swelling and after the petals have fallen—one or both, as must be experimentally demonstrated to be desirable.

Aphis on Corn.

To the Editor: I have a patch of sweet corn which is growing wonderfully, but is now full of black aphis and millions of small black ants, and some of the stalks are just black with aphis and ants. Did you ever hear of such a case before? It is the first time that I have ever seen anything on corn stalks besides ladybugs. What shall I spray the corn with? I am afraid they will ruin the ears, and the stalks have two or three and sometimes four ears on.—F. W., Oakland.

There is a root aphis which sometimes knocks corn out at the start, but the one you now have is probably some other member of the aphis family which has multiplied because you do not have ladybugs this year to keep them down. Spray at once with a good sprayer which makes a fine mist and shoots it hard on the lice—not a mere sprinkle. Use the aphis remedy described in detail on page 723 of our issue of June 8, or buy an insecticide at the seed stores. Almost any florist's insecticide will kill aphis if you get it on right.

WAR-TIME WORK FOR HALF-CENTURY MEN

Are you a little too old to fight at the front, and not trained for one of the war-time industries, yet anxious to do your bit in helping Uncle Sam lick the kaiser? If so, this is your opportunity.

Food will win the war, and the Pacific Rural Press is playing a most important part in helping farmers raise the necessary food, for our pages contain practical articles which cover nearly every phase of agriculture, horticulture and livestock raising.

The paper has always been a valuable aid to farmers, but right now it is an absolute necessity. Hardly anyone is able to solve his own problems in these critical times. He needs the advice of experts, and on the editorial staff of the Rural Press he finds men who are authorities in their lines—men who know his circumstances, anticipate his needs, and contribute timely articles which enable him to overcome every difficulty and make a grand success of his work.

This increased need for our paper means that we must have more field representatives, and if you have an automobile or motorcycle, want pleasant work that bears an important relation to the welfare of the nation, and also pays well, let us hear from you at once.

No experience necessary. We give you proper coaching and bang-up support. Straight salary; permanent work; no investment required. Big fall campaign just starting. Best time to begin. Write for full particulars, and tell us a little about yourself.

Hulling Walnuts.

To the Editor: Having a very heavy crop of walnuts this year and being new at ranching, we are puzzled as to removing the heavy skin and just how to prepare them for market.—Subscriber, Grass Valley.

There will be something the matter with your trees if the hulls do not open and let the nuts fall out when they are sufficiently ripened. When they are in the habit of sticking tight an irrigation just before ripening may prompt the tree to let them go. The few nuts which bring down their hulls on their backs are usually hulled by hand. After getting them free, dry them well before sacking. If they are too dark colored, spray lightly to wet the outside only and sulphur them just as you would fruit for drying. In large orchards they are dipped for bleaching—rather an elaborate process which the small grower seldom outfits for.

Walnut Drying.

To the Editor: Having read the Rural Press for thirty years, I would like to ask a question. Will the walnut drier (Sidwell's), as used about Los Angeles, work in the Santa Clara Valley? Will walnuts dry in the shade under a roof if there were fans used to create a change of air?—D. W. L., Santa Clara.

It is kind of you to ask such easy questions after waiting so long. Some readers are so cruel as to drive us up to a high perch as soon as they get the first issue. The answer is yes to both your questions. Any autumn drying outfit will in most years have an easier job in Santa Clara than in places more open to coast fogs. That is where the high range between you and the ocean gets in its work.

Blenheim and Hemskirke.

To the Editor: I have some four-year-old Blenheim and Hemskirke apricot trees. Please advise me how to tell them apart.—J. D., San Leandro.

The most obvious and sufficiently distinguishing characters are that the Blenheim has a plump, roundish form and the Hemskirke is considerably flattened on the sides.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 6, 1918:

Stations—	Rainfall Data			Temperature Data	
	Past Week	Seasonal To Date	Normal To Date	Max'm	Min'm
Eureka	...	.20	.12	68	50
Red Bluff	...	...	...	100	64
Sacramento	...	...	...	98	56
San Francisco	...	...	.01	74	52
San Jose	...	...	...	88	46
Fresno	...	...	...	102	62
San Luis Obispo	...	...	.03	92	50
Los Angeles	...	.09	...	100	64
San Diego	...	...	...	82	64

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

The Dry Season in the Santa Clara

[Written for Pacific Rural Press.]

The Santa Clara Valley, like other horticultural sections in California, shows the effects of the dry season. Farmers who plowed early and cultivated faithfully and thoroughly throughout the season have results in the increased vigor of the trees and improved condition of both foliage and fruit. The crop generally will run small, though there are some orchards that show extra fine fruit. The latter, however, are not many and on the whole there will be a disappointing yield.

When a crop is spotted and uneven, as it is this year, the invariable tendency is to overestimate the yield, while where it is evenly distributed all over the trees an underestimate is usually the result.

PLAN OF CAMPAIGN FOR NEXT YEAR.

Several growers have expressed their intention of not only giving their trees a severe pruning this winter so as to force more wood growth, but to abstain from growing a cover-crop this year. The idea is to conserve all moisture possible until the water-table is back to normal. This is a pretty good idea where no water is available, though one to be used on an occasion like the present only. Where water is available, however, and used, the cover-crop will go in as usual.

EFFECT OF MATURING COVER-CROPS.

We have been taught that cover-crops, plowed in year after year in a green, succulent condition, do not possess fertilizing value to the same degree as matured crops; also that they have a tendency to sour the ground. We grant these two premises, though I have repeatedly tested the soil after long-continued cover-crops and found no sourness. Nevertheless, an application of lime once every three or four years should suffice to rectify this fault, provided the sourness did not arise from imperfect drainage or some other cause.

Regarding the maturing of the cover-crops in our deciduous fruit orchards before plowing under, it seems to me to be a mistake. In what condition does it leave your ground? When you turn it under the soil is moist at the roots near the surface and dry deeper down. The evaporation through those heavy masses of foliage after March must be enormous, for even after a heavy dew—that is gone in a few hours. After barley or melilotus gets woody it will not rot that year, and often prevents a perfect dust mulch.

MOISTURE THE FIRST CONSIDERATION.

When the cover-crop conflicts with the conservation of moisture it must be sacrificed. Where it is possible to obtain manure, and such places are now few and far between; the cover-crop in dry sections can be dispensed with.

L. Woodard of Campbell is doing this. He has thirty acres of young prunes from two to five years old, twenty of 'cots and four of almonds, all interset in old vines. Mr. Woodard's young trees, growing on gravelly loam soil, show excellent growth and good color, and he cultivated only, but cultivated continuously, after applying manure. Probably a plowing first would have been even better, but he shows results in the foliage and growth.

Apricots generally seem to have stood the season pretty well everywhere, though the fruit is a little undersized, and of course the new wood is light. But the trees have a thrifty color. Growers will probably cut pretty hard again this year and there should be fair fruit wood for next season.

Cherries are in for a rather hard siege of it in the dry sections, even if we get early rains. Throughout the State they have a forlorn look, except where water is plentiful.

To summarize our observations in the Santa Clara Valley, we would say: Apricots lead in condition, then follow pears, peaches, prunes, almonds and cherries in the order named. Those orchards show best that have been plowed early and cultivated continuously, while the worst sufferers are those plowed late, harrowed, rolled down, and left—a practice that is obsolete among scientific growers.

The California Fruit-Canning Season

[Written for Pacific Rural Press.]

The following tabulation prepared by the California Fruit Canning Association shows the periods during which the specified canned products are made in this State:

Asparagus—March 12 to June 7.

Peas—April 20 to August 31.

Strawberries—May 8 to October 23.

Gooseberries—May 15 to June 19.

Cherries—White, May 15, to July 2; Black, May 17 to July 4; Royal Ann, May 21 to July 18.

Blackberries—May 31 to October 19.

String Beans—May 2 to December 30.

Apricots—June 5 to August 25.

Currants—June 6 to July 28.

Raspberries—June 6 to August 7.

Plums—Egg, June 25 to September 25; Golden Drops, June 30 to September 21; Damson, June 1 to October 23; Greengage, June 2 to September 18.

Peaches, Yellow—Freestone, June 2 to October 24; Clingstone, June 10 to November 12.

Nectarines—July 15 to September 6.

Pears—July 16 to November 8.

Apples—July 18 to December 30.

Peaches, White—Freestone, July 22 to October 15; Clingstone, July 31 to October 11.

Grapes—August 11 to November 7.

Tomatoes—August 20 to November 25.

Quinces—September 14 to November 10.

Entire season, all varieties, March 12 to December 30.

PEACH MARKET BUOYANT.

Packing of peaches of all varieties is proceeding actively throughout the San Joaquin Valley, and the market could not be better. Due to a light yield both here and in the East, the demand is insistent and prices excellent. The bulk of this season's crop of freestone peaches in the Porterville district have been bought up by packers on a $50 per ton basis, as compared with $35 last year and $25 in 1916.

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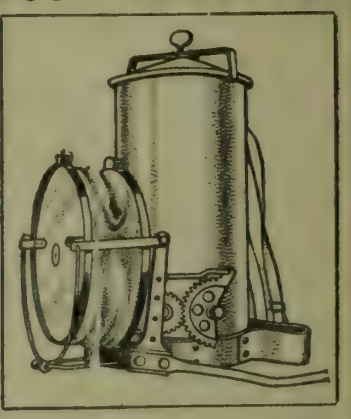

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Blake, McFall Co., Portland, Ore.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Strawberries at Watsonville.

H. A. Hyde of Watsonville says that the crown disease of strawberries should be investigated. The strawberry industry in California, though it is so largely in the hands of Japanese growers, is large and of growing importance, and this mysterious disease is becoming a menace to it. We suggested trying crop rotation, preferably a cereal the first year. Mr. Hyde has changed the characteristics of the Klondyke strawberry. He says that in one double row of these berries, 150 feet long, 105 pounds of fruit was picked every week for six weeks running. The patch was watered every ten days. He also told us of a field of Marshalls that produced 18,000 pounds of fruit its third (peak) year. This field was kept in bearing four years. Mr. Hyde has a row of the Surprise ever-bearing raspberry that has borne fruit every day in the year.

Budding Walnuts.

Leonard Coates buds walnuts twice a year—in May and June—with buds from wood saved in dormant stage and put away in damp sawdust. A large shield is used in both instances. The second budding may be done in August by preparing buds three or four weeks previously. This is done by cutting off the leaf of the bud desired to within an inch of the bud. After the bud on its large shield has been inserted, it must be bound very tightly in place and should be allowed to stay uncut for about two weeks, when the string may be divided. Mr. Coates grows beets and stock carrots between his young trees.

Killing Argentine Ants.

W. H. Volck, formerly Horticultural Commissioner of Santa Cruz county, and now with the California Spray Chemical Co. at Watsonville, says that paris green is the best remedy for exterminating the colonies of Argentine ants. These are the little fellows that get into the pantry and sample the provisions. The way to use the poison is to fill a small, light cotton bag with paris green and shake it out through the bag along the runways of the ants. A little care in dabbing along with the bag will keep the poison local and the ants will disappear.

Light Orange Drop.

On the Stanley place, five miles east of Terra Bella, oranges have not dropped enough to spoil the crop, we hear. M. Boulware, who manages forty acres, took off 2300 packed boxes last year and will have as many this year. The ground was thoroughly irrigated in February and to the winter irrigation is attributed the trees' ability to mature the fruit.

Bud Selection.

R. McCorkle of Green Valley, Santa Cruz county, has 500 trees of Royal apricots that have run, on twelve selected trees, over half a ton of fruit to the tree for five years in succession. He has 500 four-year-old Royals budded from the above trees that averaged 100 pounds of fruit to the tree this year.

Thompson Vines in Row Centers.

When Thompson grapes begin to run on the ground and intermingle a vine cutter with sharp disks about two feet wide run down the row centers will avoid lots of entangled feet and make pruning easier next winter.

Prolific Apple.

There is a Bellflower apple tree on the Brahusen place in Brown Canyon, near Watsonville, that has averaged for five years 85 lug boxes per season. One year it produced 104 boxes.

New Method of Grading Nursery Stock

[Written for Pacific Rural Press.]

At a recent meeting of representative nurserymen at San Francisco, the matter of grading trees by caliper instead of tree length came up for consideration. According to specifications to date, length was the determining factor and was given precedence. But as a matter of fact, in determining the grade of a tree, caliper, stockiness and root development are of greater importance than the length of the tree.

So in order to adapt specifications that would determine more nearly the true grade of the tree it was deemed advisable to give the caliper specifications the precedence, while the length of the tree is of secondary consideration.

To that end the following schedule of grades was adopted:

On all varieties of deciduous fruit trees, consisting of apples, apricots, cherries, chestnuts, peaches, pears, pecans, plums, nectarines, quinces and walnuts, the caliper and height combined will determine the grade of the tree, the caliper always taking precedence.

The following schedule of caliper and sizes effective on the varieties named:

VARIETIES NAMED ABOVE.

Caliper not less than 1 in. on 8 to 10 ft. trees.
Caliper not less than ¾ in. on 6 to 8 ft. trees.
Caliper not less than ½ in. on 4 to 6 ft. trees.
Caliper not less than ⅜ in. on 3 to 4 ft. trees.
Caliper not less than ¼ in. on 2 to 3 ft. trees.

On almonds and figs, because of their inclination to grow stocky, the caliper measurement will govern the grade of the tree, regardless of height, and the following is the schedule of caliper adopted:

ALMONDS.

Caliper not less than ½ in. represents 4 to 6 ft. trees.
Caliper not less than ⅜ in. represents 3 to 4 ft. trees.
Caliper not less than ¼ in. represents 2 to 3 ft. trees.

FIGS.

Caliper not less than ⅝ in. represents 4 to 6 ft. trees.
Caliper not less than ½ in. represents 3 to 4 ft. trees.
Caliper not less than ⅜ in. represents 2 to 3 ft. trees.

The action on the part of the representative nurserymen of the State will, we believe, overcome the irregularity of determining the grade of a tree by length and will work to the advantage of both planter and nurseryman.

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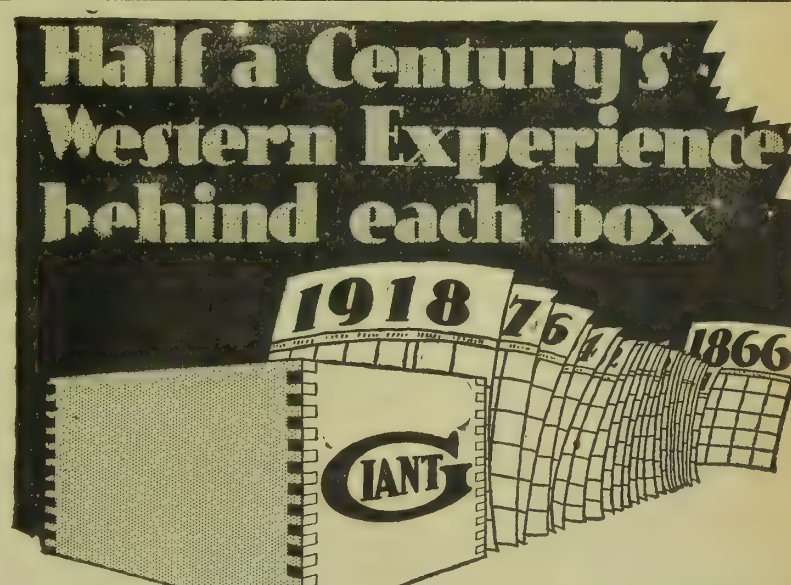

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Two Young Orchards Worth Seeing

[Written for Pacific Rural Press.]

Elmer Bros. of San Jose have two young orchards that for shape training, growth and results are out of the common.

The older orchard of twelve acres of Tuscan clings is five and six years old. The trees are low headed, averaging perhaps a foot above the ground. They are kept well open in the center and are supported by an encircling wire about six feet from the ground to carry the crop, which is well and evenly distributed inside and out of the tree.

Last year 136 tons of fruit were sold from this orchard; 108 tons of it were picked by standing on the ground, a small step-ladder serving for the remainder.

This year's crop promises to exceed that of last year and has been sold to the cannery at $70 a ton. The orchard has just received its second irrigation and is now worked down ready to harvest the crop, about the third week in August.

Apart from the vigor and size of these trees, and the scientific care apparent in their handling throughout, the fact that about three-fourths of the crop can be gathered without the use of a ladder means a saving of labor that will appeal to every orchardist.

The low head also means that the tree protects itself against sunburn from the first and can be better secured against breakage.

The second orchard of eighty acres is half peaches and prunes and half peaches and apricots. The trees are now making their second year's growth, are also headed low and show the same care as the older orchard. This orchard is interplanted with tomatoes and truck, which should more than offset the cost of cultivation.

The apricots are of the Loose variety, which ripens with the Blenheim. Peaches are Tuscan clings and the prunes French. The trees are 20 feet apart on the square, which will allow the cots and prunes plenty of room when the peach trees have fulfilled their mission.

Summer pruning on cots has already been done and next winter all inside growth will be removed to keep the wineglass shape and the leaders cut back hard to promote a strong wood growth again next year. And this will again be summer pruned. The year after they will be allowed to fruit some, but good wood growth will still be forced till the trees have attained a size that suits the growers.

Butte Prune Crop Heavy

[Written for Pacific Rural Press.]

The Butte county prune crop will be nearly as great in tonnage as last year, which was fully normal; and the sizes will be 80 or larger, while last year they were generally 80 or smaller, as reported by Reynolds & Son of Chico. A heavy drop occurred during July, but is all over now. The drop occurred mostly from old trees, due partly to drouth and partly to the hot spell in June, which cooked the leaves and turned them yellow in the worst way Mr. Reynolds ever noted. This will probably affect next year's crop more than this one of 1918. The prunes remaining this season are so large, however, and young orchards just coming into bearing will produce so much, that growers' cash returns will equal or be greater than those of last year. Peaches were not hurt and red spiders seem not so prevalent as in other seasons.

COST OF CARING FOR ORCHARD.

To the Editor: Please advise me what the present charge is per acre for caring for an orchard, including spring plowing and frequent cultivation and one irrigation, water provided. The place I refer to is four to five years old.—J. W. Hoefling, San Francisco.

No data are given to go on, so I will assume you have a strong clay loam soil. At present prices of labor, plowing, and working down will cost about $4 an acre; cultivating about 75c to $1, according to what you want done. The first disking will be the heaviest generally. You have given no data as to water supply, pipe or ditch, or the lay of the land. Could you not get it cared for one more year for the use of the land for intercropping?

ADVANTAGES OF LATE PICKING.

"I find that if I wait until September 1 to pick Thompsons they are well sugared and will cure in two weeks into heavy, well-colored raisins," says C. A. Bloyd of Kings county. Mr. Bloyd has 4½ acres, which 15 pickers clean up in 1½ days. He believes in quick action.

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and help U. S. win the war

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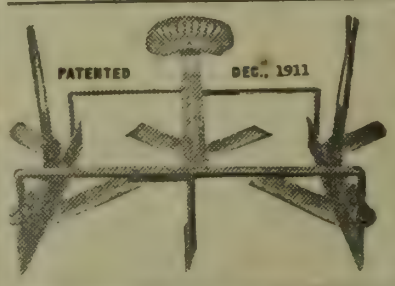

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Yellow "Sweet" or "Sour" Clover

To the Editor: Enclosed please find sample of seed which I have noticed growing on my ranch in one place for several years. It seems to spread very slowly. Is this a noxious weed or what? I am enclosing postage and would appreciate an early reply, for if it is all right would like to save some seed. —Subscriber, Philo.

[Answer by Prof. J. W. Gilmore, University of California.]

This seed is Melilotus indica, small yellow flowered melilot. It is a legume, distributed very widely throughout California and in all the Pacific States.

In recent years it has become quite popular as a cover-crop in the citrus groves of the South and is used to a considerable extent for a cover-crop on other lands. It has practically no value as a forage crop. It seems to be becoming more and more prevalent in our grain fields throughout both valleys, especially the San Joaquin, but this apparent spread is probably due quite largely to the use of the combined harvester. The grain is usually not cut until after the plant has ripened its seed. Under proper cultural methods it is easily controlled and should not become a pest. This seed, however, is extremely bad in wheat that is to be used for milling purposes, although it is fairly easily separated, yet there is always a chance that one or two seeds will get by and one or two seeds, if tempered with the wheat, will lend an odor to the flour manufactured from it. Thus the millers have an' eagle eye out for the seed of this plant in their wheat and rather than take any chance with it they often dock the prices of the wheat considerably.

The best remedy against it in our wheat fields is to plant clean seed and cut the crop when it is ready to cut, for at that time the melilotus has not ripened its seed.

Berkeley.

MANTECA CROP NOTES.

Ten to twenty sacks of wheat and twenty to forty sacks of barley per acre have been raised this year on subirrigated land in the Manteca district, where three sacks of rye per acre was a big crop before the South San Joaquin Irrigation District was organized, as told by W. J. Woodward, who visited our office recently. Beets are generally light both in acreage and stand. It was cold, dry, and windy around planting time. The sugar factory expects to start about August 12 for a thirty- or forty-day run. Tomatoes never had better prospects. There are over 3000 acres of tomatoes in this district and four canneries in town to handle them. A little blight has developed and some growers are spraying with a power outfit furnished by the Manteca Canning Co. A heavy acreage of beans, largely as a second crop after grain, is looking fine. There are many teparies, which sold well locally last year. Gyp corn is also looking well on a large acreage.

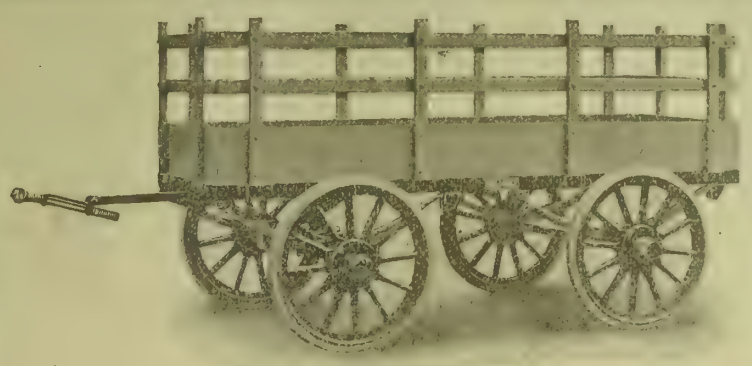
LOCAL BERRY GROWERS HIT HARD.

The new Government freight schedules are not received with great jubilation by some of our fruit shippers. In certain cases an extraordinary hardship seems to be imposed. For instance, the berry growers of the Santa Clara Valley formerly shipped their berries to the bay markets for 6c per 100 pounds and had their empty boxes returned at 15 per cent of the first-class rate. Under the new schedule the rate for the local haul is 25c per 100 pounds and full charge for the return of the empties.

TRACTORS AT STATE FAIR.

Tractors at the State Fair, August 31 to September 6, will occupy much more space than last year, as indicated by interest of the manufacturers in the past few weeks. No machines will be in motion inside the tents and the dust nuisance will be abated outside. One firm has already asked for 7000 square feet. Six firms last year had 1000 to 4000 square feet. All will be under the auspices of the California Tractor and Implement Association. No sanction will be extended for tractor exhibits at the Oakland Land Show.

Hit hard and quickly for all we have and are and hope to be!



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Pod-Dropping of Beans

[Written for Pacific Rural Press by Alfred Guillou of Windsor.]

In your issue of July 20, G. A. R. of Glenn writes a query concerning his bean vines which have bloomed freely but do not pod. This is the first public recognition I have seen of this very perverse trait of beans in some localities, and I take the liberty of supplementing your answer to G. A. R. by giving the results to date of my own experience and inquiries, for I can find nothing in the books or otherwise authoritative on this particular subject.

The stand of the field and the growth of the individual vines do not seem to make any difference. Small whites (navy beans) seem to be most subject to this pod dropping, and teparies least subject thereto. It is not a case of shriveled pods, such as occurs in a hot spell among Ventura county lima beans, but the whole bloom, ovary and all, lets go from the receptacle and leaves only the blunt stump of the receptacle.

Last year there was a field of navy beans near Santa Rosa, planted in 24-inch rows, which had grown so thriftily as to close up compietely the rows; and the vines were crowded with blooms. Sacramento Valley bean men said they had never seen such beans. This field threshed five sacks to the acre!

The Italians in Sonoma county assert that white beans are more subject to this drop than are colored beans, especially kidney beans. In my experience kidneys drop as badly as large whites; and pinks and blackeyes are worse than either kidneys or large whites.

I know of but two theories to explain this phenomena. One theory concerns the pollen. It has been found by experiment—in Utah, I believe—that there is a certain optimum atmospheric condition for alfalfa pollen; and any marked departure from this renders the pollen sterile. As it is sometimes said: "The pollen burns." It may be that in certain localities the absence of night dews, or marked changes between day and night heat, render the bean pollen sterile.

The other theory is that the dropping of the pod is analogous to the June drop of oranges—the plant has enough vigor to grow lustily, but not enough to carry it over the critical time of setting the pod. In the neighborhood of Healdsburg and in many other parts of Sonoma county Kentucky Wonder beans will grow thriftily and climb enormously, but unless they are irrigated they will not set pods; irrigation makes them yield abundantly.

If the first theory is the correct one, there would seem to be no help for it. If the second theory is the right one, then thorough wetting while the plants are blooming will materially help in securing pods.

The Mills ranch, near Hamilton, I am told, uses irrigation in this way quite successfully. "Keep them soaked from the time they begin to bloom freely," is the way their foreman put it.

Is A "Bush Tick Bug" A "Sow Bug"

[Written for Pacific Rural Press.]

To the Editor: I think M. M. G.'s "brush tick bug" is our common wood louse or sow bug. This spring I planted squash in hills finely prepared with lots of fertilizer. They grew very luxuriantly. I noticed a couple of dead vines and investigated. I found the customary pests, old diamond back and the diabolical eleven spot, but nothing to account for the vines dying outright. On examination I found the vines were girdled just at the top of the ground. Next day three others passed in their checks. I hied me to town and talked with both farm advisers; neither could give me any information. I then looked up Napa county's most famous pumpkin grower. He'd had 'em, but could give no remedy. Looked up three other growers. They were not in the least interested, as they had already lost their patches. Then I sailed for home, investigated again, dug around plants and found sow bugs by the thousands. As I thin out to a single plant, it was an easy matter to scrape loose dirt from around the plant and scatter a little tobacco dust, break off a leaf to make shade for the exposed stem and let her rip. There was no more loss. Lime, gypsum or wood ashes would probably have served the same purpose. —Chas. Blom, Napa.

SEED POTATOES MAY BE SCARCE.

Seed potatoes are likely to be scarcer this year than last, according to H. A. Hyde of Watsonville. Mr. Hyde tells us of American Wonders in Washington that produced 309 bags per acre, and of a strain of British Queens that has set and produced 35 marketable potatoes in one hill.

ROTTED CORN LEAVES SPOIL SILAGE.

Corn left too long on the ground after cutting before chopping for silage may have its leaves decayed on the under side of the bundle or pile. If these are cut up, they are likely to rot the silage around the pieces, according to an extensive silage user.

Twenty beans are enough for a family if they are of the old-fashioned scarlet runner variety.

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has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

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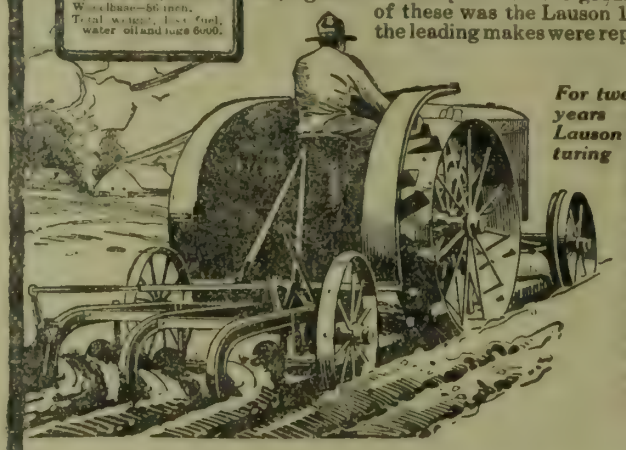
Speed, M. P. H.—low 1.3-4; plows 2 1-2, inch 2 1-2
Wheelbase—86 inch.
Total weight, less fuel, water oil and lugs 6000.

The LAUSON 15-25

DUST PROOF-ALL GEARS ENCLOSED

At a recent demonstration out West only two, wheel type tractors went up a 33% grade with all plows in the ground. One of these was the Lauson 15-25. All the leading makes were represented.



For twenty-three years the John Lauson Manufacturing Co., has been making farm engines and has been making them so well that their reputation is second to none.

This experience has enabled them to build the Lauson 15-25 Kerosene Tractor so that it is years ahead of its competitors.

It has all the mechanical refinements of the best engineering practice combined with a ruggedness that makes it stand up under the hardest kind of service without annoyance of expensive breakdowns. **Durability** is built into the Lauson.

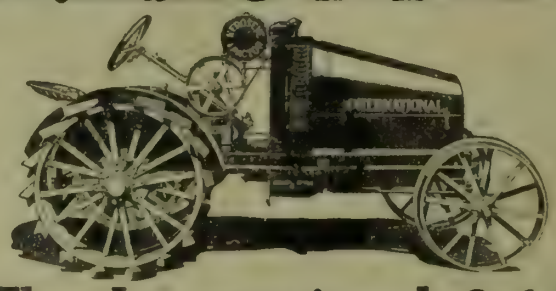
The frame is mounted on four wheels on the three point suspension principle. This gives flexibility without the danger of tipping on hillside work. The entire weight of the machine is sufficient to give good traction, without slipping and not so heavy as to cause packing of the soil. The front wheel crowds the furrow and requires no steering. The Lauson 15-25 will travel the entire length of the field without the operator touching the steering wheel.

Twenty-four Hyatt and Timken roller and ball bearings on the Lauson give it the name of the "full jewelled" tractor. **All gears**—including the bull gears are enclosed in a dust proof casing and run in oil. This reduces friction and wear to the minimum, saves fuel and increases draw bar pull.

Builders of Lauson Frost King Engines

For 23 years Lauson Frost King engines have been the standard of farm engine excellence—built in 2½ to 50 H. P. sizes.

THE JOHN LAUSON MFG. CO., 1028 Monroe St., New Holstein, Wis.



The International 8-16

A Handy Tractor

A FEW minutes in the seat of an **International 8-16** gives you a new idea of the ease and comfort of doing farm work with a kerosene tractor. All the controls are right at hand—spark and throttle controls just under the steering wheel; clutch and brake operated by foot pedals; speed changing levers just where your hand falls on them—everything as handy as on an automobile.

International 8-16 has one reverse and three forward speeds: 1¾ and 2½ miles per hour for plowing, disking and other field work, and 4 miles per hour for road work and when traveling from one job to another.

You will like this tractor when you see it. When you run it you will like it better. When you find out how light your bills are for kerosene and for general upkeep you will like it best of all. Go to the dealer soon and see it or write us for information because it looks as though the demand for **International 8-16** tractors is going to be much heavier than we expected and we shall have to fill orders in their turn.

International Harvester Company of America

(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

Wheat to Put Hun Thru Smut Machine

(Continued from first page.)

handling, which stand idly between the grain field and the flour sack, are a needless expense. But they did not stop there, but, finding much of the wheat California grows not of high milling desirability, they secured large tracts of land of different types of soil, bought the best foreign wheat samples shown at the Panama-Pacific and started in growing all of them to see whether some would not yield better and be better for milling than the kinds best known here — thus complementing and extending the agronomy work of the California Experiment Station. And they are sure from their experience in field and mill laboratory and bake oven that they have found such wheats, which will serve the grower and the miller better than kinds now grown. Nearer to sowing time we shall probably offer more detailed information about these wheats of which the desirability and the fact that seed will be available of them, are all that we are able at this moment to emphasize. Our present purpose is simply to exalt Uncle Sam's considerate appeal to California and to correspondingly depress the kaiser with California's loyal response that she will go over the top with wheat as with everything else she has been asked to bring forth!

A NEW TANK DRIVE.

No doubt a resolute effort will be made by our California Food Administration and by all our institutions for defense and education to show Californians who have lands, tools and capital for it that it will be good patriotism as well as good business to increase a crop which will surely sell at a profitable price than to take too many chances at shifty products. But we doubt whether all such preaching efforts will be more picturesque and more directly effective than the drive which will be made on all the cereal fronts in this State by the great white tanks of the Sperry Flour Co., which will soon be spinning over the countryside showing things to the Missourians, over-running the objectors, uplifting idealists and enlisting the warm patriotism and cool judgment of all in the endeavor to grow more wheat of the right kind and to begin now to get ready to put in the crop this fall as early as natural conditions warrant or require in the different parts of the State.

BUSINESS PUSH WILL BEAT THE KAISER.

It is not the habit of this writer to drop from the tripod and root for an undertaking which some may chant simply as business enterprise. We see much more in it than that. Our business men, like our soldiers, sailors, preachers, poets, orators and editors, are all out of their skins over this hell-born war and are doing things which are beyond their ordinary conceptions of duty and propriety to crush the originators of it out of human consideration. This matter of more wheat in California next year is fundamental to the success of the war: in more distant view it seems to us fundamental to the whole development of our greater, more diversified agriculture. Who shall say then that to secure one end and to open the way to the other is simply a business enterprise and should be restrained from our publicity by maintaining ordinary editorial attitude? We know that ordinary editorial and platform exhortation will not get all the wheat that will be possible and profitable. Therefore we hail with delight the great white tanks of the Sperry wheat propaganda. Let all other millers do their parts also in the best ways they can devise. Let them all get to work to insure California wheat production so that our flour export shall better represent the capacity of the State—but first and above all get the kaiser into the smut machine and clean him out!

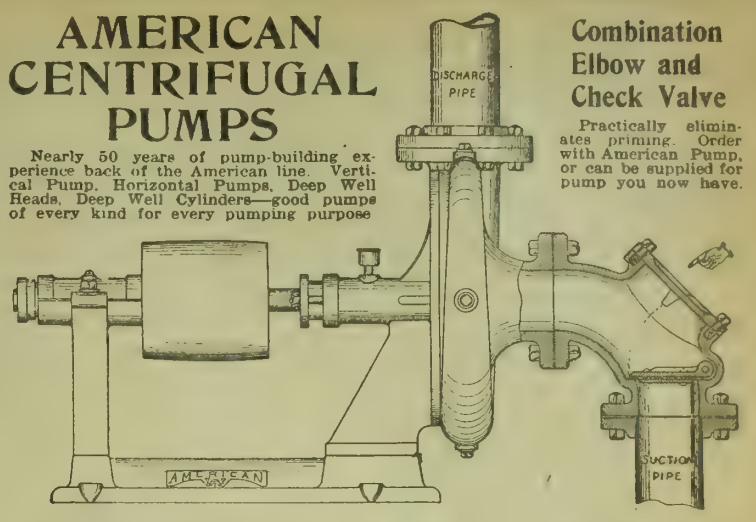
Nearly 300,000,000 bushels of wheat is stored in Australia, it is reported. The Australian Government has guaranteed 83c per bushel and to this the Commonwealth has added 12c, making the price 95c to the producer.

AMERICAN CENTRIFUGAL PUMPS

Nearly 50 years of pump-building experience back of the American line. Vertical Pump, Horizontal Pumps, Deep Well Heads, Deep Well Cylinders—good pumps of every kind for every pumping purpose

Combination Elbow and Check Valve

Practically eliminates priming. Order with American Pump, or can be supplied for pump you now have.

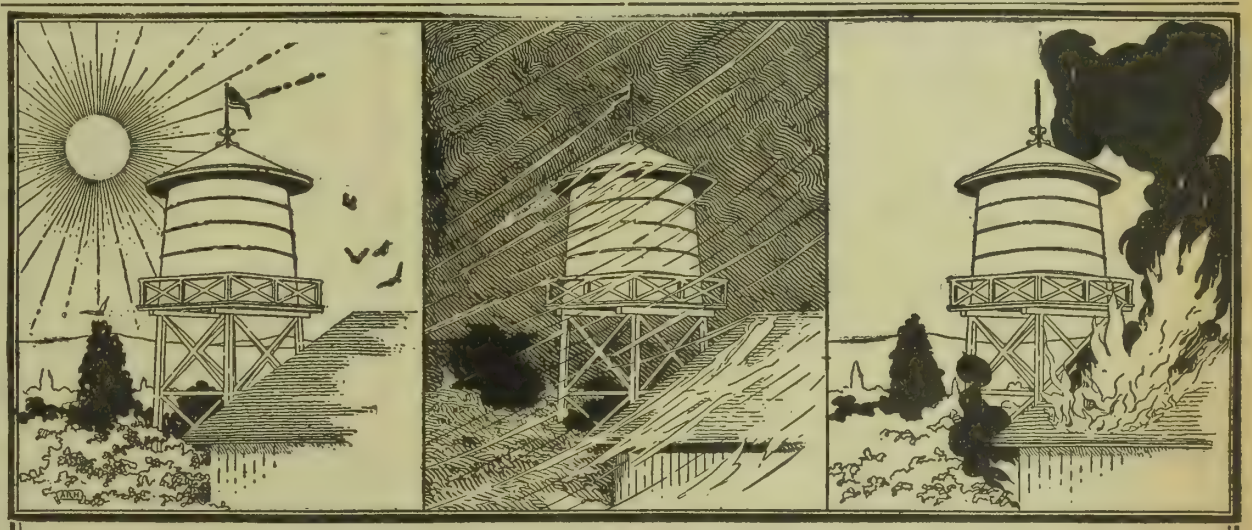


GAS ENGINES, OIL ENGINES, MOTORS, Etc.

Put your irrigation problems up to irrigation experts. We'll show you how to get the MOST WATER with the LEAST TROUBLE at the SMALLEST COST Write for our catalogs of Gas Engines, Oil Engines, Motors, Direct-connected Motor-and-pump Outfits, or any of these in which you are interested. We'll answer your inquiry fully and carefully

CALIFORNIA HYDRAULIC ENGINEERING and SUPPLY CO.

68 Fremont St., San Francisco 424 East Third St., Los Angeles



PACIFIC REDWOOD TANKS

withstand longer the effect of sun, rain and fire, give longer service, and cost less to install than any other.

For the money they cost they give more comfort, and more valuable service, than a like amount can buy in any other farm improvement.

A PACIFIC Redwood Tank costs a third less to install, and lasts twice as long as any other. We have constructed PACIFIC Redwood Tanks on three continents, been at it thirty years, thousands of farms are better places to live because of these permanent installations.

We maintain a staff of Engineers, whose business it is to advise on farm problems.

Write to us concerning your needs. Our engineers will suggest plans for your water system.

PACIFIC TANK & PIPE CO.
THE STANDARD SINCE 88
15 Pine Street, San Francisco
911 Trust and Savings Bldg., Los Angeles.

Pacific Tank and Pipe Co.
Address nearest office.

Gentlemen:
Please send promptly your catalogue of Water Tanks.

I need a tank to hold_____ gallons.

It should be mounted on a tower _____feet high.

The water to be delivered from _____

Pipe { Length_____ Size_____

Name_____

Address_____

General Agricultural Review

Field Crops.

By order of the War Trade Board, importation of rice for consumption in the United States after July 31 was prohibited.

The condition of the Butte county rice crop as a whole is improved, as the water shortage has to some extent been corrected.

Record wheat crops are being reported from the Tulare lake region, where irrigation before seeding time was practiced.

V. Taylor of Byron was offered $23 a ton for his third cutting on a half-section f. o. b. his shipping point. Mr. Taylor is not selling.

The hop growers of the State will send a representative to Washington in an effort to prevent the passage of legislation which may interfere with the disposal of this year's hop crop.

The plant of the San Joaquin Valley Sugar Company at Visalia is operating on beets from the Bakersfield country. It is stated that the crop is running from 12 to 20 per cent sugar content.

The early-sown grain in the Covelo Valley is good, but the late-sown is almost a failure. One farmer said that if they had only kept on sowing and had not stopped because of the dry winter, they would have had fine crops all the way through.

Corn is proving to be a very profitable crop in many of the islands in the Delta districts. It is replacing the asparagus in a good many fields. Very little trouble is experienced with worms and the corn fills well. Both the dent and flint varieties do well.

The cotton crop for 1918 will be far below the 1917 harvest, due principally to droughty conditions in the western part of the cotton belt, especially in Texas. The acreage and production forecast of Egyptian cotton by States is: Arizona, 75,000 acres, 42,000 bales; California, 5000 acres, 3000 bales.

According to President W. D. Egilbert of the Western Rice Growers' Association, the California rice crop for the 1918 season will be 3,000,000 bags, worth at the Government price $13,000,000. Egilbert figures there are 100,000 acres planted to rice in the State this year, an increase of 25 per cent over the acreage planted last season.

Deciduous Fruits.

The prune crop in the vicinity of Chico is maturing earlier than usual.

Harry Williamson, on the Folsom road, Sacramento county, has an enormous crop of prunes on his trees.

Growers of the Hemet Valley state that their apricot crop was picked almost entirely by women and high school boys.

Five fresh fruit packing concerns are operating in Kings county on Elberta peaches for Eastern shipment. The fruit is of good quality.

The Yolo County Horticultural Commissioner and his deputy confiscated a shipment of 138 boxes of Bartlett pears at Winters last week.

The first annual conference of Western horticulturists, who are planning to form an association for mutual exchange of ideas and discussion of problems, met this week at the Oregon Agricultural College.

It is reported that buyers have been offering growers high prices for almonds throughout the State this year. Twenty-three cents has been offered for Nonpareils and I. X. L.s are hard to get at 20c a pound.

The United States Government has agreed to take about 60 per cent of the peach crop handled by the Peach Growers' Association, time of delivery at option of the Government any time between September 1 and January 1.

Almond poling is starting in both the Contra Costa and Oakdale districts on the earlier varieties. The crop in these sections is below normal, but the exceptionally high prices offered for all varieties will make it a profitable crop, even at that.

W S. Kilpatric, Sacramento Valley representative of the California Prune Growers, Inc., marvels at the extent of the young prune orchards in the Gridley, Biggs and Live Oak districts, which will begin bearing in the next three years, and which he believes exceeds 3000 acres.

Citrus and Semi-Tropical.

The almond harvest is two weeks earlier than usual in some orchards south of Chico.

Placer county olive growers meet at the Lincoln Cannery today (August 10) to discuss the processing of the Placer olive crop within the county.

The California Association of Olive Growers, through which practically all of the olives of this district are controlled, have voted to lease their cannery and processing plant here to the Pacific Products Corporation for a period of two years. The new company is financed by Boston capital.

Representatives of large citrus interests in Southern and Central California have been canvassing the Porterville citrus districts with a view to establishing one or more marmalade factories, which would utilize the bulk of the culls now thrown on the markets and thus create an opening for the better grades of citrus fruits.

Grapes.

Many of the vineyards in Yolo county are suffering from a lack of sufficient moisture caused by the light rainfall of the past three years.

Wine grapes are beginning to ripen in the Contra Costa county section. It is hard to get an idea of prices. No sales were heard of. Growers talk of offers being made ranging from $30 to $40 per ton.

Women grape pickers are wanted in Lodi this month, according to Mrs. Clarence Smith of the Woman's Land Army. A large tent city is set up for the workers in the public park at Lodi by the State Immigration and Housing Commission.

Miscellaneous.

"Better to grow more than to have to eat less" is the legend displayed by C. C. Morse & Co. at various exhibitions since the war began.

The Sacramento river has reached the lowest mark recorded since 1857. At low tide, July 7, the water level was only 2.2 feet.

A cement bottom put into a cement irrigation pipe and washed inside and out with thin cement paste keeps water cool all day.

Through co-operation with State institutions the Bureau of Markets now has thirty-two field agents located in various States assisting individuals and associations on local marketing problems.

The tension in the wool market is easing up somewhat, as the rules governing the sale and distribution of wool becomes better understood, and this staple is beginning to move more freely as a result.

Despite the shortage of ships and two shipwrecks, farmers have received 75,000 tons of nitrate of soda from Chile, bought through the War Industries Board and distributed by the U. S. Department of Agriculture.

All bids for the issue of $150,000 6 per cent bonds for the Terra Bella irrigation district that was offered at public sale at San Francisco last week were rejected. It is understood the bonds will be offered again.

The Food Administration Grain Corporation is now arranging for increased quantities of Australian wheat to reach California, in order to augment the California crop, which has not turned out as favorably as was hoped for.

Although as a matter of necessity seed production has increased in this country since the war, ex-

PLAN NOW

TO ATTEND THE

Mammoth Third Annual TRACTOR DEMONSTRATION

WHITTIER BOULEVARD

One-Half Mile East of Los Angeles City Limits

On September 17 will open the biggest and most comprehensive outdoor demonstration and exhibition of modern farming devices and machines ever held in America.

Thousands of dollars are being expended by the Los Angeles Traction Engine and Implement Dealers' Association to make this gigantic demonstration of compelling interest to every farmer and prospective food grower in the Southwest.

As surely as Food will win the war, Victory lies in the wake of the Tractor. The importance of the Tractor cannot be overestimated. It is the Farmer's heavy artillery. Learn of the Tractor's immense value at this crucial time.

Make plans NOW to arrange your work so as to attend on these dates —September 17, 18, 19, 20 and 21. You'll be well repaid by the valuable first-hand knowledge gained.

WHAT YOU'LL SEE AT THIS GREAT EDUCATIONAL EXHIBITION

Over 40 Kinds of Tractors in Action
Every Type of Farming Implement
New Stunts—Distinct Tests
Different Exhibition Events Each Day
Special Entertaining Features

Exhibits by leading tractor, implement, motor, automobile, oil, accessory and electrical distributors.

No Admission Charges Free Auto Parking Space
Accommodations for Over 40,000 Visitors Daily

TRACTION ENGINE IMPLEMENT DEALERS ASSOCIATION OF SOUTHERN CALIFORNIA

California State Fair

AT SACRAMENTO

AUGUST 31st To SEPTEMBER 8th, inclusive

Make the War Time Fair The Biggest Ever

UNITED STATES GOVERNMENT FOOD TRAINING CAMP.

Show what you have done. Learn what others have done. We need more Soil Products, Better Livestock. Exhibit your best to help solve the nation's food problem.

THE KEY NOTES OF THE 1918 CALIFORNIA STATE FAIR

PATRIOTISM - PROFIT - PLEASURE

Great Display of Vocational Work by School Pupils. Over 500 prizes, divided between city and rural schools for domestic arts and science, manual training and home gardens. Greatest incentive ever offered to California boys and girls.

BETTER BABY CONFERENCE—LECTURES AND DEMONSTRATIONS EACH DAY.

LARGEST LIVESTOCK SHOW IN THE WEST.
Over $40,000 offered in premiums.

EDUCATION AND AMUSEMENT COMBINED.

Bigger and Better Poultry Show. Special Pet Stock Show

Displays of horticulture, agriculture, viticulture, forestry, dairy products, dairy, farm and road machinery, tractors, etc. Daily program of high class amusements. Night Horse Show. Harness and Running Races. A tent city of carnival attractions.

New Agricultural and Horticulture Building. Great Annual Band Contest Open to the Entire State.

BE SURE AND VISIT THE STATE FAIR AND MATHER AVIATION FIELD.
Send for Premium List.

Geo. C. Roeding, President Chas. W. Paine, Secretary
SACRAMENTO, CALIFORNIA.

Napa County Fair

NAPA, CAL., AUG. 23-24-25

See Napa County at her best. Poultry, livestock, as well as general agricultural products, will be on display. Twenty thousand square feet of exhibits. The roads to Napa are good.

E. P. LOCARNINI, Manager Napa, California

perts of the U. S. Department of Agriculture consider that the possibilities of commercial seed growing in the United States have only been slightly developed.

SULPHUR

Fleur de Soufre, Anchor Brand; Velvet Flowers of Sulphur and Eagle Brand.

Packed in barrels and double sacks; are the fluffiest and purest Sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, leaving no ash.

Try our new brand of sublimed 100 per cent pure Ventilated Sulphur for making Paste — Atomic Sulphur.

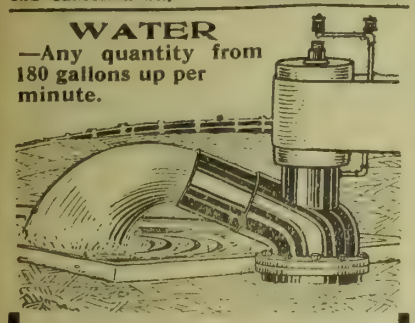
For Lime Sulphur Solution, use our "S" Brand Refined Flour Sulphur, which we will furnish at a price so cheap that you cannot afford to purchase ready-made solutions.

We are equipped to make immediate shipment. Send for illustrated booklet; also price list and samples.

SAN FRANCISCO SULPHUR CO.

624 California St., San Francisco, Cal.

WATER
—Any quantity from 180 gallons up per minute.



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PUMP
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Efficient oiling system.
Enclosed shafting.
Low speed roller bearings.
Centrifugal motion.
Steady, even delivery.
Simple, accessible parts.
No intricate adjustments.
All parts in balance.
No pit required.

TYPES

Low Lift—Medium Lift—Heavy Duty
Motor or Belt Driven.

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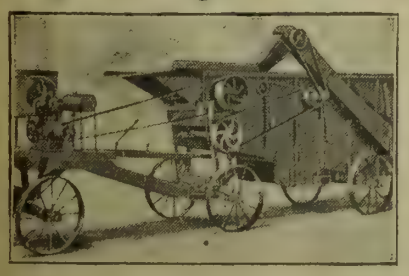
LAYNE & BOWLER CORPORATION

900 Santa Fe Ave., Los Angeles

Cushman
Light Weight Motors



for Bean Threshers
Ensilage Cutters
Corn and Grain Binders
Shellers and Hay Presses

Combined Harvesters, Potato Diggers, Rice Binders, and all other farm work.

4 to 20 H. P. Weigh only about one-fourth as much as ordinary engines, yet run even more steadily and quietly.

Moving parts run in oil, absolutely enclosed; free from dust.

Equipped with Throttling Governor, Carburetor and Friction Clutch Pulley. Cooled by circulating water system, driven by engine pump.

Thousands are in use in this state, doing more different kinds of work than any other type of engine. Sold by California Representatives and distributed from stock in California Warehouses. Write for Book on Light Weight Engines.

CUSHMAN MOTOR WORKS

956 N. 21st St. LINCOLN, NEBR.

The large quantities of flour shipped from the Pacific Coast to our own troops abroad have been increasing month by month, as newly constructed tonnage has been available.

The Government is interested in the cotton situation and is watching closely the plantings in the new sections of the West. So far, no diseases of importance have developed.

It is stated that Government agents are visiting the fruit belts of Yolo county, offering to pay $45 per ton for apricot pits to use in the manufacture of an absorbent charcoal to be used in the gas masks of the allied forces. The peach growers have also been approached.

An official appraisement of the estate of the late Henry Miller, "cattle king," places its net value at $31,951,010.19. On this estimate, the State of California will collect an inheritance tax of $1,500,000 and the Federal Government a sum approximating $5,000,000.

The Federal Board of Farm Organizations has called upon the farmers of the United States to assemble in person or by their representatives in the city of Washington, August 27, 28 and 29, to consider and to take such action as will best promote the production of farm crops in 1919.

Regulations under which drought-stricken farmers of the Northwest and Southwest may obtain loans for seed from the $5,000,000 fund set aside for that purpose by President Wilson were announced August 1 by the Treasury and Agricultural departments, which will administer the fund jointly.

The great Government contract is absorbing the bulk of the product of the Horst dehydraters. The company has a small amount for sale and will keep the product before the public with a view to educating the housewives and hotel proprietors in the use of this new form of food.

The S. P. Company will "spot" returning stock cars on side tracks along the line if ranchers will clean them out for fertilizer contained. Mixed with sand, there is usually a load or more of manure, all of which may be had for cleaning the car. See the local agent or the Farm Adviser if free manure is wanted.

The average of late onions in the Delta district is estimated as follows: San Joaquin county, 7765 acres, and Contra costa county, 1439 acres ,a total of 9204 acres. This represents a substantial increase in San Joaquin county and a decrease in Contra Costa. The movement of this crop will begin in August.

A recent report by the Geological Survey on the Government examination of deposits of nitrate of soda in the Zabriskie field of the Amargossa Valley, California, says the quantity of nitrate in this district is so small and the cost of production would be so great that the district as a whole cannot be regarded as a source of commercial nitrate.

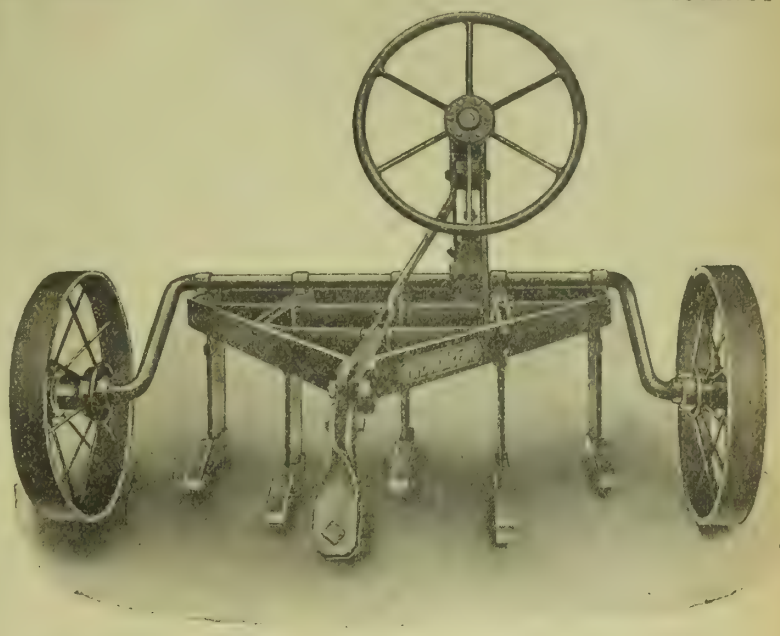
Late forecasts of the U. S. Department of Agriculture indicate an increase of almost 5,000,000 bushels in the bean crop, with a total of 19,791,000 bushels and an increase of 267,000 tons in the sugar beet crop, with a total of 6,247,000 tons. The hop crop promises 32,494,000 pounds, an increase of almost 5,000,000 pounds over last year.

C. M. Pilgrim of San Diego county owns something like 500 acres of land, of which 12 acres is mesa, and on this particular 12 acres the hay tonnage had been very light. He gives us a summary of the tonnage from these 12 acres of mesa land as follows, covering a period of three years before and after sub-soiling. Cut 3 tons first year, the second year 5 tons; then Mr. Pilgrim purchased a Killefer five-standard subsoiler and the third year after tearing up the ground to a depth of about 18 inches he reports cutting 19 tons of hay, and after only having had 8 inches of rain. Mr. Pilgrim says that the moisture after sub-soiling is well up to the surface.

KILLEFER QUALITY

Five Standard Subsoil-Plow

KILLEFER EFFICIENCY



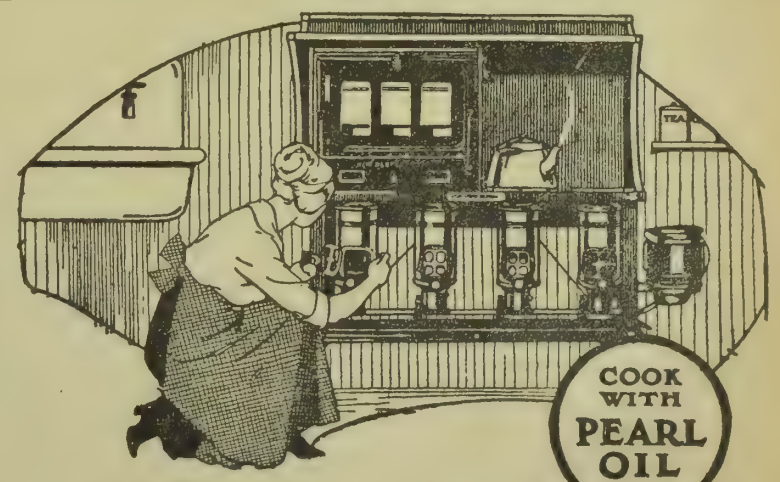
Subsoiling on the 800-acre ranch of C. H. Hudson, of Marysville, Cal., last fall, produced a $35,000 crop. This land had been abandoned because a paying crop could no longer be grown. Subsoiling brought it back.

Thousands of acres of land in California today, producing light crops, can be brought back and made to produce more food by subsoiling. We have advocated subsoiling for a number of years to increase production. Your land can be broken up to a greater depth, and at less expense, with a subsoiler than with a plow. Our subsoilers are not an experiment. They are built to meet any soil conditions and for all sizes and makes of tractors. We use the best quality of steel in their manufacture and guarantee satisfaction. Now is the time for you to get busy and help win the war.

THINK IT OVER

The Killefer Manufacturing Co.

2209-21 Santa Fe Ave. Box 156 Arcade P. O. Los Angeles, Cal.



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Just the touch of a match and your New Perfection Oil Cook Stove is ready for cooking. No waiting for the fire to burn up.

Easier to operate than a coal or wood stove: No smoke or odor; no dust or dirt. Bakes, broils, roasts, toasts,—all the year round. All the convenience of gas. And a cool kitchen in summer.

In 1, 2, 3 and 4 burner sizes, with or without ovens or cabinets. Ask your dealer today.

A New Perfection Oil Cook Stove means kitchen comfort and convenience. Ask your friend who has one. Used in 3,000,000 homes. Inexpensive, easy to operate. See them at your dealer's today.

STANDARD OIL COMPANY
(California)

NEW PERFECTION OIL COOK STOVE

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

SMOOTH SIDE OF BELT INWARD.

Always use a leather belt with the rough flesh-side outward and the smooth hair-side next to the pulley, is the advice of L. J. Fletcher, instructor in agricultural engineering at University Farm. Directions to this effect are usually stamped on the belt itself, but the ordinary belt user ignores this fact. The belt has been displayed in the store rolled up with the smooth, pretty side outward to create a favorable impression. It is already curved to put on the pulleys that side out and he hates to bend it backward. Often when he buys a belt already hooked together at the ends the hooks are such that they must be removed and turned over before he can put the belt on right. When he buys a machine with a belt on, the pretty side is often outward to help create the favorable impression on the prospective buyer.

But the smooth side should always be run next to the belt wheel. When it runs over a wheel, it is bent sharply. If the smooth, hard side is inside, the bending tends to compress it. If on the outside, the bending tends to crack it and its life is much shorter. The strength of the belt is in its hard, smooth side and this should be closest to the wheels to and from which it transmits power.

On University Farm a belt was used with the soft surface inside to run a buzz saw. It kept slipping, so Mr. Fletcher turned it over when the operator was away and it transmitted 30 per cent more power. The hair side, being closer grained and smoother, presents many more particles of surface in contact with the belt wheel; and this is why it can transmit more power.

HOT ENGINE RUNS BEST.

Most automobile engines work with greatest economy at the temperature of boiling water, 212 degrees F. If water could be replaced as it steams away, as it can with stationary engines, it would be good economy to keep the water boiling. This is partly because the high temperature causes more perfect and rapid vaporization of the fuel and therefore more complete use of its power in the explosion. It permits more rapid explosion, thus using more of its power (heat) to move the piston and losing less of its power (heat) by way of the water-jacket. A slow-burning explosion boils the water in the jacket quickly. At University Farm stationary engines have been kept cool while running by circulation of city water under pressure through the water-jacket. This resulted in the necessity of using 25 to 30 per cent more fuel to develop the same power, according to Prof. J. B. Davidson.

TRACTORS REDUCE BEEF.

Increased crops in spite of great labor shortage are being grown in England due to the use of tractors. According to information from the American Consul General in London to the U. S. Food Administration, 33 per cent more acreage is planted this year to wheat, barley, oats, rye, corn and potatoes in England and Wales than in 1916. Since the beginning of the food campaign in November 1915, when it became evident that the war would be long, Great Britain has imported more than 8000 American tractors and has orders outstanding for about 5500 more. Much pasture has been plowed up, thus increasing human food but decreasing cattle feed, so more beef will be needed from the U. S. than before.

The "Beaumont lugs" are a special angle irons put on Avery wheels in rice fields which have similar soil to our adobe. The angles are bent at the edge of the wheel to prevent sidewise slipping.

DEEP WELL TURBINES

No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

Prices as low as are consistent with good quality and workmanship

WRITE FOR CATALOGUE NO 61

BYRON JACKSON IRON WORKS, Inc.
SAN FRANCISCO.
LOS ANGELES, STOCKTON, VISALIA

Test Special Belting

What a lot of chores there are to do.

There's the farm pumping plant, a busy, humming wheel, turned by the TEST SPECIAL belt, to bring up the water and send it on its useful course, raising crops and watering the animals.

TEST SPECIAL is the practical belting for the churn, the wood-yard saw, and the feed-mill, just as TEST SPECIAL is the dependable belting for the lighting plant, and for all the domestic needs.

Why buy a miserable, cheap belt which gives way and renders such poor service, when TEST SPECIAL is so reliable, so worthy of confidence, so sure to last and give years of permanent value?

If you will write us, giving details of your requirements, we'll be glad to furnish plans and specifications to help you decide how to get the best service, greatest efficiency and most economy out of TEST SPECIAL belting.

Protect belting from weather to insure longer life.

Fill Out This Coupon—Mail It TODAY

New York Belting and Packing Co.
519 Mission St., San Francisco —Dept P-6
Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

.....Station.

Horse Power	Diameter in Inches
Elec. Motor.....	Driving Pulley.....
Steam Engine.....	Driven Pulley.....
Gas Engine.....	

Kind of Drive

Cross.....
Straight.....
Perpendicular.....
Width of Belt..... Ply.....
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Rev. per minute of Driving Pulley.....
Kind of Machinery Driven.....
My dealer's name.....
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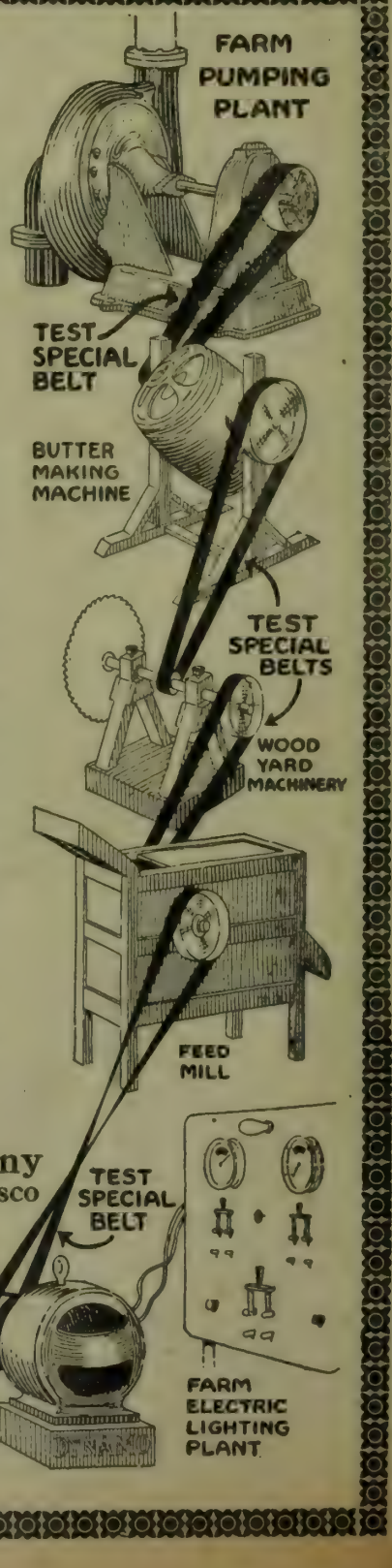
A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

New York Belting and Packing Company
519 Mission Street San Francisco



Home Office: New York City, Branches in all Principal Cities

SOUTHERN CALIFORNIA TRACTOR DEMONSTRATION.

The growing importance of tractors in food production with shortage of men and of draft stock will be reflected in the demonstration of tractors and farm implements one-half mile east of Los Angeles city limits, on Whittier boulevard, September 17 to 21, inclusive. Preparations are under way for the largest exhibition of tractors and farm implements ever held in Western America.

According to officials of the Traction Engine and Implement Dealers' Association, over forty models of tractors will be displayed and demonstrated, the largest number ever demonstrated in the history of the industry. Scores of up-to-date farming implements and accessories will also be exhibited. Big circus tents covering over sixty acres of ground are to be erected for housing the motor truck, automobile tire and automobile accessory dealers' displays. According to the committee in charge of the big demonstration, special events will take place each day of the meet, so that it will be important that the spectator attend every day. The tractors themselves, forty kinds, will run in size from simple Ford attachments to huge powerful track-type tractors and will include every successful variety of machine now on the market. These tractors will all be operated under various conditions, so that one will be able to judge which model will be best suited for one's particular needs.

The introduction of the modern tractor has revolutionized farming methods and wide-awake farmers and ranchers are realizing that it is an easy matter to increase production at a less expenditure of money by using a tractor best suited for their needs.

This year's demonstration will include numerous demonstrations which Western ranchers have never seen before. Meals will be served on the grounds. A definite program will be announced later. Last year's tremendous demonstration at Los Angeles is proof of the association's ability and the people's interest.

FUEL TANKS LOWER THAN CARBURETERS.

It is an advantage to have the fuel tank on a tractor or automobile low down to avoid lifting fuel high to fill it. But with the tank low down, how does the fuel get into the carbureter? An automatic pump would be hard to regulate; but a vacuum suction device is installed on most machines for this purpose. During the suction stroke a partial vacuum is created in the inlet manifold. Generally a small pipe runs from the inlet manifold to the upper chamber of the device to transfer the vacuum thither. This sucks fuel through a pipe from the fuel tank into the chamber until a float rises enough to trip a valve and stop the flow, preventing return of fuel to the tank but cutting off the suction and letting air in so the fuel gravitates into the lower chamber of the device and the operation is repeated automatically.

PUMP INCREASED BELLFLOWERS

"My Bellflowers were so small I had to dry all of them when I was cultivating them without irrigation," says E. A. Hall of the Pajaro Valley hills. "Now I pump water with a 10-h. p. electric motor and 3½-inch centrifugal pump from the lake to a maximum of 60 feet high through 1000 feet of six-inch redwood pipe. From the pipe it is distributed down the slopes and now I have to watch or my Bellflowers get too large for the four-tier pack, which is the largest desirable. The trees this year needed water late in April, again late in June, when the fruit was 1½ to 2 inches in diameter, and again three or four weeks before picking, about October 1st.

Automobiles running through grass or grain with cutouts open have frequently set fields on fire. Do not drive into a dry grain field.

"Hurrah! Dad Got the Whole Avery Outfit"

WHEN the "whole Avery Outfit" arrives on your farm you can say good-bye to a lot of expense and look forward to bigger crops and more profits. Your work will be easier and more interesting.

The "Whole Avery Outfit" Will Give You

an Avery Tractor for doing your heavy work, such as plowing, preparing the seed bed, harvesting your grain crops, and road work,—

an Avery Motor Cultivator for planting and cultivating your corn, beans, cotton, and other row crops,—

an Avery Grain-Saving Separator for threshing your grain, clover, kaffir corn, rice, etc., and putting it where it belongs, in the wagon box and not in your straw stack,—

an Avery Plow in either light or heavy style to fit the soil conditions on your farm.

Power For Every Size Farm

Avery Tractors are built in six sizes. You can get a size Avery Tractor to exactly fit your size farm. The five sizes from 8-16 h. p. to 40-80 h. p. fit all farms from the average up to the largest sizes. The little 5-10 h. p. is built especially for small farms or for doing the light work on larger farms.

You can also get an Avery Plow in any size from two to ten bottoms. Avery Threshers are built in small, individual sizes as well as for large threshing runs.

The Avery is the one complete standardized line of farming, threshing, and road building machinery.

It is built entirely in the Avery factories and is backed with Avery service through Branch Houses and Distributors covering every state in the Union.

The Tractor that turns Distillate into Gas

You want a real distillate burning tractor. That is what you get in the Avery. They are the only tractors with a Duplex Gasifier fuel system. It does the trick—turns distillate into gas.

Avery's are the tractors with the patented sliding frame transmission that makes expensive intermediate gears, shafting and bearings, unnecessary. The tractors with the renewable inner cylinder walls. The tractors with the adjustable crankshaft bearings. The tractors with the low-speed tractor motor specially designed for field work or belt work, etc.

Write for the Avery Catalog The Avery catalog shows the complete Avery line of motor farming machinery in their natural colors and gives you valuable facts on motor farming. Let us put you in touch with the nearest Avery dealer. Address

AVERY COMPANY, 3818 Iowa St., Peoria, Ill.
F. H. POSS COMPANY Distributors, San Francisco

AVERY
Motor Farming, Threshing and Road Building Machinery

There's a Size Avery Tractor For Every Size Farm
Five Sizes
One Design
Standardized

C. S. ANTHONY, Southern California Distributor
AVERY TRACTORS Immediate Deliveries
Some Choice Territory open to Live Agents. 164-68 N. LOS ANGELES ST., LOS ANGELES, CAL.

F. H. POSS CO. Distributors for Northern California
17—19 Main Street, San Francisco

Complete Stock
for Immediate Delivery

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

H. P. Slocum & Sons are looking for a herd of Jersey cows.

A. J. & Nellie A. Morey of Orland recently sold a Jersey bull calf for October delivery to Shasta county.

W. G. Gurnett of Orland recently sold a registered Jersey bull to Fred Hines of Willows, who is looking for registered females now.

The Aliso Dairy at Santa Ana has installed a six-unit Hinman milker for its herd of 150 cows. McAlister & Sons of Chino also recently installed Hinman machines.

J. Seits and Stanley H. Jones have purchased a registered Shorthorn bull of the milk strain from W. T. Roberts of Penn Grove. He was sired by Adirondack Duke. His name is Lone Star.

The Kounias Registered Stock Farm of Modesto sold a fine six-months-old registered Holstein bull calf to Lester H. Hall of Lovelock, Nev. Mr. Kounias also sold a registered Berkshire boar to Jacob R. Spane of Turlock.

S. F. Williams, who has been handling his own Jersey herd in connection with that of Chas. L. Leonard, near Glenn, has just moved back to Orland. If he cannot lease a ranch on the Orland project, he expects to find one in the Modesto district.

J. Fox of the Central Creamery Dairy at Oakley recently purchased forty-five head of high grade and purebred Holsteins. The purchase was made near Marysville. Twenty-five head were choice purebreds and are proving to be heavy producers. This makes over 350 head of cows for the dairy.

A. A. Jenkins of Tulare reports sales of registered Jersey cattle as follows: Bull to L. A. Walker, Tulare; bull to George Gibb, Tipton; heifer to A. B. Sherwin, Tulare; bull to I. Abscher, Tulare. All are out of register of merit cows and sired by Gertie's Son's Victer. Irene Federa, a heifer owned by Mr. Jenkins, made 460 pounds fat in six months. She is now in the ninth month of her period and is giving 19 pounds of milk per day, testing over 5 per cent. She will make over 800 in the year.

Beef Cattle.

Stock raisers in the western end of Glenn county are driving their cattle from the foothills to the valley and are selling because they cannot secure pasturage with a sufficient water supply.

The American Shorthorn Breeders' Association has increased its appropriation for the California State Fair to $937.50. This means that Shorthorn breeders will have a chance to draw down a total of $2,187.50 as premiums.

How to get 100,000,000 pounds of beef per month shipped to the allies without a return to meatless days is the problem before cattlemen today, as told by former President D. B. Heard of the American Livestock Association at the California Cattlemen's Convention. We now have the shipping and the export demand. It is up to the producers.

Clinch & Peters, who on May 25 bought the W. H. Hammond Shorthorn herd and ranch at Chico, are taking considerable pride in their stock. They have 800 acres at Quincy, Plumas county, where Mr. Clinch is taking care of a bunch of registered and grade Herefords while Mr. Peters cares for seventy-eight registered Shorthorns on the 1700-acre Chico place. Both outfits are in the partnership.

W. M. Carruthers of Live Oak reports a very heavy demand for Berkshires and Shorthorns. He has called a meeting of the directors of the Western Berkshire Congress at Sacramento, Saturday, August 10. At this meeting fall sales to be held at the several fairs will be settled. The Carruthers Farms have entered a good show string of Shorthorns and Berkshires for the State Fair and the animals are now showing up well. Count Glory and also the new yearling heifer recently received from the East will be big attractions.

Foxy Jersey Blood

Son of Foxy Laddie of L. and out of Cella of Venadera. Son of Clover Blossom's Noble Boy and out of Trillia Crita. Grandson of Owl of Belleview (owned by University Farm) and out of the first prize cow at Chico last year.

W. G. GURNETT, Orland

Swine and Swinemen.

Frank B. Anderson sold a Berkshire boar to W. L. Erwin of Rio Linda.

Allen Thompson of Tulare sold to the Tagus Ranch his Duroc-Jersey herd boar, Orion's Golden Model.

V. F. Dolcini of Davis reports the sale of a Duroc boar to Henry Struve of Watsonville and a boar pig to Dr. Bancroft of Concord.

Dr. J. A. Crawshaw of Hanford reports sales of registered Poland-China hogs as follows: Boar to Lee Mattei, Pescadero; bred sow to Joe Bush, Graton.

Mrs. E. A. Hardy of Anchorage Farms, Orland, is offering a daughter of Star Leader and a daughter of Iowana Peer, valued at $75 each, as prizes at the Glenn County Fair.

K. S. Welman of Los Altos is well pleased with the registered Poland-China sow he bought from Hewitt & Hewitt of Dixon, as she farrowed fine pigs soon after reaching her new home.

Elmer Lamb of Ceres reports recent sales of Durocs as follows: Boar to William Ballen, Patterson; Chas. R. Bardrich, Oceana; Stanten K. Hedsley, Ceres, and W. R. French, Germantown. Gilts to S. G. Stewart, Healdsburg; boar and bred gilts to J. B. Harold, Dixon; 10 bred gilts to Windsor Ranch, Bonita; bred gilts to Lydia G. Wild, Lancaster; Patterson Rancho, Patterson; J. M. De Vilbiss, Patterson; J. A. Borge, Los Banos, and W. R. Rhoades, Ceres.

Sheep.

E. A. Kirk of Orland is stocking up with sheep instead of cows, which required too much labor. He has had no experience with sheep and is therefore putting in grades, with the intention of replacing them with purebreds later and more safely.

Chas. Kimble of Hanford sold over 700 Rambouillet rams last week. Three hundred head went to John K. Hart of Rollins, Wyo.; two carloads to Geo. Scott, Holbrook, Ore., and one car to B. A. Joques of Holbrook, Ore.

J. R. Bloom of Dixon reports the following sales: John Maurer of the Maurer Co., 60 two-year-old Shropshire rams to be shipped to Catalina Island; 4 head of two-year-old rams to Marian de Vries of Lodi; 10 head of two-year-old rams to E. E. Cady of Stockton.

From 100 to 150 carloads of sheep and lambs are being shipped weekly from Alturas and stations of the Oregon-California-Nevada Railroad. This movement will continue for at least four months, it is reported. The sheep come from the extensive ranges of Modoc county, Cal., and Lake county, Oregon, where favorable conditions have existed during the last year.

Livestock Miscellaneous.

Word comes from the secretary of the Los Angeles Liberty Fair, to be held October 12 to 26, is that interest is growing very fast. The livestock department is creating the greatest comment. Never before has there been as many head of stock shown in Southern California as will be at this show. Approximately $33,500 in cash prizes will be given to

My Range Bulls Sire My Show Winners

The blood of the young Shorthorn stock I send to the fairs is the same as that in the range stock I offer for sale. All are purebreds from registered bulls and from the females on which my father kept up the registration papers from 1872 to 1893. More champion Shorthorn cows and bulls have come from my herd than from any other on the Coast. I have the facts to prove it and I am proud of it. You will make no mistake in getting some of this blood in your herd. I can supply animals singly or in uniform car lots.

SHROPSHIRE AND MERINO SHEEP ALSO FOR SALE.

Hillcrest Stock Farm

T. S. GLIDE, Prop. DAVIS, CAL.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding. Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

Dairy Shorthorns for Milk and Beef

Dairy Shorthorns lead in butterfat production in many cow-testing association reports. Their calves make fine beef, more economically than other dairy breeds. Dairy Shorthorns are the best breed to range hills and stubble for roughage where help is scarce. My young bulls can increase the production of your herd when their calves come to milking age. Write for details of a few bulls I have to sell.

W. T. ROBERTS, Prop. Willow Brook Farm PENN GROVE, CAL.

HOPLAND STOCK FARM

HOPLAND, CAL.

Shorthorns and Berkshires

WRITE FOR FULL PARTICULARS

San Francisco Office: 226 Southern Pacific Building

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

GILTS BIG TYPE PROLIFIC

Poland-China gilts from stock selected for prolificacy, big show type, from the best blood of Kings county, but now located in Solano county. Also a few service boars. Ask us about their breeding or come and see them.

DIXON HEWITT & HEWITT CALIFORNIA

IRRIGATING PUMPS

Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever.

Also DEEP WELL TURBINE PUMPS for bored wells 10 inch diameter and up

Write for Bulletins

KROGH MANUFACTURING COMPANY 149 Beale St., San Francisco, Cal. Branch Sales Office at LOS ANGELES

exhibitors, which will bring out the best there is on the whole Western Coast.

The Orland Jersey Cattle Club will have a special booth close to their exhibits at the Glenn County Fair. Rest and Jersey information and Jersey sociability may be had here free of charge.

Word comes from Woodland that the prevalence of milkweed in certain sections of the county is becoming a serious menace to sheep raisers, who are pasturing in fields where the weed grows. To most other animals milkweed is a healthful food.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

BIG TYPE POLAND-CHINAS—See us at the State Fair with 16 pigs sired by Model Wonder. Reserved Grand Champion of 1917. We have two good boars of serviceable age for sale. Write us. Dimmick Bros., Box 811, Lemoore, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

POLAND-CHINAS, BIG TYPE—Have some exceptionally fine weanlings for sale from big-bone sows and Favorite Best, a wonderful boar. Write Grant Bros., R. R. K., B. 46, Fresno.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

REGISTERED POLAND-CHINAS — Choice well-bred December pigs, both sexes, $30 f. o. b. Orland, crated. Dr. H. W. Hand, Orland, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES — The Easy Feeding Mellow Type. All bred sows and gilts are sold. I have 15 gilts that were farrowed in May, 1917. These will be bred for September farrow. All are sired by Billiken. One young service boar that is just 13 months old. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

BERKSHIRE GILT FOR SALE—An outstanding pig, just old enough to breed; guaranteed to please. Glenwood Acres Stock Farm, Paso Robles, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, Box 724, W. Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

LONE OAK DUROCS—Now booking orders August delivery, boar and sow registered weanling pigs. D. & H. J. Baughman, Oakdale, Calif.

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California.

FOR SALE—Boar, J. K.'s Model Chief, under two years; sire, Model Chief; dam, Beauty I Am. Price, $100.00. J. Stith, Hollister.

BOUDIER DUROCS sold out excepting some choice boars ready for service. Breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

DUROC-JERSEY weanling sow pigs from champion stock. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DOS HERMANOS DUROCS—Boars, gilts, and weanlings. Hans Duveneck, Ukiah, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—4 Holstein-Friesian bulls from 8 to 18 months old. Pedigreed stock. Fine individuals. Will be registered on sale. Geo. C. Roeding Co., Fresno, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

TWENTY-FOUR GOOD, FRESH MILK COWS for sale, mostly Holsteins. Address, Albert M. Bemmerly, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

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HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

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14"	7 3/16"	24"	4.15
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ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

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SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

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SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Mayfield, Cal.

SHEEP AND GOATS.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy. $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

WRAY BROTHERS, Davis, Cal.—Breeders of registered Hampshire sheep. Some fine two-year-olds and ram lambs for sale.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

WANTED—100 to 1000 young Hereford or Durham cattle. Write or phone, Alan Milnes, Phone Farmers 231, Riverdale, Cal.

Three Years of Machine Milking

[Written for Pacific Rural Press.]

Milking machines have been used three years on the Shoreacres Dairy, near San Leandro, owned by Collins Bros., and superintended by L. J. Kelley. Careful weights of production by the cows during two years before the machines were installed and the three years since have shown no difference in production. Four men with twelve units are milking 230 to 240 cows. The milk goes to Oakland, Berkeley, and San Francisco with a bacterial content always under 10,000 and averaging under 5000, according to Mr. Kelley. The cattle are in perfect condition, garget has never bothered them, and the machines have worked perfectly.

"It is a question of the operators' carefulness," says Mr. Kelley. "Before installing the machines I went away to work on a dairy where they were being used. When I came back I knew the machines, could fix anything wrong with them, and could talk with authority to the men. That makes a great difference with them. They know I can run the machines if they quit, and we have very little trouble keeping them. We prefer to hire hand milkers and teach them machine milking here, because then we can teach them to do it our way. They learn pretty well in two or three weeks and can be left alone after four weeks. Each man operates three units and strips the cows while the machines are working on others. Extra buckets are provided, so the machine caps are taken from the filled ones and used on others while the filled buckets are rolled away to the creamery on overhead roller carriers. Two buckets, holding 70 pounds of milk, are hung on each carrier to save time and keep them out of the dirt.

It takes about the same time to milk 60 cows (2¾ to 3 hours) as to milk 30 by hand. The men take care of their own pulsators and pipes and rinse the machines with cold water at the end of each milking. Then the machines are washed and sterilized in the creamery in about three-quarters of an hour by one man. He takes them apart after each milking, scrubs them with brushes, and puts them, with the rubber parts, into a vat that holds 15 gallons of cold water. A steam pipe into the vat heats it slowly to 180 or 190 degrees and the heat is held forty minutes above pasteurization point and the rubber parts are simply left in this sterile water until the next milking.

On ranches where milking machines have proved unsatisfactory, Mr. Kelley believes carelessness is the great fault. Operators forget to regulate the pulsators and keep the back pressure suited to the texture of individual teats. Some men are rough in approaching cows. Special care is desirable when they are not accustomed to milking from either side. If a teat cup falls off, the first thing is to stop the machine. Extra teat cups are always kept handy to replace those which may fall and become too dirty to wash clean quickly. The cement floors are washed out after each string of cows is milked. The cows are washed before milking. With watchfulness to remove the machines when the milk is all taken, and with cleanliness, the machines have every advantage over hand milking.

Livestock Freight Increases

[Written for Pacific Rural Press.]

Some misunderstanding exists regarding the freight rate increases on livestock which went into effect June 25. Western State tariffs are quoted by the carload on the basis of 36 feet long with percentage increases for greater lengths. The freight rates for local and long distance shipments were increased 25 per cent; but with the provision that no such increase shall be over $15 per car, according to Traffic Director W. J. Shotwell of the Food Administration. Thus long distance shipments are not appreciably increased, while local shipments are charged the full 25 per cent additional. This discourages local movement of stock, which is desired in order to relieve car shortage and traffic congestion due to criss-cross shipments and other unnecessary movement. This local shipment has in previous years reached a total near 4500 cars in July alone.

THIS COW PAID HER WAY.

[Written for Pacific Rural Press.]

Few cows in California beef herds have paid so well as Highland Mary, a registered Shorthorn bought two years ago by Jas. McDonald of the Ormondale Co. of Redwood City. Highland Mary had a bull calf at her side sired by Imperial Victor. She was in calf to the same animal and dropped another bull. Then she had a heifer calf by Golden Goods, Jr. The first bull calf sold for $800, the second for $500. The heifer calf sold for $400 and she now has another fine heifer, with the cow still in her prime.

EXHIBITING GRADE CATTLE TO PROVE VALUE OF PUREBREDS.

[Written for Pacific Rural Press.]

Purebred livestock breeders already know the superior merits of pure breeding. This does not need demonstration to them by showing at the fairs. But there are still thousands of people in the State using scrub or grade sires which very rarely can be depended on to transmit the best qualities to their offspring. These thousands of people really need a demonstration of the way purebreds generally transmit the most desirable producing characteristics. Such a demonstration would make ready customers for purebred breeders and would increase food production without proportionately increasing its cost. But most of these prospective customers are hardly able to buy many high-class registered females, though none of them can in any way afford to do without a high-class registered bull if they expect to replenish their herds with heifers of their own breeding.

With this in mind, J. M. Christen of Pacheco, himself eight years a user of registered bulls and only recently graduating slowly into purebreds, is urging the San Francisco Livestock Show to provide a class for grade daughters of registered sires along with registered bulls of their own age. Such exhibits would be still more striking if accompanied by the dams and the sires of the grade heifers where possible. The improvement of daughters over their dams could be made the most convincing exhibit in the show in favor of purebred sires.

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Registered Holsteins

(TUBERCULIN TESTED)

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Tuesday, August 20th

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This herd is one of superior excellence, some of the most noted blood lines of the Holstein breed being represented. This sale will offer the established breeder or those looking for foundation stock a rare opportunity to secure some exceptionally well bred cattle. Owing to the lack of time, no catalog will be issued, but tabulated pedigrees of every animal will be on hand day of sale. Arrangements for credit can be made prior to sale. For full information write,

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Put the Best Blood in Your Herd

The cow making the highest official yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America (and it is the world's official record for one year) is Aaggie Acme of Riverside 2nd. She is out of the same dam as our senior herd sire.

Prince Riverside Walker

The junior three year old heifer making the highest yearly butter record for 1917-1918 as shown by the report just issued by the Holstein Friesian Association of America, is Miss Valley Mead De Kol Walker. She is by the same sire as our senior herd sire, PRINCE RIVERSIDE WALKER.

Buy your herd sire in the blood lines that are doing things TODAY and that will increase in value in the records they are bound to make in the TOMORROW. We have just a few good bull calves by PRINCE RIVERSIDE WALKER, out of splendid dams. They move young at our prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED

Tulare Holstein Farm

W. J. HIGDON, Owner TULARE, CAL. H. L. REDD, Herdsman

The Cost of Feed is NOT HIGH

when you mix your rations with COPRO, the economical COPRO. For nourishing cattle and conditioning poultry it has no superior.

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is rich in fats and protein. It makes hens lay more eggs; it increases butter fat in milk; it makes hogs fat with clean flesh.

Mix COPRO with your rations and watch the results.

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Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.

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TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM,

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California Breeders have sold more than $350,000.00 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

CALIFORNIA BREEDERS SALES & PEDIGREE CO.

C. L. HUGHES, Sales Manager, Sacramento, Cal.

Veterinary Queries

[Answered by Dr. Edward J. Creely.]

Reduced Milk Flow.

To the Editor: My cow, five years old, milking about three months now, has been giving about four gallons of milk a day up until a day ago. Her milk flow has gradually decreased to about a pint. This milk is thick and stringy. Until recently she was fed on oat and barley hay mixed and she gave her natural flow of milk; now she has nothing but green alfalfa to eat. The butter is so soft that it will not separate from the milk. What can we do to make her milk return and what should we feed her?—A. N., Walnut Creek.

Rule out the feed as a cause of this condition. The stringy milk is due to the invasion of non-disease-producing germs into the udder. There may also be a slight inflammation to other organisms. Look for hard lumps and tenderness in the udder. Treat her with hot applications, such as antiphlogistine, or a hot bran mash, and relieve the weight of the udder by placing it in a bandage or suspensory, with the straps tied over the back. Gentle massage of the whole organ with warm olive oil is indicated.

Pigs Have Bad Cough.

To the Editor: What makes the pigs cough? I am a beginner in the pig game and do not understand much about the pigs' diseases. I lost one about six months old from coughing and have two smaller ones that must have caught the cough from the one that died. What would you advise?—W. J. M., Stockton.

The cough may be due to inhalation of dust, exposure to cold, chronic hog cholera or tuberculosis. Give plenty of fresh air and be sure not to keep them in crowded quarters at night or overheated. Give the hogs a teaspoonful of kerosene to a quart of raw linseed oil to which 1 ounce of oil of cade has been added. Give 1 tablespoonful of this mixture morning and night.

Spavin.

To the Editor: I have a horse fifteen years old that has formed a big bunch on front and inside of hock joint. It seems soft and has been forming for six months.—R. A. E., North Fork.

It is a spavin. If the animal is not lame, leave it alone; but if he is, the absorbine you inquired about may bring about a cure or render the animal serviceable. Rest is essential. While the animal is quiet, apply a cold water bandage.

Curing Fistula.

A correspondent writes: "You may tell 'W. R.' of Fallon, Nev., that I have successfully used bichloride of mercury for the cure of fistula. Dissolve one tablet in a pint of water, put on large wet pack, using light saddle without stirrups to hold same in place. Wash two or three times daily."

Cow Holds Milk.

To the Editor: How can we make a cow let down her milk? We treat her gently and she has great capacity.—C. S., Pacheco.

Dairymen who have succeeded are invited to answer. Names will be withheld if requested.

WHY HE QUIT ADVERTISING.

To the Editor: I very recently discontinued my classified Duroc-Jersey ad in the Press because I have nothing left to sell. I have four brood sows and my boar left and some 30 barrows. Every sow pig and gilt has been sold. Grant A. Mumford of Atwater got my last surplus stock—two bred gilts and one bred sow. Since January 1st I have sold 35 pigs and hogs of all ages and sizes. Probably 75 per cent of the business resulted from Rural Press advertisements. As soon as I have a surplus to dispose of again, my use of the advertising columns will be resumed. This may be several months.—Geo. L. Horine, Winton.

There were 2900 mules sold to farmers around Phoenix, Ariz., this spring and summer.

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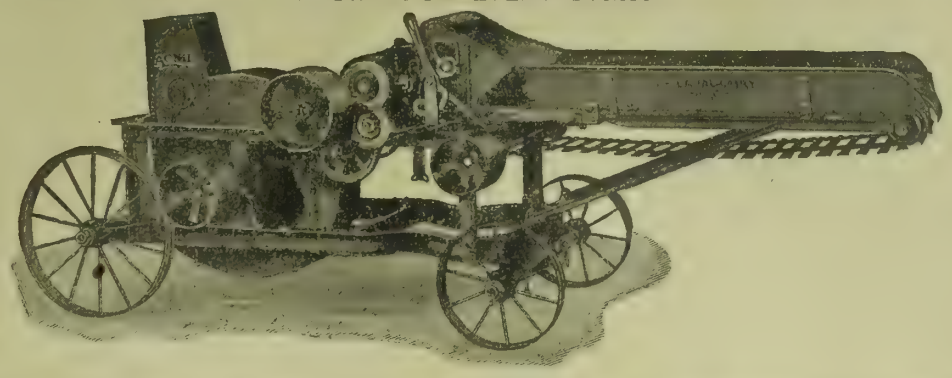
A SIZE FOR EVERY DAIRY



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THE ACME CUTTER DOES THE WORK

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THE spiral cutting knives are set at the correct angle and make a clean shearing stroke which cuts the silage—does not bruise or shred it. The silage produced is of uniform lengths — packs tight and avoids spoilage.

The rigid STEEL FRAME adds strength and durability not found in other cutters. It is securely riveted—can't warp or sag or throw the bearings out of alignment like the old style wood frame cutters.

Cutting Dry Feed

THE same Acme Cutter that fills your silo will cut up all kinds of dry feed and make excellent alfalfa meal. Use it with profit at all seasons of the year.

Cut all your dry feed. 25 per cent of all bulk hay fed to stock is wasted—trampled under foot or nosed out and not eaten. Run it through an Acme and avoid this waste. Save $4 to $6 on every ton of hay you feed. Figure out what YOU can save.

Special hay feeding attachment gives all Acme Cutters enormous capacity. What are your requirements?

ORDER EARLY

Our stock is complete, but the demand is heavy. Factory shipments are uncertain. Order your Acme now and have it ready for business when your corn is ripe.

SEND NOW FOR CUTTER AND SILO CATALOGS

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We use the finest grade of selected redwood tank stock in the refrigerator doors, in the staves and throughout the silo. It's hard to get. It takes time to transport material and erect the silo. Look ahead. Order your IDEAL GREEN FEED SILO NOW.

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Aims to Breed Large, Prolific Sheep

[Written for Pacific Rural Press.]

Few flocks of registered sheep are to be found in California. Many flocks have descended from registered ewes and rams, but registration has not been kept up on the females. One of the long-time Shropshire breeders of California is J. W. Marshall of Solano county. He had been breeding purebred Shrops a number of years before June, 1909, when he sold them and imported 50 ewes direct from England. Thenceforward he has kept his stock registered, though he breeds only about 150 ewes per year. Of his aim in improving the band of 500 sold in 1909 and in his breeding operations since then, Mr. Marshall says: "This band of 500 was, I think, one of the best purebred bands of Shropshires, the largest sized and most prolific ewes in California at that time. I had taken great pains to breed them for these qualities—just what I am trying to do with my present band. But it is mighty hard to get hold of good sized bucks."

Ten of the original foundation ewes are still breeding in the Marshall flock, being well over ten years old. A buck is still in use that was bought from Bishop Bros.' before the judging at the P.-P. I. E., where this animal later won grand championship. He has hams almost like a hog. Several of his daughters weigh around 235 pounds, their rumps are well carried out, their backs straight, and their faces so woolly that the lambs have to be sheared around the eyes in springtime to avoid foxtail. Mr. Marshall has no stock for sale now.

Glenn County Fair

[Written for Pacific Rural Press.]

"More Jersey cattle were shown at the Glenn County Fair last year than were shown at any State Fair or any other county fair in America," said J. J. Flaherty of the First National Bank at Orland, whose activities toward making Orland the Jersey center of California have been chronicled in the Pacific Rural Press. One hundred and sixteen head were shown last year, but W. G. Gurnett, superintendent of livestock, says there will probably be over 150 head there this year. The Hembree and Samuels Jersey herds have been dispersed mostly in this county since the last fair.

Over 12,000 paid admissions were recorded last year, and 20,000 are expected. The fair, which is to be held at Orland, September 16 to 21, has over twice the space under cover that was provided last year, according to Manager E. J. Falk of Orland, and the writer found stockmen all over the upper Sacramento Valley intending to show. Other breeds of cattle last year were rather scarce at the fair, but will not be so this year. Last year it was decided not to ask the business men to contribute special prizes in 1918, but before the first of August Secretary E. A. Kirk, also of Orland, had what is probably the largest and best list of special trophy awards ever offered at such a fair. About thirty silver trophies, valued at $25 to $100 and aggregating over $1,000, have been volunteered. Mr. Falk tells of one business man who was indignant because he had not been solicited. Several special prizes of registered livestock have also been offered. All regular premiums will be paid in War Savings Stamps, as the whole tone of the fair will be toward winning the war by more and better food production more economically.

A good display of Hampshire, Shropshire, Lincoln, and Carricule sheep was staged last year and probably more will come this year. About seventy-five hogs of all breeds were shown. Premium lists are available by addressing either Manager Falk or Secretary Kirk.

BIG HEREFORD BREEDERS.

A plunger in registered Herefords after using registered and purebred bulls on their eleven ranches in Arizona, California, and Mexico a long time previously is the C. H. & O. B. Fuller Co. This outfit last season bought 100 registered Hereford heifers in Kansas. They put them on the Jalama Ranch in Santa Barbara county, recently acquired from the Dibblee Estate. They bought 300 registered bulls in Kansas last year, according to O. B. Fuller, and are raising their own purebred bulls. The Fuller Bros. fed 10,000 head last year, mostly in Imperial Valley, from which they shipped 4000 fat cattle East, besides a couple of trainloads from other sections. O. B. Fuller says California ought to ship 30,000 head East every spring, but that they ought to go in cans or refrigerator cars rather than alive, as noted in another article.

WHY HE BOUGHT PUREBREDS.

R. C. Sturgeon of Tulare was farming with his father-in-law and buying and selling stock. On one occasion he paid $100 for a yearling Holstein bull. Two other parties had bought at the same price and another had just paid $100 each for ten purebred heifer calves. This started Mr. Sturgeon to thinking. He went back to the same breeder and bought a cow in calf for $150. Within three months he sold the calf for $100 and the cow for $250. Such values were way beyond those of grade stock he was handling all the time and Mr. Sturgeon laid plans to go into purebred breeding in a strong way. This he did last spring, and the State has another booster for the economical producing ability of purebreds.

Jim Jefferies of Burbank is making preparation for testing every cow in his herd this fall.

Live Oak Stock Farm

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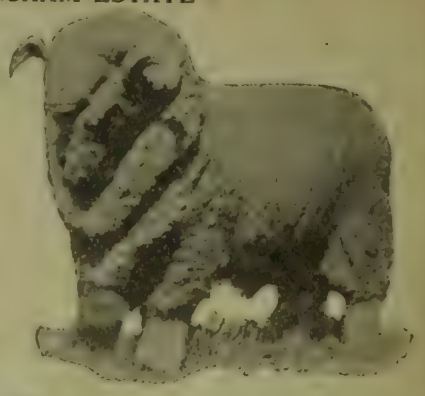
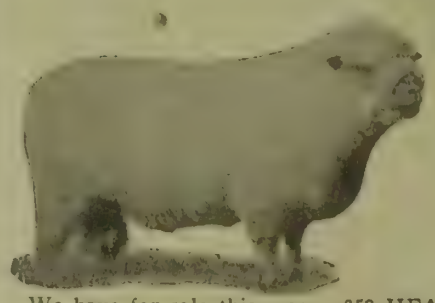
P. O. Address:
Petaluma, Sonoma County, Cal.
Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of

Red Polled Cattle, Shropshire Sheep, American Merino and Rambouillet Sheep





SHROPSHIRES, RAMBOUILLETS and AMERICAN MERINOS

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize winning rams at the P. P. I. E. Strong, hardy, range raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Also a fine lot of young Red Polled bulls and heifers sired by Teddy's Best of Jean Duluth Farms.

Shropshire Rams

IMPROVE YOUR LAMBS

The G. C. Wheeler sheep ranch of Reno, Nevada, has sold all but 2000 of their purebred Shropshires, which Wheeler Bros. have brought to the old Taylor Ranch, near Santa Rosa, Cal. These are vigorous, hardy animals, all descended from registered rams and from the original importation made from England by Governor Sparks of Nevada.

Their new location is being fitted as a breeding and show ranch. Come and see them or drop a card telling what you want.

Ewes and yearling and two-year-old rams for sale.

SANTA ROSA **The Shropshire Farm** CALIFORNIA

Champion Ram, P. P I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.
Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

KIMBLE RAMBOUILLETS

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots. Prices reasonable. Correspondence solicited.

CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena

FOR SALE 1000 one and two-year old
Shropshire Rams

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

Phone No. 251-F-2 C. E. BARNHART Suisun, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

FALL HATCHING AND ITS PROBLEMS.

Before this reaches our readers the month of August will be making history, so it is well to think about that hatching question. Go over the birds that are to be mated for breeding with as much care as if you were picking them out to exhibit, only more so, for there is more at stake. Let your male birds be of known qualities as breeders and not later than August 10 mate up your pens. If you are hatching the heavy breeds, do not put too many hens to a male nor put two males in a yard where one runs the other around, for neither attends strictly to duty. You will get more and better chicks by feeding an extra male or two if necessary. While we can beat nature at her own game in many things, there are some that we cannot—and one is the breeding instinct of poultry. To bring this instinct up to its highest pitch in springtime requires little effort, for nature is working with us; but in the fall of the year nature is against us. It's the time all wild birds separate and each goes its own way.

THWARTING THE NATURAL INSTINCT.

The natural instinct has been partially bred out of domestic poultry, but close observation shows that the hen does not seek the male's attentions as in spring or early summer, nor does the male pay the many little attentions to his flock that he does in the spring. We can keep them keyed up to the breeding point only by good feed and care and by making things as near like spring as possible.

A hopper filled with bone and good beef scrap should be within reach, so that they can help themselves. If they eat more at first than you would feed, after a day or so they will regulate the quantity themselves. Furnish plenty of green feed to offset the craving for animal food.

NECESSARY PRECAUTIONS.

Keep them free from lice and mites and gather your eggs often after you commence saving for hatching. I like to leave the sexes together ten days before using the eggs for hatching. It may not be necessary, but it's safe. If you have plenty of males and all of them proven breeders, change them off every ten days. It will give you a larger percentage of male chicks and they will be stronger. Keep your breeding stock fairly well supplied with scratch litter and feed all grain in the litter, making the hens exercise for it; also see that they have good grit and shell. If you have granulated bone, it adds to the interest of the hens if you throw some of it in the scratch litter and let them find it.

Watch your male birds to see that they get enough to eat and dust them once a week if you value their health and that of the hens. If people would keep the male birds entirely free from lice, hens would never cause any trouble. Hens dust themselves, but the male birds rarely do. It is not really necessary to dust them oftener than ten days, but if you neglect this matter longer trouble is likely to begin, as nits hatch in that time, whereas if the dusting is done once a week there will be no nits to hatch.

EVERYTHING FAVORABLE FOR FALL HATCHING.

So far everything is in the poultryman's favor for good fall hatching, and September chicks hatched from hens that have not molted will come near being money found

Those breeders who had hens molt from the effects of electric lighting during winter and early spring months should be in good shape for fall hatching, because the hens will not molt as early as will those that were not forced. Mr. Norton of this place says he never did hatch in the fall months, but he is going to try it out this year because he sold so many more chicks during the summer season than he should have done that his flock is getting small.

STATE FAIR.

We should be preparing for the State Fair this month. Look up your best specimens and try them out at the Poultry, Pigeon and Pet Stock Show. Entries close August 26; and while the interest may not be quite so keen as if we had no war on our hands, Californians especially cannot afford to lose interest. It will be this State's lot more than of any other to supply the needs of other countries that have let their poultry fall below normal.

Get your best birds picked out, separate the sexes, and give some good, clean straw for scratch litter, then the birds, except white ones, will clean themselves. White birds need washing, but judges are not very harsh on that score at early shows, because nearly all birds are molting. For information and premium list, write to Chas. W. Paine, secretary, Sacramento, Cal.

RESERVE SPACE NOW FOR SAN FRANCISCO POULTRY SHOW.

At the meeting of the executive committee of the San Francisco Poultry Association this week the details for the annual poultry exhibit to be held in connection with the San Francisco Livestock Show, November 2-9, were worked out. At this time the prospects for a large exhibit are fine, as breeders have learned that San Francisco shows offer the best purchasing crowds of any on the Coast. George H. Croley, the show secretary, at 525 Market street, is anxious to get in touch with every intending exhibitor. Write him at once if you wish to show either fancy or utility birds. Space may be at a premium, so get in your reservation for space early.

Cotton Seed Cake or Meal. Grain of all Kinds.

When wanting Cotton Seed Cake or Meal—Write or Wire us.
When wanting to sell Wheat, Barley or other Grain—Write or Wire us. Always in the market.

PACIFIC GRAIN & COTTON SEED PRODUCTS CO.
511 I. W. Hellman Bldg., Los Angeles, Cal.
(Members Los Angeles Grain Exchange.)

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THOROUGHBRED MUSCOVY DUCKS—and ducklings for sale. Also Light Brahma chickens, Rouen ducks, and Bourbon Red Tom—all prize stock. Emma Miller, Farmington, California.

R. I. RED CHIX—MY SPECIALTY—Fall chix ready from vigorous stock having free range—excellent for layers or broilers. One to 1000 chix per week. Denton Poultry Yards, Campbell, Cal.

FALL CHICKS—Aug. 12th forward! Book orders now. R. I. Reds, White Rocks, Black Minorcas, White, Brown Leghorns. Circular with prices and information free. Mission Hatchery, Campbell.

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry and Hatchery, Palo Alto, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

THIS OLD, SAFE, COMPLETE BANK IS AT YOUR DOOR

Thousands of people in Southern California use the facilities of this Bank, through the mail.

It costs 10 cents car fare and takes an hour or more to come to the Bank from most of Los Angeles. It costs only 2 or 3 cents and takes only a few moments to transact the same business through the mail, from any distance. Just as convenient, just as safe, very expeditious.

WRITE TODAY and ask for the book, "Banking by Mail." Establish a connection with the Oldest Savings Bank, the Largest Bank of any Sort, and the Most Complete Bank, in every department, in all the Southwest.

SECURITY TRUST & SAVINGS BANK
SAVINGS COMMERCIAL TRUST
SECURITY CORNER, FIFTH AND SPRING
LOS ANGELES, CALIFORNIA

Norwalk Tires

TOUGH but SUPPLE
STRONG but RESILIENT

These casings embody every desirable feature. They've mastered the mileage problem, cutting the tire cost per mile to the very core. Try Norwalks.

Factory Distributors:
Lichtenberger-Ferguson Co.
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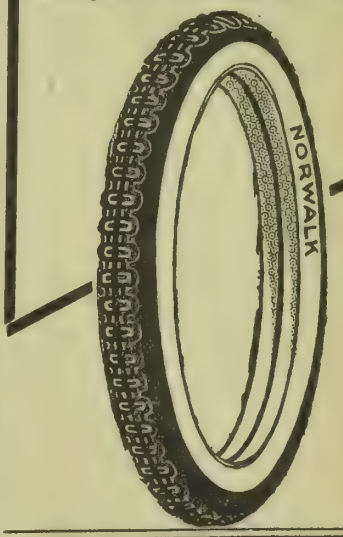


the DEVIL SAYS
A Killer of Lice and Mites

Devils Dust has been tried and proven by long usage, thousands and thousands of packages have killed millions and millions of lice and mites.
Why experiment with new fangled "dops" when you know Devils Dust will do the work. Harmless to Poultry, Stock or Plants.
Sold Everywhere GLOBE MILLS Los Angeles
DEVIL'S DUST

Try COULSON'S EGG FOOD
FOR GREATER EGG PRODUCTION
FULL PARTICULARS IN FREE BOOK "CHICKENS FROM SHELL TO MARKET"

Coulson Co.
PETALUMA, CAL

Makes Hens Lay
LACTEIN
Makes Hogs Pay

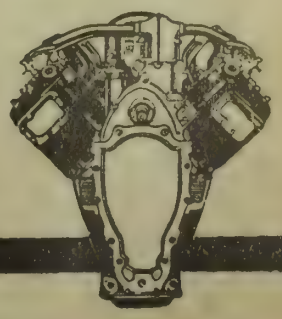
The Choice of Those Who Know

Manufacturers and leading motor car distributors *recommend* ZEROLENE. The majority of motorists use ZEROLENE. ZEROLENE reduces wear and gives more power because it keeps its lubricating body at cylinder heat. Gives less carbon because, being refined from selected California asphalt-base crude, it burns clean and goes out with exhaust.
ZEROLENE is the correct oil for *all types* of automobile engines. It is the correct oil for your automobile. Get our lubrication chart showing the correct consistency for your car.
At dealers everywhere and Standard Oil Service Stations.
STANDARD OIL COMPANY
(California)

ZEROLENE
The Standard Oil for Motor Cars

Correct Lubrication for the "V"-Type Engine

This, the "V"-Type of automobile engine, like all internal combustion engines, requires an oil that holds its lubricating qualities at cylinder heat, burns clean in the combustion chambers and goes out with exhaust. Zerolene fills these requirements perfectly, *because it is correctly refined from selected California asphalt-base crude.*



Mrs. Best's Letter.

FASHION HINTS FOR THE LITTLE FOLKS.

My Dear Friends: Any of you who have little girls to outfit for school this fall would surely be interested in the many pretty wash dresses that are being shown. Of course, there are voiles and printed lawns made in simple styles or in quaint old-fashioned ones with smocking, but the dresses you see the most of both on the street and in the stores are the ginghams.

STYLES FOR YOUNG GIRLS.

For girls from six to fourteen, there are many styles, but this year practically all of them are simple. Nearly always these dresses are in one piece, hanging straight from the shoulders and belted either with a patent leather belt or one of similar or contrasting material. Plaids are trimmed in harmonizing plain material and plain materials are combined with plaids in many new and original ways.

The jumper or suspender dresses are worn a good deal, the skirt usually pleated and the straps and skirt of plaid, while the waist is of plain or white material.

MIDDIES HOLD THEIR POPULARITY.

Middies seem to never lose their popularity, and very properly, too, for they are one of the most comfortable garments children (and grown-ups, too) wear. They are shown with colored collars and cuffs, but the all-white are really more satisfactory, for after each laundering they are just like new.

For sizes up to fourteen it is really surprising how reasonably you can buy ready-mades. They are higher than if made at home, but many times they have a style that is lacking in the home-made garment.

For wear with these simple dresses are the droopy sailors in fine Milans with hanging velvet ribbon ends or the mushroom shapes of fine straw, trimmed with a tailor bow.

A great many of the smaller girls do not wear petticoats at all, bloomers of white or the material of the dress taking their place. This is a style of which most mothers heartily approve, as it is both tidy and modest.

SUITABLE FOOTWEAR.

Children's footwear is as carefully looked after these days as that of their mothers, and all children should wear the low-heeled, broad-toed lasts of shoes that mean comfort both now and in the future. For wear with either the white or black shoe, white stockings are high in favor, and they certainly do give a child a well-cared-for appearance.

Coats for the little people are practically in the same styles as their mothers'—loosely belted models, large collars that can be worn either open or buttoned snugly about the throat, and a very great similarity of materials. This last fact makes it more easy to utilize old garments for children by remodeling. Sometimes materials worn by older people are entirely unsuitable to be re-made for the younger generation.

SATEENS ALWAYS EFFECTIVE.

If you are thinking of making over a coat for a child, look up the flowered sateen for linings. It is very effective, wears well and is much cheaper than silk, and its beauty would appeal to the childish heart. ROSABELLA BEST.

THE HOME CIRCLE

RELISHES.

Home-made sauces from home-grown fruits and vegetables are first aids in serving cold meats or stretching the roasts. Every well-stored pantry should have chutney to serve with chicken, corn relish with fish, cucumber catsup with steak, spiced currants or grapes with cold meats.

APPLE CATSUP.

One quart apple sauce, 1 teaspoon each of ginger, cinnamon, cloves, pepper, mustard and onion extract, 2 teaspoons salt, 1 pint vinegar. Simmer slowly until thick, bottle and seal. A similar catsup may be made from plums or grapes and sorghum or molasses added if a sweet sauce is liked.

CUCUMBER CATSUP.

One dozen large cucumbers, 1 quart vinegar, 1 tablespoon salt, ¼ teaspoon cayenne. Gather cucumbers before the sun strikes them and keep in a cool place until used. Peel and grate and drain off the water. Heat vinegar and spices to boiling point, pour over the grated cucumber, bottle and seal. This makes a particularly good sauce for steak.

INDIAN CHUTNEY.

Two dozen ripe tomatoes, 6 medium onions, 3 red peppers, 3 green peppers, 1 dozen tart apples chopped together, 1 pound seedless raisins, 1 cup celery cut fine, 2 quarts vinegar, 1½ cups sugar, 1½ cups corn syrup, salt. Combine the ingredients and cook until all are soft and the chutney thick. Pour into hot, sterile jars and seal.

CORN RELISH.

Five pints sweet corn cut from cob, 3 green sweet peppers, 2 red sweet peppers, 4 pints finely chopped cabbage, ½ pound sugar, ½ pound corn syrup, ¼ pound mustard, 2 tablespoons salt, 4 pints vinegar. Seed and chop peppers. Mix ingredients and cook until corn is done, about 25 minutes. Seal air-tight in hot, clean jar. Serve with fish.

DIRECTIONS FOR KNITTING THE SPIRAL SOCK.

Cast on 64 stitches. Knit 2, purl 2 for four inches. Mark beginning needle. Knit 2 stitches together, leaving 21 stitches on each needle. Knit 3, purl 3, "knit 4, purl 3," repeat from "to" for four rounds. Knit 5, purl 3, "knit 4, purl 3," and repeat for four rounds. Purl 2, "knit 4, purl 3," and repeat for four rounds.

Each time a change is made, the 3-purl stitches move one stitch to the left. Always begin the change on the first needle which is marked, and continue knitting four rounds of each change until the sock is 23 inches long, then knit 5, narrow, knit 5, narrow all the way round. Knit 5 rounds plain. Knit 4, narrow, knit 4, narrow, and repeat round. Knit 4 plain rounds. Knit 3, narrow, knit 3 narrow and repeat round. Knit 3 plain rounds. Knit 2 narrow, knit 2 narrow, around. Knit 2 rounds plain. Knit 1 narrow, knit 1 narrow, repeat round. Knit 1 round plain. Divide stitches left on two needles in equal parts and finish with Kitchener toe.

This sock has no heel, hence is very serviceable and well liked by the boys at the front. Mind, it is knit in rounds, not in rows. There are no lumps or bulges to hurt the most tender foot.—Susan Swaysgood.

SUGAR FOR CANNING.

The U. S. Food Commission for California makes the announcement this week that grocers are allowed to sell housewives what sugar they need for canning fruits. Women may purchase the first twenty-five pounds on verbal statement that the sugar is to be used for canning or preserving. Successive purchases in twenty-five-pound lots can be made only on certificate issued by the Food Administration or its official representatives.

TO CLEAN GLASS BOTTLES.

Editor Home Circle: I have quite a quantity of glass bottles that have been used for oil containers. Could some of the Rural Press readers tell me how best to clean them to be able to use them for fruit juices?—Mrs. E. L. R., Oroville.

If some of our readers have had any experience along this line, will they kindly communicate with us?—Editor.

In making scrim curtains for windows that are kept open a good deal, it will add to the life of the curtain if the tops and bottoms are finished exactly alike. Then they may be turned end for end and equalize the wear.

WILL.

Not what we would in selfish plight,
Seeking our own regardless of right.
Not what we would—but what we should.
That's the will.

The strength of the man, not of the mule,
To grace, to obey, if not to rule.
Whatever is true, that to do.
That's the will.
—Selected.

FRUIT PASTES.

Fruit pastes or the old-fashioned fruit leather may be made from berries, figs, apricots, peaches and blue plums. Overripe peaches and apricots may be used and all fruits must be thoroughly ripe. Mash to a pulp, spread on lightly oiled platters and dry in the sun or in a dryer. When dry, sprinkle lightly with sugar, roll up like a jelly roll, cut in slices, sprinkle again with sugar, and pack away in jars or very tight boxes lined with wax paper.

Peaches and figs make delicious leather and need only a light sprinkling of sugar. Serve in the winter instead of candy or with cream cheese and nuts for dessert.

Fruit paste proper is made by boiling down the fruit until thick, then adding the sugar, and after long, slow cooking place on platters to dry. Cut in squares or fancy shapes, sprinkle with sugar and pack in boxes lined with wax paper. But under the present sugar shortage it is much better to dry the fruit slowly without cooking either in the sun or in the dryer and pack away in jars without sugar.

Fancy varieties of paste may be made by adding citron or by arranging pastes of different fruits in layers when nearly dry. Cut in half-inch strips and dry.

STRAIGHTEN KNITTING NEEDLES.

If your knitting needles become bent, pour hot water over them and straighten immediately with your fingers. Then immerse the needles in cold water. It only takes a few moments to do this and they can be made as straight as new.

HATED TO WALK BACK.

United States Senator Howard Sutherland of West Virginia tells a story about a mountain youth who visited a recruiting office in the Senator's State for the purpose of enlisting in the regular army. The examining physician found the young man sound as a dollar, but that he had flat feet.

"I'm sorry," said the physician, "but I'll have to turn you down. You've got flat feet."

The mountaineer looked sorrowful. "No way for me to git in it, then?" he inquired.

"I guess not. With those flat feet of yours you wouldn't be able to march even five miles."

The youth from the mountains studied a moment. Finally he said: "I'll tell you why I hate this so darned bad. You see, I walked nigh on to one hundred and fifteen miles over the mountains to git here, and gosh, how I hate to walk back!"

Put a thimble over the end of the curtain rod when putting up freshly laundered curtains and the rod will slip through with much less trouble.

Good Health.

[By H. E. Pastor, M. D.]

Goes Off at Half Cock.

A correspondent, too modest or too forgetful to sign his name, writes as follows with reference to a brief paragraph printed in this column two weeks ago:

"Is not resorcin a proprietary article? Isn't the enclosed clipping ('Eradication of Dandruff') an advertisement? Should it not have something printed with it to show that it is an advertisement? I look on these "fake" recipes as one of the worst forms of advertising swindling and am surprised that you should assist in it. Bad enough when they have 'adv.' printed after them."

No; resorcin is not a proprietary article. The paragraph was not an advertisement. It did not need something printed after it. It was not a "fake" recipe. And the only surprise about the whole matter is that anyone so densely ignorant of the materia medica should rush into print and make a consummate ass of himself (or herself). We are somewhat familiar with the fake form of advertising to which our anonymous critic so tartly refers, and regard the practice with as much abhorrence as the most punctilious; but our censor is barking up the wrong tree. The Rural Press is not in that business.

Physical Decadence—Its Prevention.

A rather important gathering was in session in Berkeley the latter part of this last month. It was the first annual convention of the Western District Physical Education Society. This writer is not familiar with the genesis of the society, nor with the details of its workings, except as its title indicates, and the importance of its deliberations depends much on what was done rather than what was recommended to be done. But the potential value of such an organization is beyond calculation. The necessity for some such body of workers was disclosed in a statement of one of the speakers, who said that 45 per cent of the youth drafted for military service were rejected because of physical defects. It is proposed to remedy this fundamental weakness in our youth by proper instruction in the public schools. This is one of the agencies through which the physical fibre of our budding manhood can be strengthened and toughened, though most schools already have the studies of physiology and hygiène in their curricula, and enforce various forms of physical training. Just what is proposed to add to these is not stated in the press reports of the society's meeting, though some added agencies are doubtless set forth. One suggestion may be made to supplement any plan of physical instruction or training that may have been drafted to accomplish the end in view, and that is that some effort be directed to the suppression of customs and amusements that tend inevitably to weaken the physical constitution and undermine the morals of those addicted to them. Space limits will not permit even a partial specification here, but they will come, most of them, to the minds of our readers. A remedy for an evil is a good thing, but the prevention of the evil itself is better. Stop the sapping of our boys' virility by saving them from the evils of contaminating influences. "Evil communications corrupt good manners." Eliminate demoralizing public amusements and debilitating social customs, and a long step will have been taken toward a rejuvenated manhood from which to recruit an army of defenders in times of national stress. The strength of the nation depends on the strength of its individual units.

California Not a Lazaretto.

The State Board of Health has taken up a rather important and very delicate question. The fame of California's superb climatic conditions has resulted in inspiring a large number of discharged tubercular soldiers with a desire to locate here. The Board decided at its last monthly meeting that immigration of this kind on a large scale was undesirable and is taking active measures to discourage the contemplated movement, which is regarded as a menace to the health conditions of the State. California hospitals and charitable and public institutions are reported to be already overtaxed with this class of patients.

Barley an Excellent Substitute.

Of all the substitutes suggested for wheat, so much needed by our soldiers and allies, none is superior to barley. The fact that it is nutritious and easily assimilable is attested by the fact that it is so generally prescribed by physicians for infants and invalids.

Replace Your Old-fashioned Plumbing Fixtures

The added convenience of modern plumbing fixtures will more than compensate you for the slight cost involved in replacing them for your present fixtures.

The attractive designs of Pacific Plumbing Fixtures will make you proud of your bathrooms.

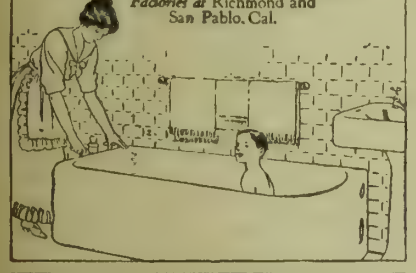
Pacific Plumbing Fixtures are guaranteed forever against any defects in workmanship or materials, and although their quality is higher, cost no more than any other reputable brand.

Write for a free copy of The Book of Bathrooms. It is a 96 page book, brim full of ideas.

PACIFIC PLUMBING FIXTURES

For sale by all plumbers

Main Offices and Show Room 67 New Montgomery Street, San Francisco Factories at Richmond and San Pablo, Cal.



The STEPHENSON Patent Cooler

No Ice Required

Perfect Ventilation Absolutely Sanitary

Awarded first prize wherever exhibited. If not for sale at your dealer's, write for particulars and prices.

L. Anderson Co., Mfrs.

MARTINEZ, CAL.

Miss Harker's School for Girls PALO ALTO - CALIF.

High School, Lower School. Accredited best colleges East and West. Strong French, music and home economics courses. Comfortable buildings. Favorable climate and large grounds permit outdoor life all year. Physical culture. All sports. Resident nurse. 17th year opens September 16th. For illustrated booklet, write

Miss Catherine Harker, Principal

PALO ALTO :: CALIFORNIA

Food will Win the War Save it

Spark Automatic Cooler

No Ice No Expense

Write to Department J for free booklet on "Cooler Facts"

MANUFACTURED BY Hammer-Bray Co.

Oakland California

Specialists in Specimen Stock for Landscape Work.

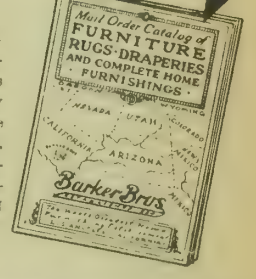
Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.

WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.

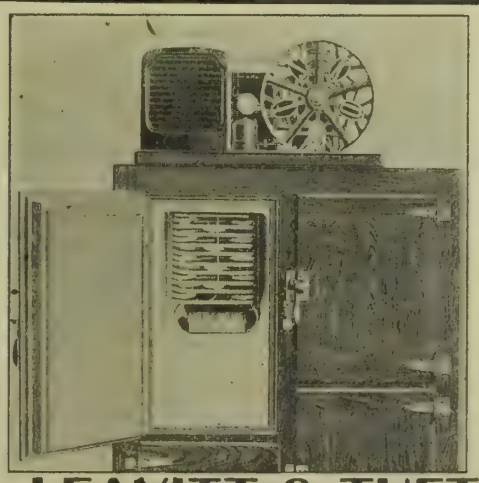
EUREKA, CALIFORNIA.

Send Today for This FREE BOOK!



You don't need to write a letter; a postcard will do. Simply write a few words to this effect: "Please send me a copy of your big, new FURNITURE CATALOG of 112 pages—the book that will help me to make my home a BETTER HOME. I want to get acquainted with your helpful Mail Order Shopping Service and learn about buying by mail from actual photographs." BE SURE TO ADDRESS MAIL ORDER DIVISION NO. 23.

724 to 738 South Broadway Barker Bros ESTABLISHED-1880 Los Angeles California



Ice-by-wire

ISKO home refrigeration—in an hour solves your biggest food keeping problem for years to come.

No ice famine can touch you—no delayed delivery endanger your family's food supply.

A simple, portable electric unit—easily installed on any ice box, old or new. Five minutes' study will make clear to you how "the electric icemen" creates cold from current—how it saves food and money—why it protects your family's health and your own efficiency. Come in and see it work—now.

We build refrigerators any size.

LEAVITT & TUFTS, Distributors

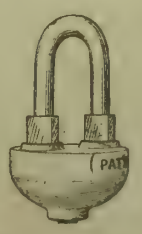
1141 Van Ness Avenue San Francisco

Thrift Attack On Fuel Cost A Success

OWING TO THE SCIENTIFIC PERFECTION OF THE

PREMIER BURNER

A Real Gas-Maker That Fits Any Stove and Safeguards Your Comfort.



Concentrating the Tremendous Heat Units of Kerosene in a Clean Home Fire

For Cook Stove or Heater, $5.00 Prepaid

WIDE OPEN WRITTEN GUARANTEE.

"SIMPLEST THING IN THE WORLD," MADE RIGHT IN LOS ANGELES.

Circular Upon Request—Good Agents Wanted.

PREMIER BURNER CO., Los Angeles, Cal.

Home Office and Factory—246 South Spring Street

SAN FRANCISCO

San Francisco, August 7, 1918.

WHEAT.

There is nothing new in wheat this week.

BARLEY.

The local barley market is weaker, with little business. Receipts are larger and lower quotations are looked for unless the growers stand firm for their price. With lower Eastern prices, this will be difficult of accomplishment.

Choice feed, per ctl.....$2.35@2.40

OATS.

Oats are quiet, with few shipments arriving on this market.

Red feed, per ctl.....$2.50@2.65
Red seed ..... 2.75@3.25

CORN.

The corn market is dead. There is practically no whole corn on the market at present and almost no demand.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked .....$4.20@4.25
Milo maize ..... 3.95@4.05
Egyptian ..... 4.05@4.10

HAY.

Receipts of hay for the past week were 2432 tons, compared with 3142 during the previous week. Although considerable less than the previous week the market is crowded with the arrivals which are moved with difficulty. The warehouses during the past two weeks have been taxed to capacity and the large quantities of hay arriving by boat have congested the hay wharf. Considerable hay has been moved only by concessions in price which have meant a distinct loss to the dealers. Dealers are advising growers to sell in their own location wherever possible rather than to ship to this market at present.

Wheat No. 1.....$22.00@24.00
do, No. 2..... 19.00@21.00
Choice tame oat..... 24.00@26.00
Wild oat, new..... 18.00@22.00
Barley, new ..... 18.00@22.00
Alfalfa, first cutting..... 16.00@20.00
do, second cutting..... 22.00@24.00
Stock ..... 18.00@20.00
Barley straw ..... .50@80c

FEEDSTUFFS.

New alfalfa meal, per ton.....$33.00@34.00
Coconut cake or meal..... 44.50
Cracked corn ..... 86.00@88.00
Oilcake .....$75.00@76.00
Rolled barley ..... 54.00@55.00
Rolled oats ..... 56.00@57.00

POTATOES, ONIONS, ETC.

Both potatoes and onions have fluctuated more or less during the week, but the prices today are the same as a week ago. The market is somewhat more active, due to some large Government orders, but street trading is at unchanged quotations. Bay tomatoes and eggplant have arrived in good quantities and are quoted at lower figures.

Peas .....6@8c
String beans, per lb.....3@4c
Wax beans, per lb.....4@5c
Carrots, per sack.....50c@$1.00
Rhubarb, San Jose, per box....$1.00@1.25
Summer squash .....50@75c
Cucumbers (hothouse), per box....50@75c
do, Alameda, lugs.....50@75c
Eggplant, per box .....50@75c
Lettuce, Sacramento, crate.....75c@$1.00
Tomatoes, per crate—
Merced .....50@75c
Bay .....75c@$1.00
Potatoes—
Garnet Chile, on street.....$2.00@2.25
Whites ..... 2.25@2.60
Sweets, lb. .....5@6c
Onions—
River Reds .....$1.50@1.65
do, Yellows ..... 1.85@2.10
Garlic, new .....12½@15c
Green corn, Alameda, per sack..$2.00@2.50
Okra .....8@10c

BEANS.

The bean market was quiet this week. No sales of importance are reported and few inquiries. Consequently there was a downward revision in prices.

Bayos, per ctl.....$ 7.75@ 8.00
Blackeyes ..... 6.75@ 7.00
Cranberry beans ..... 11.50@12.00
Limas (south, recleaned) ..... 12.50@12.75
Pinks ..... 7.00@ 7.10
Red kidneys ..... 11.50@12.00
Mexican Reds ..... 7.50@ 7.75
Tepary beans ..... 8.50@ 9.00
Garbanzos ..... 7.50@ 7.75

POULTRY.

Poultry is firm at unchanged prices. The receipts the past few days have been light and the street is pretty well cleaned up of stock. Unless arrivals show a decided increase an advance in price is looked for.

Turkeys, live, per lb., young.....28@30c
do, dressed .....32@34c
Broilers, 1½ to 2 lbs.....36c
do, 1½ lbs.....40@42c
do, ¾ to 1¼ lbs.....42@43c
Fryers .....36@37c
Hens, extra, per lb., colored.....30@31c
do, Leghorn .....26@28c
Smooth young roosters, per lb. (3 lbs. and over).....36@40c
Old roosters, colored, per lb.....20@21c
Geese, young, per lb.....22@23c
do, old, per lb.....21c
Squabs, per lb.....40@42c
Ducks .....25@27c
do, old .....23@24c
Belgian hares (live) .....15@17c
do, dressed .....19@22c

BUTTER.

Like the previous week butter has been firm and shows but slight variation in price. Prime firsts were somewhat more active and showed an advance of 1 cent over the close of last week. The receipts were about seventy per cent of the previous week. Compared with last year's prices at this time butter shows about 5 cents advance. The first week of August, 1917, butter sold at 43 cents. Under the methods of commission calculations used last year today's butter price would be about 48 cents, or 5 cents higher than last August.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	52½	52	52	52½	52	52
Prime 1st	51	50½	50½	50½	50	50
Firsts			Nominal			

EGGS.

For the first time since spring extra eggs sold at above 50 cents on the exchange, and pullets touched 49 cents. Eggs at above 50 cents in August have passed that mark a month earlier than a year ago. Remembering the different methods of calculating commissions, eggs today, figured on last year's basis for purposes of comparison, are 47 cents. Last year at this time they sold at 43½, and did not reach 47 cents until September 8th.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	48½	49	49	49½	50	51
Extra 1sts	45½	Nom.	...	...	...	...
Firsts	45	Nom.	...	...	46	46
Extra pullets	47	47½	47½	48	49	49
do, Firsts	44	Nom.	...	...	...	...

CHEESE.

Notwithstanding the heavy receipts prices of California cheese were well maintained while the Oregon product showed decided strength. Making the same comparison with cheese as with the other dairy products, it will be found that cheese ranges from a cent to two cents over last year's quotations.

Fancy California flats, per lb.....27c
First California flats 25½c
Oregon triplets, fancy 27½c
Oregon Y. A. fancy.....27½c
C. S. Oregon triplets, fancy.....28c
do, Oregon Y. A. fancy.....27c
Monterey cheese .....21@23c

FRESH FRUITS.

The refrigerator car situation in the Turlock district is said to be much better and a considerable percentage of the stock of cantaloupes is now going East instead of being brought to this market. This had the tendency of strengthening the market and somewhat higher quotations prevail here in this fruit. The whole berry market was stronger and higher with the greatest advance in prices being made in raspberries.

Apples .....$1.50@2.50
Apricots, per crate ..... 1.00@1.25
Peaches, 4-box crate ..... .75@1.00
Figs, black, per box.....None
do, double layer .....$1.00@1.50
Strawberries, per chest.....$7.00@10.00
Blackberries, per chest..... 6.00@ 9.00
Raspberries, per chest ..... 9.00@12.00
Loganberries, per chest..... 8.00@10.00
Gooseberries .....None
Plums .....$1.00@1.50
Cantaloupes, flats 75c
do, ponies .....$1.50@1.75
do, standard ..... 1.75@2.00
Watermelons, per lb.....1½@2c
Pears, box .....75c@$1.00
do, Bartlett .....$2.00@2.50
Grapes, Seedless ..... 1.25@1.50
do, Malaga ..... 1.75@2.00
do, Fountainbleu ..... .90@1.00

CITRUS FRUITS.

The market for grapefruit remains strong, but for other descriptions there is a downward tendency. This is especially the case with lemons.

Oranges:
Valencias, fancy .....$6.75@7.00
Valencias, choice ..... 6.25@6.75
Lemons:
Fancy, per box ..... 7.00@7.50
Choice ..... 5.50@6.50
Standard ..... 4.00@4.50
Lemonettes ..... 4.00@5.00
Grapefruit, fancy, new ..... 4.00@5.00

DRIED FRUITS.

Buyers claim that apple dryers are holding their stock at too high a figure for purchase. Buyers say the dryers are demanding 13½ to 14 cents a pound, and that in view of the fact that the Eastern crop, which is large and excellent, is bringing less than 12 cents to the dryers, California buyers cannot make purchases.

Prunes, graded, price to growers:
gain in dip 11c
Prunes, graded prices to growers:
20-30, inclusive, per lb.....15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8½c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121, inclusive, per lb.....4½c
122 and up, per lb.....4c
Apricots .....12@19c
Figs .....12@16c
Raisins—
Muscats 5½c
Thompsons 6¾c
Sultanas 6½c

HONEY.

The supply of honey is constantly showing marked increases, but the demand for shipment seems to be able to take care of all offered so far at the prevailing prices.

White, extracted 21c
Light amber .....18@20c
Amber .....15@18c

RICE.

The California rice crop for 1918 is estimated at 3,000,000 bags and its value at Government prices at about $13,000,000. Approximately 100,000 acres of rice were planted in California this year, and according to these figures each acre will yield a gross of about $130 per acre.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, August 5, 1918.

Auction offerings during the past week continued heavy, though at no time did the supply exceed the demand. Some difficulty was experienced in the Atlantic Seaboard markets on account of cars not getting in on time and being held over until the following sale, which temporarily depressed the market.

There was a sharp advance on peaches, owing to the light supply from Eastern sources and a limited offering of California stock. We look, however, for prices on peaches to be normal from now on, on account of the heavy shipments of Elbertas from this State, the movement averaging 100 cars a day for a period of two weeks. As quite a block of Elbertas have been purchased by Eastern speculators, it is conceded that a liberal amount of this stock will be placed in the auctions.

The difficulty experienced by shippers during the past week in getting sufficient cars has affected the shipments to some extent, though the situation cannot be considered serious up to this writing, but packing houses have held over for forty-eight hours fruit that ought to have been iced and it is not unlikely that some of this stock will show up in the Eastern markets in over-ripe condition. If this situation continues when the movement of grapes is heavy, the growers will unquestionably face a serious situation. There is hope, however, that the Government will in the meantime regulate matters so that the cars of which there appear to be plenty, will be iced and placed for loading in time to move the crop without damage.

The shipment of Bartlett pears from the Sacramento River will be considerably lighter this week and next, and the season will probably close in about ten days. The stock is now showing color and most of what is left is being moved to the canners.

The lighter shipments of plums had a tendency to cause an active demand in all markets and this will probably remain throughout the balance of the season.

Thompson Seedless and Malaga grapes are meeting a ready demand and though the movement has hardly commenced, sufficient grapes have been on the market to date to enable us to forecast that the demand, at satisfactory prices, will continue throughout the season. A few Tokays have been shipped, but the crop will not be ready to move for two weeks. We look for a good demand.

Averages for the week:

New York: Bartlett pears, $4.08; Malaga grapes, $2.98; Thompson Seedless, $2.78; Elberta peaches, $1.60; Crawford, $1.36; Tuscan, $1.76; Wickson plums, $2.11; Tragedy, $2.06; California Blue, $1.95; American Blue, $2.02; Kelsey, $2.29; Grand Duke, $1.97; Diamond, $2.18; Gaviota, $2.14; Burbank, $2.02; Santa Rosa, $1.89; Yellow Egg, $1.85; Duane, $1.80.

Chicago: Bartlett pears, $3.80; St. John peaches, $1.77; Crawford, $1.73; Elberta, $1.74; Tuscan, $1.64; Foster, $1.54; Malaga grapes, $3.35; Thompson Seedless, $2.71; Tokay (Imperial), $4.24; Muscat, $3.16; Wickson plums, $2.35; Tragedy, $2.33; Giant, 1.85; Sugar, $2.18; California Blue, $2.45; American Blue, $2.41; Kelsey, $2.24; Grand Duke, $2.55; Diamond, $2.43; Bradshaw, $2.05; Burbank, $2.50; Climax, $2.40; Santa Rosa, $1.87.

Boston: Tragedy plums, $1.85; Kelsey, $1.95; Wickson, $1.91; Burbank, $1.58; Grand Duke, $1.62; Diamond, $1.85; Gaviota, $2.01; Bradshaw, $1.65; Santa Rosa, $1.86; Climax, $1.57; Bartlett pears, $3.83; Thompson Seedless, $2.55; Malaga, $4.00; Muscat, $3.75; Decker peaches, $1.65; Crawford, $1.67.

Shipments by cars, from July 27th to August 2nd, inclusive: 579 peaches, 117 plums, 476 pears, 160 grapes.

Total shipments to date, 1918, 5078 cars.
Total shipments to date, 1917, 4408 cars.

New Feed Selling Schedules for California

The price-selling schedules on mill feeds telegraphed to the Pacific Coast under date of August 1 have undergone revision. The figures below for principal California milling points were obtained from the offices of the Food Administration in San Francisco just as our last form went to press, and are the wholesale prices to retailers, bulk basis, carload lots. To these prices, of course, must be added the retailers' legitimate profit, cost of handling, and cost of sacks where so delivered.

	Bran.	Mixed Feed.	Middlings, etc.
Sacramento	$25.65	$26.90	$27.65
Stockton	25.15	26.40	27.15
San Francisco	23.75	25.00	25.75
Los Angeles	27.45	28.70	29.45
San Diego	26.81	28.06	28.81

LOS ANGELES

Los Angeles, August 6, 1918.

BUTTER.

There was a more quiet and weaker tone to this market the past week. The receipts were the best for some time. The high prices not only encouraged better nearby receipts, but brought in some Eastern butter. The result was that the market on 'change broke Monday 1c on extras from the high prices of last week. Demand good, however. Receipts for the week were 375,400 pounds, against 322,100 pounds the same week last year.

California extra creamery.....50c
do, prime first 49c
do, first 48c
Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	51	51	51	51	51	50
1917—						
Extra	44	44	44	44	44	44

EGGS.

A strong market was had the past week for all arrivals; and extras closed the week a little higher while case count remain unchanged. Receipts by rail for the week were 1710 cases, against 1060 cases the same week last year. The receipts by truck continue to run about four times as large as the arrivals by rail, making the supply for the week 8650 cases, against 5300 cases the same week last year.

Daily quotations—

1918—	Tu.	Wed.	Thu	Fri.	Sat.	Mon.
Extra	46½	46½	46½	46½	46½	47
Case count	46	46	45½	45	45	45
Pullets	45	45	45	45	45	45
1917—						
Extra	39	38	38	39	40	40
Case count	36	36	36	38	38	38
Pullets	34	34½	34	35	37	32

POULTRY.

Not so many light broilers in. Fryers and young roosters arriving more freely and demand only fair. Other prices remain unchanged.

The following prices were agreed upon last Friday, August 2, and hold good until the coming, Friday:

Broilers, 1@1½ lbs. 30c
Fryers, 2@3 lbs. 31c
Roasters (soft bone), 3 lbs. and up.....31c
Stags and old roosters, lbs.....19c
Hens .....20@27c
Tom turkeys .....30@33c
Ducks .....22@28c
Geese 15c
Squabs, live, per lb. 30c
Squabs, dressed, lb. 40c

VEGETABLES.

The offerings the past week were liberal of most everything and sales generally slow. The weather was very hot and against the market.

We quote from growers—
Potatoes, new, per lug.....70c@80c
New potatoes, per cwt. .....$1.75@2.00
Garlic, per lb. .....5@6c
Onions—Stockton Yellow Danvers, cwt. .....$2.00@2.25
Onions—Small Bermuda, per crate..80c@90c
Garlic, lb. .....5@7c
Cabbage, per 100 lbs. .....$2.00@2.50
Bell peppers, per lb. .....3@4c
Chile peppers, per lb. .....3@4c
Peas, Northern, per lb. .....10@12c
Summer squash, local, per lug.....25@30c
String beans, per lb .....4½@5c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb....4@5c
Cucumbers, home-grown, per lug..25@40c
Corn, per lug of 3 doz. .....65@75c

FRUITS.

Sales were draggy of most everything. Peaches, plums, apples and pears all arriving freely and the liberal offerings caused buyers to hold back and do much picking around. Nectarines made their appearance during the week for the first time and met with a fair demand. Crabapples were in good demand. Apricot season is over. Plums selling fairly well and generally steady. Apples in fair demand. Figs slow sale but steady.

We quote from growers:
Figs, Black Spanish, 7-lb box.....50@75c
do, White, 7-lb. box.....50@60c
Peaches, freestone, per lug.....$1.00@1.35
do, clings, per lug..... 1.25@1.50
do, Northern, freestone, lb.....3½@4c
do, do, clings, lbs.....3@3½c
Pears, per lb. .....5@7c
Crabapples, per lug .....$1.00@1.25
Beauty plums, per lb. .....6@7c
Climax, per lb. .....5@6c
Tragedy, per lb. .....7@8c
Satsuma, lb. .....5@6c
Burbank, lb. .....4@4½c
Santa Rosa .....6@7c
Nectarines, lb. .....5@6c
Grapes—Imperial Valley Malagas, per lb. .....6@7c
Thompson's Seedless, per lb.....6@7c
Apples, Red Astrachan, per lug....65@90c
do, White Astrachan, per lug....65@80c
Banana apples, per lug .....90c@$1.00

BERRIES.

The season is fast drawing to a close. A few scattering lots are still coming in, and they bring more money. The demand is only fair. Too much other fruit on the market.

We quote from growers:
Strawberries—
Fancy, per 30-basket crate....$2.25@2.75
Poor to choice, per 30-basket crate ..... 1.75@2.00
Blackberries, 30-basket crate.... 2.50@2.75
Raspberries, 30-basket crate..... 2.50@2.85
Loganberries, 30-basket crate... 2.75@3.00

MELONS.

The market was full the past week with all kinds of melons and prices broke sharply. Demand fair, however, at the decline. Cantaloupes broke faster than watermelons. The hot weather, however, helped them out.

We quote from growers:
Cantaloupes—
Tip Top, home-grown, standard crate .....90c@$1.00
do, do, pony crate .....60@75c

Columbia jumbo, crate	$1.75@2.00
Casabas, per lb	2@2½c
Pine apple, standard crate	90c@$1.00
do, jumbo crate	90c@ 1.00
do, Paul Rose, standard crate	$1.50@1.75
Watermelons, per 100 lbs.	1.00@1.25
Honeydew melons, special	2.00
do, do, flats	1.25

HAY.

This market is very dull. Receipts keep up fairly well, while most buyers are pretty well supplied for the present. No one seems to care to buy ahead. Hence the market has a downward tendency.

We quote f. o. b. Los Angeles—

Barley hay, per ton	$24.00@26.00
Oat hay, per ton	25.00@27.00
Alfalfa, northern, per ton	21.00@22.00
Alfalfa, local, per ton	22.00@24.00
Straw, per ton	9.00@10.00

Special Citrus Market Report

Los Angeles, August 6, 1918.

The offerings for the fag-end of the Valencia orange crop, which on the first of this month was reduced to about 1600 carloads, border on the sensational. It is reported that as high as $8 to $9.50 per box is offered at the Eastern distributing centers for fancy stock, and that even inferior grades are selling up to $6 per box. As against the residue of 1600 cars on hand on August 1, there were 5800 cars available at the same time last year. Although choice fresh deciduous fruits are plentiful in competition in the Eastern markets, Valencia prices are well maintained. It is believed that there will be further advances before the November crop of navels are on the market.

Lemons, however, have not fared quite as well. Several factors have militated against a buoyant market for this fruit. Firstly, weather conditions have been unfavorable. Secondly, the restriction on the consumption of sugar to two pounds per month per person has discouraged the consumption of lemon juice. Thirdly, there have been heavy importations of Italian fruit during the past week, and, although they are too low-grade to come into direct competition with the California article, they nevertheless operate as a check to their consumption among a certain class of trade. The best brands of California stock show a base price of $7 per box in the New York and Boston markets.

Total shipments of Southern California citrus fruits to date are: Oranges, 12,598 cars (last season to same date, 34,930); lemons, 4592 cars (last season to same date, 6819).

Special Livestock Market Report

San Francisco, August 7, 1918.

CATTLE—The cattle market on cow stuff continues weak, but is very firm on good-weight steers, which are in good demand. The dressed meat market is dull.

Grass steers—	
No. 1, weighing 1000 to 1200 lbs.	11½@12c
No. 1, weighing 1200 to 1400 lbs.	11½@12c
Second quality	10@11c
Thin	8@9c
Cows and heifers—	
No. 1	8@8¼c
second quality	7@7½c
Common to thin	4@5½c
Bulls and stags—	
Good	6@7c
Fair	5@6c
Thin	4@4½c
Calves—	
Lightweight	11c
Medium	10c
Heavy	8@8½c

SHEEP—The sheep market is steady, with only light offerings. Lambs are being sent in too rapidly for the market to absorb, and too large a percentage of the stock is in an unfinished condition. This is especially true of the Northern California product, due to unfavorable feed conditions.

Lambs—	
Yearlings	12@12½c
Milk	14@14½c
Sheep—	
Wethers	11@11½c
Ewes	9½@10c

HOGS—There is still a dearth of hog receipts, and notwithstanding a very moderate demand for hog products prices are on the up-grade, as will be noted in our quotations.

Hogs—	
Hard, grain-fed, 100@140	17c
do, do, 140@300	17½c
do, do, 300@400	16½c

Los Angeles, August 6, 1918.

CATTLE—The market the past week was quiet all round. But few really good fed steers in. A good many thin and medium cattle are being offered, with poor market. The dressed meat trade is dull.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs.	$10.00@12.00
Prime cows and heifers	8.00@ 9.00
Good cows and heifers	7.50@ 8.00
Canners, per cwt	5.50@ 6.00
Calves, per cwt	8.50@ 9.50

HOGS—There was a further falling off in the receipts the past week and under scarcity and high markets East prices were advanced. The demand, however, is still limited and the higher prices are due to scarcity rather than any improvement in demand.

Per cwt. f. o. b. Los Angeles—

Heavy, averaging 275@300 lbs.	$15.00@16.00
Mixed, 225@275 lbs.	16.00@17.00
Light, 175@220 lbs.	16.00@17.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Few sheep and lambs are wanted, as the mutton market is dull. What few taken the past week, however, brought steady prices.

Per cwt. f. o. b. Los Angeles—

Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	13.00@14.00

North Portland, August 5, 1918.

CATTLE—An insistent demand characterizes the cattle trade here. The run of cattle consists of 1150 head. The calf trade is holding up good. The choice light veelers are selling at $11.00@11.50. We quote as follows: Prime steers, $11.75@12.75; good to choice steers, $10.75@11.75; medium to good steers, $9.50@10.75; fair to medium steers, $8.50@9.50; common to fair steers, $5.50@8.00; choice cows and heifers, $8.00@9.00; medium to good cows and heifers, $6.00@7.50; fair to medium cows and heifers, $5.00@6.00; canners, $3.00@5.00; bulls, $5.50@7.50; calves, $8.50@11.50; stockers and feeders, $6.00@8.00.

HOGS—Hogs have advanced by leaps and the trade is 50c to 75c higher than a week ago. Receipts today are 1150 head, the larger majority of which are prime stuff. The market is strong at quotations: Prime mixed, $18.85@19.15; medium mixed, $18.65@18.85; rough heavies, $17.35@17.65; pigs, $16.00@16.50; bulk, $18.65@18.75.

SHEEP—Sheep receipts for today are 1300 head, which are meeting with good demand at steady prices. We quote: East of the mountain lambs, $13.00@14.00; valley lambs, $12.50@13.00.

Classified Advertisements

MISCELLANEOUS.

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COUNTRY LANDS.

400-ACRE IMPROVED stock and grain ranch, 3½ miles Pleasant Valley R. R. station, Mariposa county, Cal. 100 acres cleared and tillable; nearly all could be farmed if cleared of large oak and other trees; 3 and 6-room house, large barn and outbuildings; blacksmith shop and tools; fenced and cross fenced, part hog tight; nice family orchard and garden irrigated from springs. Average rainfall, 29.88 inches. Grapes, olives, almonds, etc., grow without irrigation. No alkali or hardpan. Feed in pastures and free outside range adjoining, knee high. Elevation, 1500. School and church, one-half miles. Price, $30 per acre, including 300 goats, 3 horses, 3 head cattle, turkeys and chickens, and all farm implements. $3,000 cash, balance long time, 7 per cent. Fred B Palmer, owner, Coulterville, Calif.

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WANTED—Responsible farmer and stockman to handle 250-acre ranch in Colusa County on shares. Must have money to buy stock. Sheep preferred. P. O. B. 597, Santa Cruz, Cal.

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WANTED—Married Swiss dairyman wants to take charge of a dairy on shares; 40 to 50 cows. Address, Box 1190, Pacific Rural Press.

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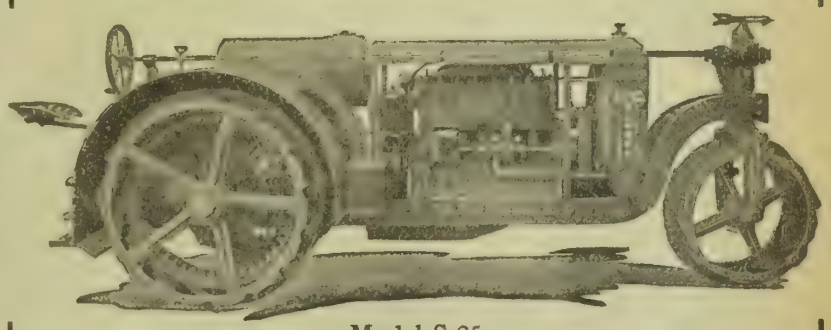

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THE AMERICAN FARMER MUST FEED THE WINNERS, OR THE GERMAN FARMER WILL

Vol. XCVI—No. 7 Forty-eighth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO AUGUST 17, 1918 LOS ANGELES

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Alfalfa Growing Made Sane and Safe

Written for Pacific Rural Press by W. G. Kerckhoff of Kerman

GREAT CHANGES have already taken place in the production and marketing of practically all farm products. There can be no doubt any more that we are in the midst of a period of transformation, partly brought about by co-operation, partly by the war and its effect on labor, money, etc., and partly by direct Government measures. This is bound to also lead to great changes in general business, financial and social-economic conditions, and it is of the greatest importance to our individual interests to adapt ourselves to these changing conditions. Considering the alfalfa grower's problem from this standpoint, it is clear that it is also one of the vital problems facing the entire population of California, and, in fact, the nation, as on its permanent and all-around solution depends the solution of the food question in respect to milk, butter, meat, etc., all necessities of the first order, not to mention the important bearing which the successful solution will have on the general prosperity of the State.

Where the Hay Farmer Finds Himself.

In the big farming family of our State the hay farmer occupies the place of a step-child: neglected, abused and under nourished. Look back ten or fifteen years in the hay industry and follow it up to the present. You will remember but few years in which the farmer obtained a good price in the sense of making enough above expenses, wear and tear, etc., to give him and his family a fair living and enough more to reduce his debts or accumulate something for the future. There were more years during which he could barely make both ends meet, and almost as many others when he went behind and deeper into debt. As conditions have been and still are today, they compel most of the hay farmers to sell the largest part of their crop at the lowest prices of the year, or, to put it another way, under existing conditions they are forced to demoralize the market against themselves and the rest of the growers, and this at the very time when its support is a matter of life and death for them.

A California method of field-handling of alfalfa hay.

What did these poor years mean for the hay farmers as a class? They were then and are today poor men, struggling to get on their feet; but many fell by the wayside, discouraged and embittered. Others take their places, encouraged by years of fair prices following the low ones; but years of low prices again came after these; again many fields were neglected or abandoned and a large number gave up the struggle. This has been the cycle in which the industry has been moving all these years. It is not different today; in fact, it is worse, in so far as this year and the year before were apparently years of fair prices in the circle. But as far as my observation goes, the new acreage planted this year and last is decidedly below normal, while the acreage plowed up is far above normal, and this in the face of the fact that the acreage in the State is quite insufficient for present requirements.

Why is this when the price is now twenty dollars a ton, baled here, and even better? I can see one explanation only, and this is that even present prices are not very attractive under present general conditions of vastly higher cost of everything, and that the farmer can do as well and better, and in any case safer, in other lines of farming. It seems to me that this is proved by the fact that for several years past considerable alfalfa acreage in almost all parts of the State has been plowed up and, according to the respective local conditions, the land has been put in cotton, etc., in the Imperial Valley; sugar beets, beans, etc., in Southern California; vines, trees, etc., in the San Joaquin Valley, etc.

Why Not Feed the Alfalfa?

Why do these hay farmers not go more into the dairy business and sell their product in the shape of milk and cream instead of as hay? The answer seems to be that the dairyman-alfalfa grower who makes milk suffers largely from the same drawbacks as the hay farmer, though perhaps not quite to the same extent. Low prices of alfalfa also mean low prices for milk and cream; and then there are additional drawbacks peculiar to dairying, the principal one the marketing question of butter, which presses down as hard on the dairyman as the hay marketing drawback does on the hay farmer. Right now we seem to be again in a period where dairy herds are being reduced. Probably the causes are similar to those which bring about the plowing up of alfalfa. However, the Milk Producers' Association now seems to be an assured fact and will, together with the Alfalfa Growers' Association, undoubtedly remove most of the drawbacks now handicapping the dairy industry.

But, even supposing that many of the hay farmers were to engage in the dairy business, where in that case is the hay supply to come from which is of absolute necessity to the dairies near the cities which depend on them for their milk supply, as also in parts of the country where no alfalfa or not enough of it is raised? Or, again, where is the hay for stock cattle to come from as far as it is dependent on alfalfa hay bought from the hay grower and fed?

The Solution of the Problem.

Clearly the situation is very unsatisfactory all around, and even alarming, and it is just as clear that there is only one solution, which is to put the hay farmer in position where he can feel assured of fairly stable conditions and where he can do about as well as in other lines of farming, taken one year with the other and considering the amount of his investment, work and risk.

There is nothing revolutionary in this solution. On the contrary, it will be a constructive measure, assuring not alone the milk, butter and meat, etc., supply, but it will at the same time also prove a well-paying investment for the entire commonwealth, as the prosperity of the hay farmer means more all around prosperity for the community. And another factor worth considering—a prosperous farmer will, as a rule, work a good deal harder and to better purpose and will therefore be a

(Continued on page 160.)

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R. R. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

EDITORIAL REORGANIZATION.

FROM the rearrangement of the emblazonry higher up in this column, the reader may be informed that the editorial work on this journal has been definitely classified and considerably extended. The purpose of this progressive step is to improve our equipment so that the Pacific Rural Press may strengthen its position of unquestioned leadership in editorial service to the prosperity of its patrons and to the farther development of California in the industry of food production. California is so great in agricultural achievement and potentiality that it deserves a publication which shall exhibit breadth of resources, clearness of vision and accuracy of declaration commensurate with the quality of the present and prospective attainments of the State. For nearly half a century this journal has striven to render such service. It is the conviction of the present publisher that the time has come to enter upon a new phase of effort and investment on his part to the end that the publication shall be recognized as truly great from the point of view of service to California and truly representative from the point of view of all who seek to know and to love California and desire to live, to labor and to invest their resources for the development of the State.

To this end it is conceived to be essential to equip the journal with an editorial staff composed of writers and critics recognized as knowing particularly well the subjects assigned to each of them—as the result of their natural ability, long experience and wide observation of the attainment of others. That such qualifications are possessed by those whose names appear above will be more apparent to the reader as the chief message of each in each issue will bear his name and betoken also his choice and preparation of subsidiary matter under his subject. This detail is noted to indicate to the reader that the classified staff which we announce is composed of workers each of whose chief business is the service of this journal and not a group of persons whose names are displayed because of some honorary connection or incidental contribution.

It is a joy to this writer, who is now closing his forty-third year in the editorship of the Rural Press, to realize that the journal has attained position and patronage which justify the publisher in largely increasing his publication cost on the surety that his added burden and responsibility are a reasonable investment to enable this journal to assume the leadership and discharge the service which the progress of well-related and widely diversified agriculture in California requires.

This writer also desires to say to his personal friends that unfortunately this announcement does not mean that he will have an easier time or that he will do less in the making of this journal in the future. In his devotion to the upbuilding of his great public utility enterprise the publisher perhaps has overlooked the fact that in addition to doing our own particular work we shall now have to keep each of a bunch of acknowledged experts from jumping on each other's neck and all of them from jumping on our own! It is unfortunate that this crisis could not have been postponed until overwhelming victory sets Foch free for another job. It seems to be up to us to show him something in the line of allied command—but the result, whatever it may be, will be for the good of the reader!

* * *

UNITED FARMERS OF SANTA CLARA.

WE ARE comfortably relieved of our apprehension that the new farmers' organization of Santa Clara county might be the creation of an alien enemy or might have some other tainted ancestry. Three members of the association—C. E. Warren of Cupertino, R. P. Van Orden of Mountain View and H. G. Keesling of Edenvale—have given us the advantage of an afternoon's conference on the nature, methods and purposes of their organization and definitely assured us that they were working from their own initiative, that their immediate purposes were to do some political back-firing to check the progress of machine politics which pander to the desires of groups of irresponsible voters who strive to advance their own wills and profits without fairness to the dependable producing interests of the country. To secure such a square deal to the farming interests, the United Farmers propose three things: First, to go into politics; second, to exclude machine politicians and professional office-seekers from membership in their organization; third, to accumulate a strong voting and working force by unifying the agricultural electorate in effective promotive and protective effort for better citizenship and for fairness to the farming industry. These policies of the organization commend themselves to our judgment as fundamental and desirable. It is essential to the purposes of such an organization to get into politics and to prevent politics from getting into them.

* * *

STRICTLY A CLASS ORGANIZATION.

WHILE we approve the effective arrangements for exclusion of undesirable candidates for membership through an absolute censorship of nominations by an executive committee (consisting of all the officers and four other members from each of the five supervisorial districts of the county), we do not approve the prescription of eligibility for membership which says that "any farmer or any person wholly dependent upon farming for his livelihood" shall be eligible for election. Our objections to this provision are those which we have set forth in our previous discussions of the kind of organization which will be durable and effective in the promotion of agriculture. In brief, these objections are three: First, such a standard of membership aims to establish a "farming class" when no such thing really exists in this country; second, all organizations projected on such a basis during the last half century have failed to reach their objectives; third, ineligibility of persons not "wholly dependent upon farming for livelihood" is suicidal to the organization because it excludes from membership many of our best farmers—who are best because they have demonstrated their ability to do other things than farming successfully. The agricultural need of the time is the force of farmers who also know law, banking, trade, education, etc., because the advancement of farming depends upon these things. When absolute censorship of individual membership is, in our judgment, wisely provided for, as stated above, it is ridiculous to handicap such censorship by an exclusion act which will prevent admission of many whose cooperation will really insure the success of the undertaking. It is, of course, essential that genuine and sufficient agricultural interest and activity should be a qualification for membership—to be determined by the executive committee, just as integrity, innocence of partisan motives and purposes, etc., are determined. When you install a committee of twenty-five or more to pick and choose valuable members, they should have the power to choose from all who are genuinely in the business of farming. Of course, the three "united farmers" named above, who kindly came to talk over matters with us, did not agree to accept these views nor did we consent to forsake them!

IN POLITICS BUT NOT POLITICAL.

WE FIND much in the constitution of the United Farmers, of which we now have a copy, to approve and to allay our apprehension of their heading-in wrongly. The association is armed against disorder by this provision:

No person shall be admitted to membership who is a member of any I. W. W. organization or who is not wholly and completely loyal to the Government of the United States of America; and any member who, after joining this association, becomes a member or adherent of any I. W. W. organization or proves to be disloyal in word or deed to the Government of the United States of America, shall be promptly and speedily expelled by the executive committee.

We were also verbally assured that the United Farmers is not a scouting party for the drive which the Non-Partisan League of the Northwest is credited with framing up for the invasion of California and that the purposes of that organization, as commonly understood, do not receive the approval of the Santa Clara farmers. But of course the organization must be on the alert against an enveloping movement by acute organizers, whose arts "wholly" farmers are not always able to penetrate. They do say that a Non-Partisan promoter can go through a farming region on the quiet and get away with a bushel of promissory notes for dues, etc., before the smartest local gossip can float the first whisper of his presence. They surely are sharp about it and we doubt if their organizers are of the "wholly" farmer class. The organization must also be alert not to be "enveloped" by one of the gubernatorial candidates: there are a half dozen now doing still-hunting for the wholly-farmer votes at the coming primaries. Therefore, though most of the aims and purposes of the United Farmers as they are explained to us are commendable, we must advise our friends that it will be no fool's job to keep them so. Doing politics as farmers and doing politics with farmers often look alike and it takes keen insight to differentiate them.

* * *

WHAT POLITICS FARMERS SHOULD DO.

THERE are, of course, local purity politics which farmers and all other groups of exemplary citizens should work together to enforce. We understand that the United Farmers of Santa Clara are keen on this job and they probably have a good place for it. But it is in another and wider field, to which local purity politics is a gateway, which we believe all whose labor and capital are invested in farming should enter unitedly and effectively. Its purpose is two-fold: first to promote a square deal for farming in representation in a democratic government and in enactment of laws which shall insure to the business of farming economic equality of opportunity with other vocations; second, to protect the business of farming from exploitation by greedy and unfair interests, all the way from the bank to the bunk-house. To organize for this colossal undertaking only those "wholly dependent upon farming for a livelihood" is, in our judgment, to exclude from the effort a mass of farmers whose industry and investment naturally impel them to strenuous effort for a square deal to farming and whose experience in public affairs enables them to put up a winning fight. This is the reason why we contend that to secure these greatest things for farming, organization should proceed upon the basis of the business of farming and not upon any social basis which is conceived of as forming a farming class. California has now probably more than thirty thousand farmers tied together in co-operative business and they could certainly co-operate to cut that business free from outside imposition and exploitation, by doing the few political things which such freedom requires and which can be more surely done by influencing existing political parties than by trying to create another on a narrow class-basis.

* * *

ATTACKING ON A BROAD FRONT.

AGRICULTURE, as compared with other vocations, is a broad, all-pervading industry and must attack its difficulties on a broad front to make a great drive. The Santa Clara offensive is too narrow. It decimates its man power by ordering out only the "wholly livelihood" class, as has been suggested. It reduces its penetration by rejecting too many large-caliber shells. It

limits its outlook by trying to break the wings of its aerial craft. It ignores the fact that for more than fifty years the agricultural interests have striven unceasingly for recognition in education and scientific research and have succeeded in convincing people of other vocations and of no industrial vocation that all state and national institutions must provide for the discovery and dissemination of agricultural science as the foundation of more intelligent and profitable practice. And now we are given to understand that some, at least, of the projectors of the Santa Clara enterprise hold that the way to secure farmers' rights is to disown the educational victories of their fathers, knock out the supports of the institutional electroliers which they installed along a broad road of development and progress, and by lighting a lot of partisan torches strike out across a political mud-flat to intercept a moonrise! It is our conviction that such a notion of the way to get what agriculture needs is so clouded by prejudice and lack of understanding that it can compass neither victory nor even strategical advance. But, of course, the impulse to go forward, which the new organization embodies, is good. Possibly the determination to advance is more important at this moment than the manner of the going. The main thing is to get ahead: it is not hard to change the step.

FARMS FOR RETURNING SOLDIERS.

WE HAVE previously discussed the land settlement demonstration provided by the California Legislature of 1917 and the disposition of private owners to subdivide on the same plan, as involved in preparation for the enlistment of returning soldiers in self-supporting occupation. The same idea has been accepted and provided for by Congress and it was entrusted to Secretary of the Interior Lane to make ready parts of the national domain for such use. Naturally Secretary Lane selected to plan and project the undertaking, Dr. Ellwood Mead of the University of California, whose development of ready-for-cropping farms for the Government of Victoria, Australia, and later for the State of California, demonstrated his quality for leadership. Dr. Mead is now on a leave of absence from his university work and is in Washington, where he will probably be occupied several months assisting Secretary Lane in planning and setting in motion a system for making ready-for-occupation farms out of the raw lands of Uncle Sam's estate. It is also very interesting from a California point of view that H. T. Cory, the well-known irrigation engineer, who so tamed the rebellious Colorado river that it not only stopped its ravages in the Imperial Valley but carried its master to fame as the hero of one novel and the near-hero of another. And it is not strange that Uncle Sam calls these two California irrigation engineers to his novel service of making homes for returning war heroes. One can cut up land and the other can tie up rivers—both lines of action being indispensable to home making in the arid region which will be moist and the desert region which will be productive of added crops and multiplied citizenship. And California is well pleased to have had these engineers trained, experienced and ready for such an important national task. It would be a contribution to very proper State pride and satisfaction if someone would list and describe the functions of all who have gone from California to serve the country during the present war. It is very creditable to our State to have developed so many men and women with talent, training and patriotism to do such unique things in the service of humanity and of the nation. And having done their duty they will return to life and action in this State all the better Californians for their patriotic exile.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

A Straw-Prophet Needed.

To the Editor: Will it pay us to bale our barley straw this year? We have been told that it will cost us $5 per ton to get it baled. Will there be a very great shortage of feed this next winter so that the straw will be needed badly for feeding? And what would baled barley straw probably be worth next winter? What would be the best to use along with the straw—cotton seed meal or linseed meal? And how many pounds of meal should be fed to the hundred pounds of straw? What is the best way to mix the meal in with the straw, and can it be mixed before baling? What would cotton seed or linseed meal, or something else that would take the place of either of these, probably cost per pound?—B. D., Orland.

You need a straw-prophet and all whom we know of that grade are working full time on the agricultural division of the State Council of Defense and out of our reach. What baled straw will sell for next spring and how short the supply will be depends upon how much rain we get this winter. We should make a good stack of the straw and bale it out whenever we could see any money in it. We certainly would not ante up $5 per ton now to get into the straw game next winter.

The idea of making a balanced ration in the bale instead of in the tummy does not appeal to us. There can be no fixed ratio of oil meal to straw because the amount of meal to be fed to the animal depends upon the kind of animal and what it is being fed for. The range might be from 4 pounds to 24 pounds per 100 pounds of straw. Or, to put it in another way, supposing an animal would eat 25 pounds of straw a day and in one case you might wish to feed one pound of oil meal a day and in another six pounds. If you bale-in 4 pounds of meal to 100 pounds of straw, it might fit your first case all right, but if you wished to feed a steer six pounds of meal a day he would have to eat 150 pounds of straw to get it—which would make an elephant pot-bellied. Besides, we seriously distrust the durability of good flavor either in the straw or the meal after a time of such intimate association, and it might be that no animal would eat any of it—unless starving. Besides, again, linseed meal is worth about $75 per ton, or 3¾c per pound. There would be no business sense in adding from 15c to 90c to the first cost of 100 pounds of baled straw and meal without knowing whether anybody would buy the combination or whether any animal would eat it after a period of storage. The absurd calculation also shows that the intrinsic value of the straw which an animal can eat in connection with heavy feeding of oil meal is practically negligible.

All your questions seem to point to the chance of selling your improved straw to others to feed and we have discussed the proposition from that point of view. Of course, if you intend to feed it to your own stock, you had better save the cost of baling and let it help to buy the meal. If, however, you feel that you must bale the straw for the sake of convenience and desire to bale something in to improve its feeding value, let the balers put in alfalfa hay with the straw, about half and half. And if you wish to add linseed meal, do that sparingly at feeding time and with an eye out for the effects produced.

There is another aspect of straw-futures which you do not ask about, but you should have it in mind. How much straw will be required at the cantonments for doughboy and animal bedding? That is now being inquired into and it may influence coming values of all that is available.

Saving Old Paper Trays.

To the Editor: Will you print in the Press a suggestion to all grape growers to save their paper trays this coming season—at least not scatter them over the landscape? We have seen the wastefulness in former years and wondered why.—G. E. D., Reedley.

Certainly we will print it, and we presume you are right that the landscape would be handsomer if not littered up with old paper, but whether it would be desirable to gather up the old trays for future use in drying raisins is another question and one which we are not able to answer for lack of practical knowledge in that line. We can imagine that old, dusty and warped paper is not very good to put fresh, clean fruit on, and we are not sure that the effort to reclaim the dirty, misshapen stuff is worth the labor cost. As a rule the farmer who pays the bills may be trusted to save all he can, and if he lets such stuff go it is because it is not worth saving. Perhaps you had better organize a rabbit-drive and go after the trays. They say the Germans are making shrouds of it and they are needing a great many these days.

Alfalfa in August.

To the Editor: I would like to know if it will be all right to plant alfalfa in August. And would it also be all right not to cut until next year? I must leave my ranch in September. We have irrigation. I want to plant it before I leave. How much barley should I plant to the acre with the alfalfa, as that is the way I want to plant it? —F. C., Ellisworth.

If the land is a fine loam and you can fill it up by irrigation and then, when it gets dry enough to work well you plow and harrow down well, sow the seed and roll lightly, you may get a stand of alfalfa which will hold on well if you get a few showers in September. If you are not sure of all these things, you had better get the land in shape now, leaving the surface loose, and then work down and sow after the rains begin and the sun loses its edge. It need not be cut until next spring. Do not sow any grain with the alfalfa unless you wish grain more than alfalfa. If the latter is put in roughly and left to take its chances, the cost of the seed and work will be rather a risky investment.

Corn from Tassel to Silo.

To the Editor: In case of yellow corn, how long after tassels are out before corn should appear? About how many tons of silage to an acre? —G., San Jose.

Of course, the frame work of the ear is already developed when the tassel appears and connected up with the silk so as to receive the pollen from the tassel. If you mean the time from the tassel to the proper stage of the ear for the silo, we do not know how much variation there may be in it, but there is record of careful observation that from the first appearance of a tassel on August 6 the ears were fully glazed and ready for the silo on October 1—about eight weeks. The amount of silage per acre depends upon the crop you get—say from six to twenty tons.

Split-Pit in Peaches.

To the Editor: What is the trouble with my peaches? All varieties are attacked in the same way. The seeds split and the peach next to the seed has a hard, waxy substance and cannot be used unless it is cut out. All the peaches are perfect on the outside. Is there a remedy?—J. W. M., Earlimart.

The trouble is called split-pit, from its most obvious characteristic. It has been the subject of long and careful investigation by plant disease experts, but no causative organism has been found and therefore no killing or preventive medicine can be prescribed. The trouble is supposed to be caused by some growth condition which prevents normal development of the fruit, but what that condition is has not been conclusively demonstrated.

For Worms in a Lawn.

To the Editor: What can I do to exterminate a worm that has infested my lawn? It is about 1½ inches long and has only appeared in the last few days. They remain in the ground until the lawn is watered and then they come out in hundreds. You can see the effects of their work already. They are a little larger than the fish worm.—D. M., Rio Vista.

Possibly a light sprinkling of nitrate of soda would get the worms, but be careful not to use too much. Apply before watering. Our way, however, would be to borrow all the hens which are handy and let them loose after watering and watch the fun. Do it late in the afternoon, so they can go home without scratching down the front steps!

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 13, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.20	.12	62	48
Red Bluff	...	...	...	100	62
Sacramento	...	...	...	96	54
San Francisco	...	...	.01	70	52
San Jose	...	...	.01	90	50
Fresno	...	...	...	98	60
San Luis Obispo	...	...	.08	74	52
Los Angeles	.02	.11	...	80	62
San Diego	.03	.03	...	78	62

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FOR CALIFORNIA SOILS

Apple Growing in Watsonville District

[Written for Pacific Rural Press.]

Last week we visited a number of apple orchards in this section, accompanied by Donald D. Penny, Horticultural Commissioner, and Inspector H. B. Hopkins. The trees show a marked improvement in condition over that of a year ago. This is probably partly due to the dry year, but in the orchards we visited the results of careful spraying and cultural methods were apparent.

This well-known Rodgers Bros.' orchard has a full crop of apples—mostly Newtown pippins—and was getting its last good irrigation. Here the foliage was broad and flat, protecting the fruit and bark thoroughly. The large crop was well thinned, clean, of large size, and comparatively little mildew was noticeable. Mr. Rodgers sprays in winter with crude oil emulsion one year and lime-sulphur the next; and this appeals to us as being a "safe and sane" method of proceeding. We found the same course followed in other fine-looking orchards.

With regard to the mildew, all infected twigs are clipped off in winter. Then milled sulphur is used, with the arsenate of lead in April—about ten pounds to the tank.

The Wylye orchard on the Riverdale road showed a full crop of apples, while one not far away, on similar ground, was carrying a poor one of inferior fruit, partly due, doubtless, to a very thrifty growth of morning glory that carpeted the ground. This is one of the evils of renting an orchard. The average tenant will take off all he can get at the least possible cost to himself, because he is not interested in the permanent welfare of the orchard.

Silliman Bros.' apples were sprayed with lime-sulphur in winter and milled sulphur with arsenate of lead in April—crop 90 per cent normal, fine, clean fruit.

G. W. Bird has 40 acres of apples, part sprayed with crude oil emulsion and part with lime-sulphur. There appears to be less mildew where the oil spray was used.

The crop and the trees are clean and thrifty.

Fred Nohrden has a full crop of Newtowns on his 20-acre ranch. The foliage and fruit look well and the trees clean. He cultivates every two weeks and the trees are grateful.

The Baldwin orchard next door is planted to Bellflowers and Newtown Pippins in alternate double rows—a good plan for pollenization purposes. These trees are heavily propped.

As a summary of our observations in the above-named orchards, the trees had all received careful spraying, pruning, cultivation and thinning, carrying good, strong foliage and a good crop of clean, merchantable fruit.

The trees that were sprayed with crude oil emulsion showed less mildew than others.

Other orchards not so very far away were noticeable for poor foliage and inferior fruit by reason of (a) scale (we saw some on the fruit), (b) poor plowing and lack of cultivation, (c) morning glory.

In short, the orchards that have been treated with scientific care and faithful working, throughout the season, will yield handsome returns. Those that have been handled indifferently will give an indifferent profit.

Last year good apples sold at $25 to $27 a ton, orchard run, while the poorer orchards obtained about $22.

Very few wormy apples were noticeable—one grower claims he will pay a dollar a worm for any found in his fruit. The leaf roller has been rather troublesome here and there, but there will be a good, vigorous campaign waged against him next winter with the crude oil spray.

Bark-Paring for Pear Blight

To the Editor: I send a branch from a pear tree. I am anxious to know if it is pear blight.—J. S., Colfax.

[Answer by Prof. W. T. Horne, University of California.]

This is a genuine case of pear blight. There are some small beads of exuded material on the twig and when these beads were placed in a drop of water they diffuse and show great masses of bacteria under the microscope. Blighted twigs should be cut out carefully as fast as they appear and the blighted areas of the limbs should be dealt with. The old method of treating blighted limbs was to either entirely remove the affected limb or to cut away all of the affected bark and some of the good bark adjacent, since the blight travels somewhat beyond the point where it is recognized. Disinfect the tools and cuts with a solution of corrosive sublimate, one to one thousand parts in water. A more recent method for dealing with the blighted limbs cuts away the outer bark, but the inner bark is left. This treatment is said to check the progress of the blight and often succeeds in keeping alive enough inner bark so that the limb in question may be saved and not completely girdled.

Do Not Recognize the Worm

To the Editor: What can I do with my young apple trees, on whose body and limbs brown spots appear? These afterwards break and upon investigation I find a little wood worm, from one-fourth to one-half inch long, burrowing under the bark, even into the wood. I find also some four-year-old prune trees whose bark becomes rough and breaks, and I find a dust under the outer bark, and a new growth forming underneath. The trees seem vigorous and all right otherwise.—J. C. Mayberry, Los Molinos.

You had better cut out and send a section of the infested wood to the University of California, Department of Entomology. We know of no worm such as you describe common to your district. The flat-headed apple borer is not usually found far from the base of the tree—certainly not in the limbs, unless they are very badly exposed. You might knock off the rough bark and give the bodies of the trees a good dressing of Bordeaux paste.

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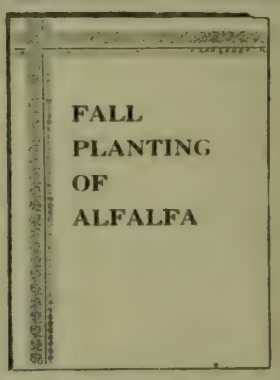

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Table Grapes at Lodi.

Probably not over 2500 cars of table grapes will go out from the Lodi district this year—about 70 per cent of last year's output. Shipping will start about the 20th to 25th of the month. Drought has been hard on the vines in some sections and the vine hopper is apparent in many vineyards, their ravages laying the vines open to such an extent as to affect the yield. Forty dollars has been offered for Tokays unpacked. Several thousand tons of wine grapes have been contracted for in the above district at $20, $25 and $30 a ton. Others are contracted for subject to legislation. We noticed one crop of Tokays and Cornichons that has been sold entirely to the winery and the reason was apparent. Another vineyard of Tokays and Muscats was receiving a good irrigation (August 10). We noticed some cracked grapes here, but as the second crop was double in amount to first crop, the irrigation will doubtless help to mature this without damage to the fruit, unless mildew supervenes. The almond crop in the Lodi section will probably reach 65 per cent of a crop.

Red Spider Ravages Almonds.

Almond trees have suffered considerably, first by reason of the dry year but especially through the ravages of the red spider. It is noticeable from the roads as one passes along, many trees being almost bare of foliage. Being the worst sufferer from the action of mites, the almond should be watched each year and sprayed with some form of sulphur or dusted. This must be regarded as part of the year's work each year and the trees watched about the end of May and then treated promptly. It is no use waiting until half the leaves are grey and then expecting the function of those leaves to be restored to their pristine vigor. It is as important to look after this work as it is to supply oil to your crank bearings. A number of orchards will have to be pruned for new wood this year to take the place of that devitalized by drought and mite and on which there are now a number of stick-tights. In pruning back, the cuts will be made to good live wood—not merely to where it shows "signs of life."

Red Spider Attacks Prunes.

To the Editor: I have some 3000 or 4000 young Sugar and French prune trees which the red spider is working very hard on. Would lime-sulphur spray, 50 to 1, burn the young trees?—W. L. B., Morgan Hill.

We noticed quite a little mite injury in your section when we were through the valley last week. If you use lime-sulphur on them now, you can use as much as 40 to 1 without burning the young trees; or you can use a dust of one-half sulphur and one-half hydrated lime if you do not want to spray. It is a good plan to watch for these mites each year before the damage has been done, say the latter part of May in your section, and use your dry or atomic sulphur then, as leaf tissue once destroyed cannot be rebuilt in the same leaf. Spray thoroughly next winter with lime-sulphur.

Lye in the Prune Dipper.

The amount of lye used in dipping prunes varies. About 1 pound to 20 gallons of water is the usual solution, but prunes have to be watched to see the amount is not overdone, too much lye being injurious by toughening the skin, and all concentrated lye is not always of equal strength. The function of the boiling lye is to remove the water-proof coating (bloom) so that it may cure more rapidly and evenly. This process is considerably shortened and, it is thought, more weight retained in the cured fruit if they are dipped or sprayed with clean water after coming out of the dip and before going onto the trays.

How Cut Fruit Gets Moldy.

Clean trays are very essential in drying apricots and peaches for quality. Mold quickly gets from dirty trays onto cut fruit. Pine is preferred because redwood is likely to stain the fruit.

Good Crops and Prices.

Sonoma and Napa counties have bumper crops of grapes, and we hear of wonderful prices having been offered, though little business has yet been done.

Interstate Quarantine Conference

[Written for Pacific Rural Press.]

G. H. Hecke, our State Horticultural Commissioner, is proceeding with his customary energy and devotion to California fruit industries to the realization of his plan for an interstate quarantine conference, which will be held in Riverside, November 11 to 16.

Under the present arrangement each State has its own particular set of ordinances, each drafted in particular regard to its own needs and without consideration of its relation to the others, leaving its neighbors to practically work out their own salvation. It has long been Mr. Hecke's desire to bring about a better understanding among the Western and Pacific States in regard to quarantine problems of mutual interest. Correspondence has proven entirely inadequate, as there still persists an element of conservatism.

After a long study of the question, Mr. Hecke concluded that the first move was to bring together the officials directly concerned in this work in the various States and effect a permanent organization of the different States whose interests are directly involved. He presented his plans to the officials of all of the Rocky Mountain and Pacific States, eleven in all, and they have all signified their desire to be represented. In addition to these the Federal Horticultural Board, Canada, Hawaii, Florida and Lower California have declared their interest and desire to send delegates.

It will be the week after the next State convention of fruit growers and farmers and therefore all will have opportunity to join with our nurserymen and county horticultural commissioners and the delegates from other States in discussion of subjects of mutual interest. It promises to be one of the greatest conventions in the fruit growing interests ever held in the State.

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Pear Growers Association Sold Out

[Written for Pacific Rural Press.]

In an interview with Frank T. Swett, manager of the California Pear Growers' Association, he stated that association members in Contra Costa county have received 11c for their dried pears. The association this year did not undertake the selling of all the dried pears of its members owing to the fact that the organization did not complete its plans till the 1st of July. Next year it is probable that it will perfect plans for marketing all the dried pears for its membership.

NEW PLANS FOR COMING SEASON.

Plans are being considered for an association dry-yard, to be financed by the growers of the Sacramento district, whereby all their windfalls and No. 2 pears may be dried, thus insuring a uniform grade of output. This season an unusually large tonnage of windfalls and No. 2s have been used by the canneries, owing to the heavy Eastern shipments, which left the canners short of No. 1 pears.

ONE CAUSE OF SHORTAGE.

The probable loss in one of the shipping districts was, it is estimated, in excess of one ton of wormy pears to the acre, which will aggregate a loss of $210,000 in this district alone. Worms have been exceptionally bad this year, probably partly owing to a divergence from the usual time of applying the arsenical sprays because of the shortage of experienced labor. To avoid this in the future the growers in one section may decide to contribute toward the expense of obtaining an entomological expert for a couple of months to determine the time of the activities of the broods and the psychological moment to swat the bugs. If the association can be the instrument of an educational campaign for the control of codling moth, it is possible that it can save the growers of California a quarter of a million dollars a year, or one hundred times the expense of the entire operation of this association.

MEMBERSHIP OF THE ASSOCIATION.

The association within ten days will have completed most of its deliveries to canners. The membership of the association at present comprises some 250 growers. Out of this number there have been only four growers, so far, whose deliveries have been below standard. These instances have been largely due to the inability of growers to secure sufficient experienced help. In every case the association has made adjustments satisfactory to both the canner and the grower.

REGULATING DISTRIBUTION.

In previous seasons a considerable tonnage of pears has been sent to Los Angeles. This season it has been the policy of the association to discourage shipments to Los Angeles, as the fruit has been needed for the use of the canners in Northern California. This distribution has been of material assistance to the association members in the South by protecting the Southern California markets from being glutted by Northern California pears.

The representative of the Pear Growers' Association, W. C. Howe, will be in Sonoma and Napa counties for the week. A large number of growers who failed to secure the benefits of membership for this season are now signing up for future seasons. From other sections of the State applications for membership are coming in by mail.

Condition of the State's Fruits and Nuts

[Written for Pacific Rural Press.]

The following shows the condition of some of the various California fruit and nut crops on August 1, 1918, and comparisons with 1917 and 1916, as per report compiled by the Bureau of Crop Estimates, U. S. Department of Agriculture, received through the California Field Agents:

The past month has been generally favorable to fruits and nuts, with the exception of oranges and lemons. The June drop continued well into July, affecting the navels particularly. The condition of navels was 56 and Valencias 82, and 65 for all oranges. Conditions are much better in Los Angeles, Orange and Ventura than in other citrus-producing counties.

Products—	1918	1917	1916	Average
Oranges	65	45	90	82
Lemons	86	55	89	83
Apricots	80	70	59	*72
Almonds	70	64	73	*74
Prunes	72	95	67	*78
Olives	70	67	82	*80
Walnuts	83	80	80	*83
Figs	100	94	..	..
Plums	74	84	..	..
Grapes: For wine	93	93	78	..
For raisins	101	98	85	..
For table	92	95	91	..

*Seven-year average

How Fruit Pits Are Used

To the Editor: I saw in your paper a few weeks ago about saving peach and apricot pits for the Government. Now, the report here is that it is pro-German and they are not wanted by our Government. Would you please answer through your paper as to this report?—C. A. C., Potter Valley.

The Prune and Apricot Growers' Association, in their contracts with growers, guarantee their members $31.50 a ton for apricot pits, cash on delivery, and whatever further profit may develop from their operations, which is quite an addition.

The kernels are valuable for the essential oil that is extracted from them, which is used in various chemical and commercial preparations. The meal resulting from crushing and expressing is used in the preparation of macaroons and other confections. The shells are going to the Government. We understand they are burned to a charcoal, which is used in the gas masks in a preparation through which the air is filtered for clarification. Peach pits are burnt for the same purpose, and the Peach Growers' Association is gathering them. We cannot understand the saving of these for any useful purpose being pro-German.—Editor.

Hop picking began in the neighborhood of Wheatland early this week.

TANGLEFOOT FOR CANKERWORM

Cankerworms were so destructive to foliage and fruit last year in certain sections that orchardists were compelled to spray them, but not before considerable damage was done. The female moths, being wingless, can be caught by tree tanglefoot as they ascend the trees to deposit their eggs. These bands must be in place by the middle of September and occasionally renewed till spring, as late as the end of April for both species.

The Sacramento Valley Irrigation Co. orchards south of Hamilton City, on the Sacramento river, have a heavy crop of peaches and a good crop of prunes on young trees. The Smyrna fig trees look thrifty, but are not bearing much yet.

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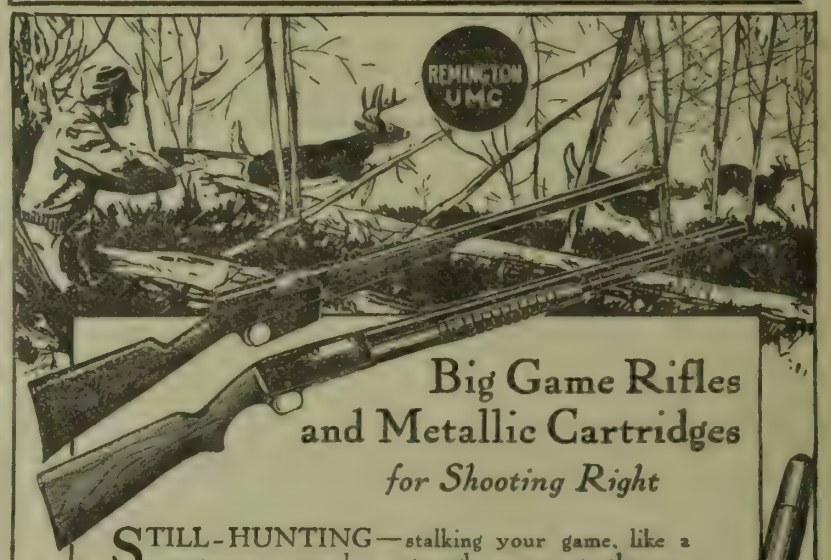

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How Sulphur Acts in Fruit Curing

To the Editor: I desire information on the chemical action of burning sulphur on peaches. Is it the first fumes which bleach the fruit, or is it the action which follows after the sulphur is burned out and all gas and fumes apparently settled? When one enters a bleacher in the morning after the fruit has remained in the closed house all night and every bit of sulphur is burned and trays are cold, there is still a something in the air almost choking. Unless the fruit is overripe or the amount of sulphur excessive, I find the fruit holds its color better and makes the best fruit. Is there anything whatever in the theory that the amount used should be divided and the last half put in after the first half has burned out?—F. G. W., Red Bluff.

[Answer by Professor J. S. Burd.]

When sulphur is burned it is converted to a gas known as sulphur dioxide. This gas is invisible. A very small proportion of it, however, is probably converted into sulphur trioxide, which absorbs moisture from the air, forming sulphuric acid, which is visible, even when present in minute quantities. Presumably the bleaching of the fruit is not due to this visible material but to the invisible material, which, on coming in contact with the fruit, oxidizes. This oxidation of sulphur dioxide and the concurrent reduction of certain constituents of the fruit causes the latter to change its appearance in the characteristic way observed in sulphur fumigation.

In fumigating dried fruits the practice varies as to the length of time the fruit is kept in contact with the gas, depending principally upon the kind of fruit and the preference or experience of the person applying it. Most fruits are sulphured for about three hours. In order to save time, however, I believe that many fumigators put a batch of fruit into the sulphur house the last thing before stopping work for the day and allow it to remain over night. With the same amount of sulphur burned, this treatment is of course more rigorous because of the greater length of time during which the fruit is exposed. Doubtless any fruit kept under this condition would be bleached to a greater extent than that bleached for a more limited time with the same amount of sulphur. However, some growers probably do not use as much sulphur when bleaching the fruit in the house over night as they would if they were going to leave it only for three hours. Whether or not the same bleaching effect would be produced would then depend upon two factors—one, the greater length of time to which the fruit was exposed, and the lesser concentration. Under these circumstances the bleaching effect might be the same.

With reference to the specific questions asked by your correspondent, I would state that the first fumes of the burning sulphur do bleach the fruit, but the action is progressive and is a function of the entire time during which the fruit is exposed. I do not see any reason for dividing the treatment except that for leaky sulphur houses the concentration might fall so rapidly that an additional treatment would be necessary.

University of California, Berkeley.

Where Deep Plowing is Folly

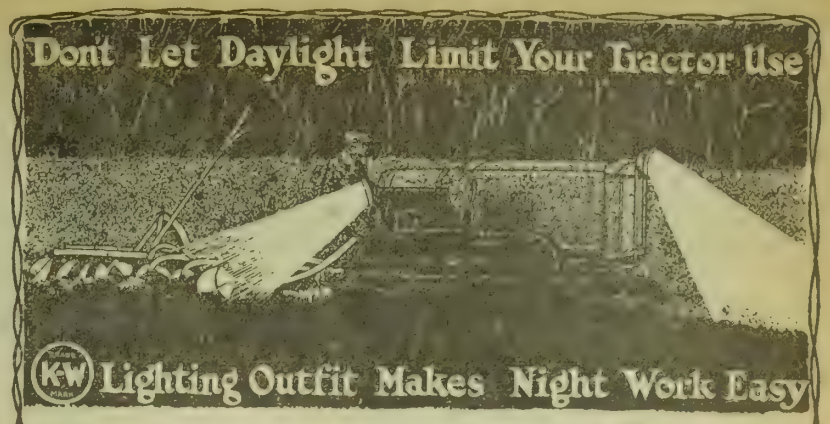
[Written for Pacific Rural Press.]

Two reasons make deep plowing for grain objectionable in the adobe hills of Alameda county, as stated by T. D. Carneal, whose ranch covers 2000 acres there. One reason is that deep plowing turns up the mustard seed that have fallen into cracks and cannot grow until turned up nearer the surface. Mr. Carneal bought a five-bottom heavy disk plow a few years ago and turned over 40 or 50 acres pretty deep, using a tractor. He wants to sell the plow now, because the next year nothing but mustard could be seen, and it grew so coarse that it would not go through the draper. There is a way of avoiding this, as practiced by Mr. Mitchell, a neighbor of Mr. Carneal. He mowed the mustard and grain when it was a foot tall. The grain recovered vigorously and the mustard branched out with fine laterals, which did not hinder in harvesting.

But two inches of tilth are enough here. More is worse, because it is so hard to compact the under soil after plowing, even with a corrugated roller, which Mr. Carneal says is one of the greatest implements on a ranch. If the under soil is not compacted, it dries out and the roots cannot grow there. The only practicable way is to fine the stubble surface well with a disk harrow, without plowing. This gives wheat and barley plants a good start and mulches the soil against evaporation. The grain roots eat their way readily through moderately moist adobe, such as prevails here under such treatment in all years when the winter moisture goes deep enough to meet the moisture from below. If there is a dry layer between, look out for a short crop. It must be admitted that less of the winter rains can be retained than if the land were plowed deep; but that this is a minor consideration is shown by this year's almost full crop of grain hay on the Carneal ranch.

PUMP SAVED PRUNE TREES.

"I irrigate in the fall and save my trees for the next crop," says W. J. Percy, prune grower of southern Santa Clara county. Four acres of Mr. Percy's French and Imperial prunes have averaged $347.70 per acre for four years. He irrigates late in September or early in October and in dry years again in December and February. It was during the dry years of 1912 and 1913 that Mr. Percy saw that a centrifugal pumping plant for his five-acre place would cost less than he might lose without it. He put in a well 134 feet deep in which water usually stands 16 feet below the surface. He threw up high checks and pumped about six inches of water into them late in October. That wet about two feet deep, as he found by digging, so he left the checks and irrigated again about February 1. In March he filled the checks again, so about 18 inches of water had been applied. The loss of water by evaporation after such flood irrigations was figured at about 30 per cent, so since that time Mr. Percy has irrigated by six to eight furrows per center.



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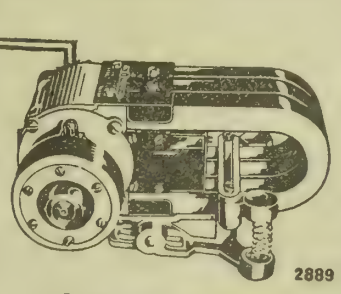

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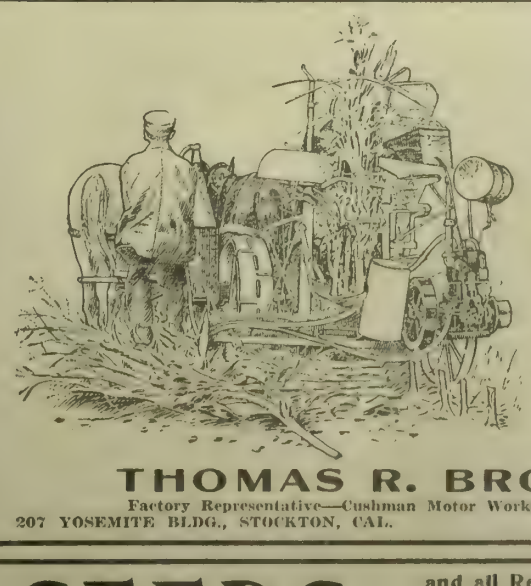

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California Grain Growers Organized

Written for Pacific Rural Press

The California Grain Growers' Association formed a temporary organization in the Senate Chamber at Sacramento, August 8, 1918, and will meet again during the State Fair to act upon the report of the "Committee on Permanent Organization" and other committees. Delegates were present representing Tehama and Imperial counties and all the grain districts between those extremes. Dr. W. H. Walker of Willows, much experienced in organization matters, was elected temporary chairman. E. A. Brim of Williams acted as secretary. There was warm discussion of problems confronting grain growers, and of the necessity of an organization to get fair prices to producers for this year's crop and all the crops to come, especially in view of the miles of wheat stored in Australia awaiting the boats which will carry it at the end of the war. No resolutions were adopted, however, pending the reports of several committees, to be made, if possible, at the next meeting. These committees are as follows:

PERMANENT ORGANIZATION.

Committee on Permanent Organization: L. Tarkey of Sutter county, J. H. Harlan of Yolo county, E. Lindstrom of Glenn county, Martin Kuster of Yuba county, E. L. Sisson of Tehama county, R. S. Seydel of Placer county, J. L. Davis of Madera county, G. H. Winton of Merced county, R. G. Hill of Imperial county, and Aubrey Collier of Solano county. This committee decided to meet in Market Director Weinstock's office, August 22, after conferring with all the growers possible in their own counties. There they will agree on a form of organization to take back to their home counties for further criticism. They will meet again just preceding the general grain growers' meeting at the State Fair and revise their plans into one which will be reported to the delegates. If found satisfactory, a campaign will at once be inaugurated to get every grain grower to co-operate in producing results for the good of all. Col. Weinstock has placed the records and facilities and legal talent of his office at the committee's disposal.

MARKETING THE PRESENT CROP.

A Committee on Storage and Distribution of the present crop was appointed, as follows: C. A. Kilkenny of Solano county, Andrew Kaiser of Glenn, C. C. Cook of San Joaquin, W. E. Dengley and J. Poundstone of Colusa. This committee's job will be to devise ways of getting a right price for this year's crop and of financing growers who want to store and hold their grain until the bulk of the crop is marketed. Mr. Kilkenny says we may take off our hats to the committee if it succeeds. Part of its duty will be to present recommendations regarding the bulk handling of grain, as already practiced at six or eight points with marked success. It was noted that the Food Administration Grain Corporation, which blocked the movement for bulk handling of this crop, will not oppose it any more.

STANDARDIZATION LAWS NEEDED.

A Committee on Legislation has what Dr. Walker deems one of the most urgent duties to perform—that is to formulate suitable laws providing for State standardization, grading, and certification of grain, as now practiced in Iowa, Illinois, Wisconsin, Minnesota, the Dakotas, and others. Additional legislation in the interests of grain growers may be proposed. The committee is composed of George Carr of Yuba county, George Sawyer of Stanislaus, and J. L. Mendenhall of Colusa.

NEXT YEAR'S PRODUCTION.

The ever-present and pressing need for increased production next year, as urged by the Government, is to be pushed by a Committee on Increased Production representing each grain-growing county. Not all have been appointed, but the following were named: C. T. Day, Arthur Kech, W. D. Cardwell, A. Hagemann, W. W. Foster, R. M. Filcher, B. D. Irvine, Carson C. Cook, S. L. Heisinger, Frank Bennett, E. L. Sisson, O. L. Raper, F. A. Edinger, and O. E. Lambert. State Leader of Farm Advisers B. H. Crocheron pointed out that the Government asked for 80,000 acres of wheat in California in 1917-18 and that California "went over the top." The Government now asks 45,000 additional acres for the next crop.

SEND IN YOUR SUGGESTIONS.

All the committees ask grain growers to submit suggestions promptly so the organization may fit California conditions in the most universal way. Mr. Sisson pointed out the need of organization by saying that grain buyers are out using every conceivable device to induce growers to accept prices which the latter deem ruinous. Some are telling growers that all restrictions as to substitutes for wheat are to be removed, that the crop is a whopper, and other common arguments?

INVITED TO SEE ELEVATOR.

Grain growers in general are invited to inspect Andrew Kaiser's grain elevators a few miles south of Hamilton City and northeast of Willows on August 20, when Mr. Kaiser will show how grain is handled in bulk, paying the extra costs by the saving in labor, sacks, etc., the first year.

Bean Straw for the Silo

To the Editor: We do not have, and are unable to obtain, as much information concerning the making of silage from bean straw as we would like to have. We have sought information on this subject from various experiment stations scattered over the United States, as well as the agricultural colleges. In a State like yours, where there is so much of this waste product, there must be a few isolated cases, at least amongst the growers of beans, where this idea has been pretty thoroughly tried out. Can you give us any information on the subject or the names and addresses of a few farmers who may have knowledge of who have tried this out. We will greatly appreciate it if you will give us any information you have on this subject or put us in touch with anyone who can give us reliable information about it.—Subscriber, Oregon.

[Answered by Professor F. W. Woll.]

The writer does not know of anybody who has made bean-straw silage. In bean-growing sections of our own and other States this by-product accumulates in large quantities and is generally utilized for feeding stock, especially cattle and sheep. As it is quite dry at the time of harvest and, as a rule, contains no more moisture than ordinary hay or cereal straw, it can be readily stored until wanted for stock feeding. This fact renders it rather unnecessary to make silage of the straw, and there would be two other objections to this method of preparing the straw for stock feeding, viz.: the inconvenience and difficulty of adding sufficient water as filled into the silo to insure correct silage fermentations, and the rather strong odor of the resulting silage, since bean straw is relatively high in protein, like other leguminous plants or plant materials. I cannot, therefore, see any advantage of making silage out of it. If there is any difficulty in getting the straw sufficiently dry to keep it from molding, the silo offers a method of utilizing it for stock feeding. The quality of the silage would be improved by mixing the straw with green sorghum or corn, and this method would also render it unnecessary to add much water, if any, in the filling of the silo.

Bean straw from different varieties varies considerably in its content of valuable feeding materials, as will be seen from the analyses of "California Beans and Their By-Products" as published in Bulletin No. 294 of this College of Agriculture—"Bean Culture in California," by G. W. Hendry. Most of them furnish at least one-half as much feed, ton per ton, as the average grade of alfalfa hay, and in these times of scarcity of feeds and high feed prices every ton should be utilized for stock feeding. This holds true with cereal straws as well.

Potato Markets May Be Closed to California

To the Editor: Recently some eight or nine carloads of California potatoes have been condemned in Seattle alone for tuber moth infestation and have been ordered returned to shippers. In Portland a carload of potatoes was found infested recently and steam was turned into the car and the whole lot cooked. Seattle papers advertise these facts and claim that half our California potatoes are infested with the moth. This means a great loss to potato growers and shippers and to the good name of the State. As you mentioned in a recent issue of the Pacific Rural Press, Washington finds it necessary to send an inspector to California to inspect shipments of potatoes bound for his State to prevent the shipment of infested stock. If for no other reason than State pride, California should see that no potatoes are shipped to Oregon and Washington that are infested with tuber moth. The tuber moth can be controlled here and inspection should be so rigid that our neighboring States should have no fear of such an important food product as the potato. California needs this northern market and these States need our potatoes, and some action should be taken to prevent this annual recurrence of losses to those engaged in this industry. Idaho now has a strict quarantine on California potatoes and Oregon and Washington markets also may soon be entirely cut off unless some steps are taken to prevent the shipment of infested potatoes.

Another pest now threatens the potato industry of our State. The Colorado potato beetle has been in Oregon for several years and is spreading in that State. The Colorado potato beetle bears the same relation to the potato industry that the codling moth bears to the apple industry. If this beetle is permitted to enter the State, it means that potato growers will be obliged to continually spray the vines to prevent the ravages of this insect. At present the California potato growers, except in a very small portion of the State, do not find it necessary to spray for foliage troubles.

The potato industry of the State is an exceedingly important one and it has not received its share of attention from the agricultural interests of the State. Our present inspection law deals only with seed potatoes and this places the whole burden of expense upon the grower, which, in the present stage of the industry, is too great for him to bear. This law should be amended to cover other phases of potato production and distribution, and should also be sufficiently comprehensive to include other important vegetable crops as well, with a sufficient appropriation to make it possible to do real constructive work for the vegetable industry.—W. V. Shear, Fairport, Modoc county.

FARMERS AND THE FOURTH LIBERTY LOAN.

To the Editor: From all indications the fourth Liberty Loan, which comes on in October, is going to be a whale. It does not require any argument to show you that the farmers will have to absorb a large part of this loan. They did splendid service in the last loan, but that was only a beginning.

The point I am trying to make is that it will be necessary for the people of agriculture to dig deeper than they have ever dug before. The participation in the fourth Liberty Loan by the farmers is largely up to you. Harvest time is at hand and it is needful for the farmer to convert his crops into cash. It is also needful that he should be told by someone in whom he has confidence that he must lay aside part of his money to be used in buying Liberty Bonds. Just at this time it is not wise to buy additional farm lands, build new houses or do anything that might in any way interfere with the success of the fourth Liberty Bond issue and the winning of the war. May I, therefore, ask you to ring the changes loud and strong on the necessity of the farmer saving a large part of his income this time for Liberty Bond investments in October?

The failure of $2.40 wheat, the lack of labor with which to plant and harvest, and the inequalities under which the farmer labors are all worthy of consideration, but regardless of these or anything else the bond issue must be sold, and saving of what money is possible for Liberty Bonds is immediately urged.—D. O. Lively, Director Agricultural Division, Twelfth District, San Francisco, July 17.

Prices to govern the sale of flour and milling products were given out by the U. S. Food Administration this week. These prices will be in effect through the crop year of 1918-1919 and are made on the base price at seaboard points. Jobber's prices must be not more than 25c to 50c a barrel above delivery cost and retailer's prices not over $1.20 a barrel more than his cost price.

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Write us today fully outlining your local conditions and requirements. Give your acreage under cultivation and to be cleared, crops, per cent of grades encountered on the farm and road, belt work, etc. We will gladly give you the benefit of our experience in advising you without obligation.

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Yours truly,

H. R. BALL."

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D4E

General Agricultural Review

Field Crops.

A yield of a bale of cotton to the acre on the 1500-acre tract planted by the Dodge Land Company in Butte county is expected.

Orange county has the biggest bean acreage in its history. By the end of August the bean harvest will be going at top speed.

The $2,000,000 factory of the Spreckels Sugar Company at Manteca has begun operations on a large supply of new beets.

The first sweet potatoes exported this season brought 5c a pound, and it is expected that this will be the season's ruling quotation.

They are now harvesting their grain on the Mendocino coast, and much of the late-sown wheat yet to be harvested is as green as spring time.

Organization of the State-wide alfalfa association is progressing favorably. Alfalfa acreage in the State so far signed up totals between 18,000 and 20,000.

It is reported that California hop growers will demand elimination of tobacco fields should Congress pass legislation detrimental to the hop-growing interests.

Alfalfa silage spoiled far back from the doors because they were not properly tightened on the J. B. Cooper ranch in Monterey county, but the rest of it made fine feed.

The factory of the Sacramento Valley Sugar Company at Hamilton City anticipates that the sugar production at the mill will be probably twice that of last season, when 59,546 bags of sugar were turned out.

Rice growers of the Sacramento Valley are preparing for an offensive against ducks, which swarm into the fields and damage the crop. This movement is being taken in spite of the protests of the State Fish and Game Commission that the killing of ducks out of season for crop protection is illegal.

The success of the bulk handling of grain in elevators is shown by Andrew Kaiser of Hamilton City, who says he is now saving the labor of 18 men in operating three harvesting outfits. Four of the six big bins, each holding a million pounds of grain, have been filled with only one man in attendance to operate the weighing, cleaning and operating machinery.

A special reporter states that onion prospects fell off considerably during the past month. Bulbs are small to medium size. A few large shipments are beginning to move. An average yield of 200 sacks of 100 pounds each per acre is expected. Some field 300 sacks. Growers are receiving $1.80 to $2 per sack on river bank. Indications are they will hold for higher prices this year.

Deciduous Fruits.

California has sent to her soldiers in France $23,000,000 worth of dried and canned fruits in the three weeks' period ended August 8.

Fruit growers of Sutter county complain that they are likely to suffer considerable loss as a result of the inadequate supply of boxes in which to ship their fruit this season.

The first commercial shipment of peaches from Patterson were made last week, four cars going to canneries. It is estimated there will be 1000 tons harvested in the next two weeks.

Of 44,573 packages of pear and plum shipments out of West Sacramento during July, only 66 packages were condemned. At Winters for the same month, of 7600 packages inspected at that point, 367 were condemned.

The prune crop of Anderson Valley will amount to 1500 or 1700 tons, according to reliable estimates. Most of the crop has been sold on an 8c or 8½c basis. The harvest will open on August 20 for Robe de Sargents and about September 1 for French varieties.

H. A. Hyde of Watsonville says that apricots will be planted largely this year in his section, chiefly Blenheims and Royals. Pear trees come next in demand, the varieties asked for being Bartletts, Beurre Clairgeau and Winter Nellis respectively. Comparatively few prunes will be set out in this section.

Ruehl-Wheeler report a large demand for French prunes on Myrobolan stock, with considerable demand for French on almond. The demand for Bartletts on Japan stock is good, but very few peaches asked for and those are chiefly Tuscans. In almonds the Nonpareil seems to be the favorite, coupled with a demand for some Drake's seedlings for pollenization.

Leonard Coates is prepared for a large demand for prunes—especially French on Myrobolan—with apricots a close second. There is also a good demand for Bartlett pears on the Japanese root. In almonds there is a demand for Nonpareil and in a certain section for I X L and selected seedlings of the I X L type. They are being planted extensively on the Balfour-Guthrie ranch.

A special report of the U. S. Bureau of Crop Estimates places the condition of the commercial apple crop at 76 for California and 63.8 for the United States, indicating a production of 3,252,000 boxes and 24,385,000 barrels respectively. Peaches are given a condition of 75, indicating a production of 11,663,000 bushels, and, in the United States, a condition of 53.4, forecasting a production of 20,912,000 bushels.

Citrus and Semi-Tropical.

Shipping approximately 1200 cars for the year to August 1, the Orange County Exchange received the sum of $2,260,000 for that period. This is more than the entire year's receipts during an ordinary season. L. D. Palmer of the exchange estimates that the entire season's receipts this year will reach $4,000,000 and that independent growers will receive at least $1,000,000 more.

Although there has been considerable uncertainty on the part of the growers and shippers of the citrus fruits as to the use of the "bulge pack" this season, which has caused some delay in the manufacture of boxes, notice has been received from the U. S. Department of Agriculture at Washington that no ruling prohibiting the "bulge pack" has been passed nor is there any likelihood of such being passed this season, says the bureau.

Grapes.

Fruit growers around Lodi have agreed that grapes shipped from that point in lug boxes shall comply with the State fruit standardization law as to sugar content. Emperors, Gros-Colemans and Cornichons must contain 16 per cent sugar for shipping. Other grapes must show 17 per cent of sugar.

Miscellaneous.

The Government would like employers to seek their labor through Government or co-operating employment offices. This will avoid criss-cross travel of workers, which is not economical of either time or railway facilities.

An immense dam is to be built in the Little Rock Canyon, Southern California, which will impound sufficient water to supply two acre-feet of water for each of the 4500 acres around Palmdale and 2500 acres in the Little Rock section.

With the exception of a small amount used in the manufacture of phosphorus, practically all phosphate rock produced in this country is now being used for agricultural purposes, Secretary Houston reported to the United States Senate this week.

It is reported that the bees in the southern San Joaquin Valley are storing up but little alfalfa honey this season despite a fine crop of blossoms. There appears no evidence of disease and as far as investigation has been made no cause for the condition has been discovered.

The Woman's Land Army is operating in conjunction with the State Housing and Industrial Commissions to safeguard the women workers in every way. The organization has already placed 100 women on California fruit ranches and farms this season and is out to find 200 more women workers from San Francisco and other cities.

Loss of 171,000,000 bushels of corn and 13,000,000 bushels of wheat from the prospective production of this year's important food crop, as indicated a month ago, was shown in the Department of Agriculture's crop report resulting from a canvass made August 1. Despite this adverse report, however, corn and wheat will be bumper crops this year.

The Glenn County Farm Bureau's principal new activities, according to Farm Adviser W. H. Heileman, are the completion of separate departments for the sheep, bee, and poultry industries, a survey of the grain yield of the county through reports from threshermen, and organization of a boost for greater grain production next year. A map of the county is being blocked off to indicate sections that could undertake increased grain acreage.

NEVADA NOTES.

Truckee Meadows, Nevada, is having one of the most prosperous years in the history of the State. The biggest wheat crop ever raised is being harvested at this writing. No trouble is experienced getting help to handle the crop.

The second cutting of alfalfa is ready to cut and promises a big yield. The first cutting was also large, a lot of it making as high as four tons to the acre. Most of the May raised is stacked and fed to beef cattle in the winter time. A great deal of wild timothy or meadow hay is put up here, too. Twenty dollars per ton is being paid in the stack this summer for both alfalfa and meadow hay this year. This is the highest price ever paid in this locality. Twenty-five dollars is paid for baled hay.

The spud crop is looking fine now, and though the acreage is not as large as last year the yield per acre will be a great deal heavier. Three and a quarter cents per pound is being paid.

Truckee Meadows is one of the few places in the State where there is plenty of water for irrigation. This is due to the fact that the canal system heads in Lake Tahoe. The older settlers get their water for the very cheap rate of 75c per miner's inch per season. Those who have moved into the district within the last couple of years pay $6 for the same amount.

Feed is very scarce in the mountain ranges, as is also the water. Streams that have never been known

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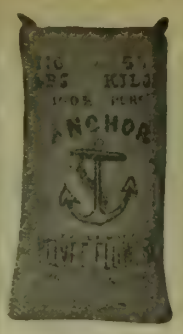

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California GARDEN-FLOWERS

SHRUBS, TREES AND VINES

By Edward J. Wickson

Hon. President California State Floral Society

This book aims to tell the beginner in California, whether he be a scholar struggling with his school-garden, or a suburbanite gazing vacantly on his residence lot, or the farm-home maker, who is puzzled to translate his experience with teams, plows and pasture fields into trowels, pruning-shears and lawns, just what to do to make garden-soils, grow plants and surround his abode with beauty under the peculiar climatic conditions of California.

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The World Needs California's Fruits

Uncle Sam says, "Produce," and it's up to the fruit growers of California to make every acre of land produce to the limit. Cull out your poor trees and replant with Elmer Bros.' stock—the kind that produces. If you've bare land available—put it into trees this year. You'll help meet the world's needs—and you'll make big profits, besides! SEND FOR A COPY OF OUR NEW PRICE LIST, WHICH WILL SOON BE READY.

ELMER BROS.' NURSERY

(The Nursery That Helped to Make Santa Clara Valley Famous)

76 So. Market St., San Jose, California

to run dry haven't a drop this year. A small acreage of barley and oats has been tried out this year and in most places has produced a large yield. Wheat is the largest grain crop here and nearly always yields good crops.

The furrow system of irrigation is almost entirely used in irrigations. This is largely due to the rolling nature of the land. This system requires a more frequent irrigation; most land requires water every ten days.

A WORD OF APPRECIATION.

We are pleased to note that the Pacific Rural Press has recently established a department to specialize on horticulture with Mr. John Fox as horticultural editor. Mr. Fox as Horticultural Commissioner of Napa during a number of years past has certainly demonstrated an ability to appreciate and truly assist growers with their cultural problems and as he plans to personally take up problems as they are presented, the results of his work should be of great value to all growers.

The Pacific Rural Press, as edited by Prof. E. J. Wickson, has developed into a most useful and valuable farm paper. We should all appreciate the present great difficulty of maintaining publications and support good farm papers, for, properly handled, they can become of inestimable value to us.—H. C. Dunlap in Sunsweet Standard.

The 1918 Napa County Fair dates have been postponed from August 23, 24 and 25 to October 10, 11 and 12. This change the management thought advisable, in view of the fact that the farmers in Napa county are at present busy in the handling of the crops, while in October the crops will have been harvested. The other reason is that at present the roads leading to Napa county are not in first-class condition, as in several places construction work is under way. By October 1 the highway from Vallejo, from Cordelia and from Sonoma county will all be in first-class condition. People can then come and see the products of the Napa Valley, traveling by machine, and enjoy the ride. The county fair this year promises to be the best that has ever been undertaken. The fair will again be held at the East Napa Pavilion.

FIELD CROP PRODUCTION AND CONDITION.

The following table shows the condition and production figures for the principal field crops of California, as per crop report of August 1, 1918, prepared by the California Field Agents of the Bureau of Crop Estimates, U. S. Department of Agriculture:

Crop—	1918 Condition	1918 Production	1917 Condition	1917 Production
Corn (bu.)	88	2,675,000	92	2,400,000
Winter wheat (bu.)	85	6,240,000	94	7,425,000
Oats (bu.)	81	5,839,000	90	6,860,000
Barley (bu.)	78	34,220,000	93	39,150,000
Potatoes, Irish (bu.)	79	11,020,000	87	15,225,000
Potatoes, sweet (bu.)	94	959,000	93	1,002,000
Rice (bu.)	91	6,388,000	95	5,600,000
Hay (tons)	81	4,147,000	92	4,819,000

MAXIMUM FLOUR AND MILL FEED PRICES.

Schedules of maximum prices, as shown on attached list, for flour and mill feeds at the various mills in this zone of the cereal division of the Food Administration, comprising California, Nevada and Arizona.

The prices are for carload lots at the mill door, on a bulk basis, and for cash. To this price must be added cost of bags, freight from the mill to point of consumption and the legitimate margin of profit allowed jobbers and retailers in distribution. As most of the large mills in this zone are located on the Coast, at San Francisco and Los Angeles, the maximums allowed many of the smaller interior flour mills are above the basis of the reflection of the Government wheat price paid at Los Angeles and San Francisco. As mills are now conducting their business on a competitive basis, competition may adjust prices below maximums.

STATES	Flour	Bran	Mixed Feed	Shorts, Middlings, Red Dog
California—				
Adin	$ 9.82	$33.55	$34.80	$35.55
Alturas	9.82	33.55	34.80	35.55
Bakersfield	10.22	28.31	29.56	30.31
Bishop	10.14	30.51	31.76	32.51
Cedarville	9.82	33.55	34.80	35.55
Chico	10.03	27.25	28.50	29.25
Colton	10.25	27.31	28.56	29.31
Colusa	10.00	28.15	29.40	30.15
Cottonwood	10.24	27.65	28.90	29.65
Dixon	10.09	25.65	26.90	27.65
Dorris	9.14	29.85	31.10	31.85
Durham	10.04	27.15	28.40	29.15
Encinitas	10.27	26.81	28.06	28.81
Etna Mills	9.37	28.45	29.70	30.45
Fall River Mills	9.95	29.55	30.80	31.55
Fort Jones	9.93	30.35	31.60	32.35
Fresno	10.26	27.15	28.40	29.15
Glenburn	9.95	29.55	30.80	31.55
Hanford	10.25	27.45	28.70	29.45
Kelseyville	10.00	28.15	29.40	30.15
Lake City	9.82	33.55	34.80	35.55
Livermore	10.10	25.15	26.40	27.15
Long Beach	10.32	25.31	26.56	27.31
Los Angeles	10.25	27.45	28.70	29.45
Middleton	10.07	26.05	27.30	28.05
Montague	9.33	28.55	29.80	30.55
Oakdale	10.08	25.85	27.10	27.85
Oakland	10.13	24.35	25.60	26.35
Olive	10.30	25.91	27.16	27.91
Orland	10.03	27.25	28.50	29.25
Palm City	10.20	28.65	29.90	30.65
Pasadena	10.31	25.61	26.86	27.61
Petaluma	10.11	25.05	26.30	27.05
Perkins	10.08	25.95	27.20	27.95
Pomona	10.27	26.61	27.86	28.61
Red Bluff	10.03	27.45	28.70	29.45
Riverside	10.25	27.31	28.56	29.31
Round Valley	10.14	30.51	31.76	32.51
Sacramento	10.09	25.65	26.90	27.65
San Diego	10.27	26.81	28.06	28.81
San Fernando	10.31	25.61	26.86	27.61
San Francisco	10.15	23.75	25.00	25.75
San Jose	10.33	25.05	26.30	27.05
San Miguel	10.24	27.55	28.80	29.55
Santa Rosa	10.09	25.65	26.90	27.65
Selma	10.25	27.35	28.60	29.35
Soquel	10.26	27.05	28.30	29.05
South Vallejo	10.12	24.65	25.90	26.65
Stockton	10.10	25.15	26.40	27.15
Susanville	9.84	32.85	34.10	34.85
Ukiah	9.99	28.45	29.70	30.45
Williams	10.06	26.55	27.80	28.55
Woodland	10.09	25.65	26.90	27.65
Yuba City	10.05	26.65	27.90	28.65
Nevada—				
Elko	8.52	39.32	40.57	41.32
Fallon	9.02	24.62	25.87	26.62
Lamoille	8.52	39.32	40.57	41.32
Lovelock	9.18	19.92	21.17	21.92
Mesquite	8.52	39.32	40.57	41.32
Nordyke	8.57	37.85	39.10	39.85
Paradise Valley	9.13	21.39	22.64	23.39
Reno	9.23	18.45	19.70	20.45
Arizona—				
Mesa	10.86	36.35	37.60	38.35
Phoenix	10.86	36.35	37.60	38.35
Tempe	10.68	34.55	35.80	36.55
Tucson	10.68	34.55	38.50	36.55

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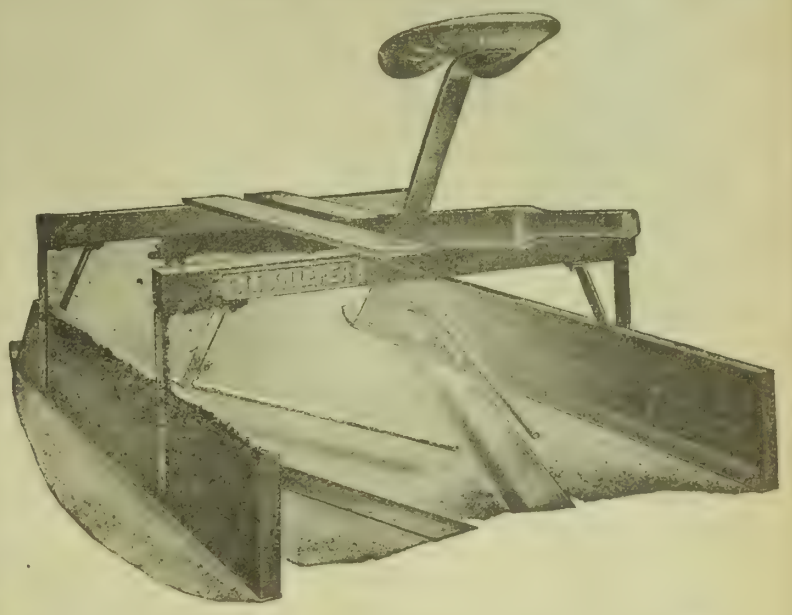

There will be a big demand for Bean Cutters this year and when the time comes they will be needed quickly. Do not delay putting in your order for what you need right away.

We build two weights of sled cutter, the one shown above being our regular wood frame cutter. For heavy ground, where a strong cutter is required, we make a steel arch frame at an additional cost of five dollars. Give your order to your dealer and insist upon having the Killefer kind.

BEAN CUTTER BLADES

You will need extra blades and we can furnish 5/16 x 6 inch x 6 foot blades at $12.00 per pair f. o. b. Los Angeles.

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Beware of imitations,
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It's cheaper to keep your buildings, silos and sheds in good repair—than to build new ones.

The roof is a very important part of the building. Don't neglect it. Select materials that are known for their reliability.

PIONEER Roofing has demonstrated its remarkable wearing qualities time and again—on new work as well as for repairs.

Ask your dealer for Pioneer Roofing and take no other. If he cannot supply you—write us.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

PREPARATIONS FOR LOS ANGELES TRACTOR DEMONSTRATION.

More than forty kinds and types of tractors and as many, if not more, different kinds of farm implements are to be on display and in the demonstration field at the Third Annual Tractor Demonstration to be held at Los Angeles, September 17, 18, 19, 20 and 21. The mammoth meet, which will be held on Whittier boulevard, one-half mile east of Los Angeles city limits, is expected to draw over 150,000 farmers and other people interested in up-to-date farming appliances, according to various Los Angeles dealers. This demonstration will be the largest of its kind ever held in the United States, and farmers from every Western State will attend. Every spectator will be given an opportunity of seeing tractors of all sizes and makes operating under the same and various conditions, so that prospective tractor and implement investors can see at first hand just which type is best suited to one's particular needs.

The entrance of the United States into the great conflict has been a great factor in bringing the importance of the tractor and other modern methods of farming to the fore. It is declared that the tractor is fortifying the allied nations against famine.

According to latest reports, there are now over 100,000 tractors in service on the farms of the United States, but this number will doubtless be doubled during the next twelve months.

The Los Angeles tractor dealers intend to make the third annual demonstration one of the most instructive and interesting exhibitions ever held in the State. In addition to having on display and in the demonstration field scores of successful farming devices, there will be a large number of special entertaining features, which will differ each day. Something of interest will be taking place during every minute of the day and the spectator will be able to see some new features every day of the meet. No admission is to be charged and parking space has been provided for ten thousand automobiles within the demonstration grounds.

WHAT SIZED PULLEY?

People waste a lot of time writing to manufacturers to ask what size pulley to use on a machine run by their own engine. It is of course necessary to use the right pulley to avoid running the machine so fast it might shear bolts and hurt the operators or so slow that it would not do the work.

The pulley on the engine is usually called the "driver," the one on the machine is the "driven." To get the diameter of the driven pulley required, use the following formula:

R. p. m. × diameter of driver = r. p. m. × diameter of driven pulley. For instance: If the engine runs 450 revolutions per minute and its driver is 12 inches in diameter and if the machine must run 900 r. p. m., let X = the unknown diameter of the driven pulley. Then $450 \times 12 = 900 \times X$ or $5400 = 900 \times X$. Divide both sides of the equation by 900 and you have $6 = X$ and the diameter of the driven pulley should be six inches to give the speed required by the machine. Since pulleys come only in diameters of even inches or half inches, if X = a fractional number, the size next smaller must be obtained and the pulley "lagged" to increase its diameter properly. The lagging is material to be wrapped around the pulley and cemented or otherwise fastened in place.

If the flywheel is geared to the engine so its speed is different, the speed of the flywheel can be found by turning the engine over and counting the revolutions of the flywheel, then multiply by the r.p.m. of the engine.

ENGINE CHOPS GRAPE PRUNINGS

Twenty acres of grape-vine prunings were chopped into pieces averaging less than an inch long and were broadcasted over the ground last spring for Paul Minassian of Yettem, Tulare county. The machine is a modified 15-inch Acme silage cutter with specially tempered knives, a big hopper, and a three-horsepower engine, all mounted on one truck. A man would pitch prunings into the hopper as the outfit was driven along. There was no trouble with its feeding except that occasionally it fed too much and had to be reversed to loosen the gorge. The bits of vine up to an inch in diameter dropped from the cutter to a revolving table, which scattered them far and wide. The knives were not sharpened for the entire twenty acres.

TRACTOR PUSHES HARVESTER.

A tractor has been pushing a grain harvester through the wheat in Butte county with perfect success. The tractor had to be remodeled slightly for the purpose by the Chico representative of the F. H. Poss Co. for Avery tractors. The change was designed especially for rice harvesting; and since it has worked so well in grain, six more 8-16 tractors have been delivered to be remodeled for the Dodge Rice and Land Co. to use in their rice harvesting.

GRAIN FIELD-ELEVATORS.

Wooden field bins for bulk grain are springing up in the Willows district of Glenn county, anticipating completion of the co-operative elevator in time for use this season. One of the field bins is a wooden one already in use by Alvin Delko. A four-horsepower auxiliary engine from a rice harvester was attached to the short bucket elevator. In a tryout it elevated 100 sacks of grain into the bin in one and a half hours.

A 12,000-gallon water tank over 30 feet high is often filled three times a day for ranch headquarters use on the Hillcrest Stock Farm at Davis. A Luitweiler pump, run by an electric motor, has given satisfactory service four years.

President J. B. Bartholomew of the Avery Co. wired at the end of the National Tractor Demonstration at Salina, Kansas, August 3, that fourteen Avery outfits on the field at once pulled all kinds of tillage and planting machinery and that a much larger volume of sales was made than at any previous demonstration.

Arrange your work so you can be sure to attend Mammoth 3rd Annual Tractor Demonstration

Whittier Boulevard, One-Half Mile East of Los Angeles City Limits

This is the crucial time when production of food is of paramount importance. Food must be raised on a larger scale than ever before. The United States Government is urging farmers to bend every effort to augment the food supply.

The greatest single factor in increasing food production is the Tractor. Every farmer and rancher in the Southwest should plan now to attend the great tractor demonstration to be held September 17, 18, 19, 20 and 21.

There will be hundreds of interesting features—a galaxy of special events daily that will astonish you. Over 40 kinds and types of tractors will be on display and in actual operation. Many entirely new types of tractors received direct from the factories will be exhibited. Scores of interesting farm implements, as well as motor trucks, automobiles, tires, oils, accessories, etc., will be displayed.

—bring the family along

REMEMBER THE DATES—SEPTEMBER 17, 18, 19, 20 and 21.

NO ADMISSION CHARGES

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Make the War Time Fair The Biggest Ever

UNITED STATES GOVERNMENT FOOD TRAINING CAMP.

Show what you have done. Learn what others have done. We need more Soil Products, Better Livestock. Exhibit your best to help solve the nation's food problem.

THE KEY NOTES OF THE 1918 CALIFORNIA STATE FAIR

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Great Display of Vocational Work by School Pupils. Over 500 prizes, divided between city and rural schools for domestic arts and science, manual training and home gardens. Greatest incentive ever offered to California boys and girls.

BETTER BABY CONFERENCE—LECTURES AND DEMONSTRATIONS EACH DAY.

LARGEST LIVESTOCK SHOW IN THE WEST.

Over $40,000 offered in premiums.

EDUCATION AND AMUSEMENT COMBINED.

Bigger and Better Poultry Show. **Special Pet Stock Show**

Displays of horticulture, agriculture, viticulture, forestry, dairy products, dairy, farm and road machinery, tractors, etc. Daily program of high class amusements. Night Horse Show. Harness and Running Races. A tent city of carnival attractions.

New Agricultural and Horticulture Building. Great Annual Band Contest Open to the Entire State.

BE SURE AND VISIT THE STATE FAIR AND MATHER AVIATION FIELD.

Send for Premium List.

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SACRAMENTO, CALIFORNIA.

Napa County Fair

NAPA, CAL., OCT. 10-11-12

See Napa County at her best. Poultry, livestock, as well as general agricultural products, will be on display. Twenty thousand square feet of exhibits. The roads to Napa are good.

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Red Crown is a straight-distilled, all-refinery gasoline, not a mixture. Its continuous, uniform chain of boiling points make easy starting, quick acceleration power and mileage *sure*.

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meets the requirements of the rancher and is within easy reach of all.
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Sizes 2 to 30H-P.—Select Your Own Terms—Direct-from-Factory prices. Write your own order—Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE—by return mail, Postpaid.
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Write Today 2860
Money Back If not satisfied on my New 90 Day Engine Offer

PUMPING FOR STRAWBERRIES.

To the Editor: I am growing strawberries. At times we get a very dry spell that upsets all calculations as to returns. The land is gravelly and light loam and does not hold moisture long. At a depth of 15 to 20 feet there is an everlasting supply of water. How to best raise this water and distribute it regularly is my problem. The land is level.—H. M. Nelson, New Zealand.

Assuming that you have a considerable field of strawberries and that water sinks away rapidly through your soil, we suggest that you make flat ridges about two feet wide and 100 feet long, with flat trenches about 18 inches wide and four inches deep between them. Plant the strawberries in rows on top of the ridges and near their edges. Install a centrifugal pump nearby which will throw about 225 gallons per minute per man you will have irrigating. A three-inch pump will throw about that much. Run the water by means of a surface or underground pipe to the head of the rows in your strawberry field. There divide the water into two streams if the soil is not too open and run one stream into each of two trenches. The trenches ought to be short enough to be filled in about five minutes. They must be filled quickly to avoid water sinking away before it has soaked sidewise enough to wet the strawberry roots.

If it requires a maximum of 500 feet of pipe from pump to heads of trenches, with five-inch pipe and 225 gallons per minute you would have to lift the water at the pump about seven feet above the level in order to overcome friction in the pipes and deliver the full amount of water at the far end. This is accomplished by pumping into the base of a vertical pipe over seven feet tall from the base of which the irrigation pipe leads, preferably in line with the pump outlet. The friction will cause back pressure that will raise the water in the vertical pipe until the weight of this column nullifies the back pressure. If you have a maximum lift of 20 feet plus seven feet above ground, or 27 feet total, it will require an engine or electric motor of about 3½ horsepower to operate such an outfit as one man can handle.

DRY SEASON SWELLS PUMP ORDERS.

As an outcome of the second dry season the Bean Spray people have had to turn down more orders for centrifugal pumps than they could fill, though they are working night and day. They are shipping a number of Bean tractors now to New Zealand and Australia, which countries have used their spray pumps for twenty years. A large demand for spray outfits is expected the coming season.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler of the "Giant" Type WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth-moving machines.

Schmeiser Manufacturing Co.
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Manufacturers of
Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

One Man Does All The Work With WATERLOO BOY
The Original Kerosene Tractor

Farm labor shortage is no bugbear to Waterloo Boy operators. This one-man, three-plow outfit does more work with less expense than any three of your drafted farm hands. Distinctively simple, strong construction, with automatic trouble-preventing features wherever feasible, gives you assurance that

You Can Place Your Trust In Waterloo Boy Guaranteed Power

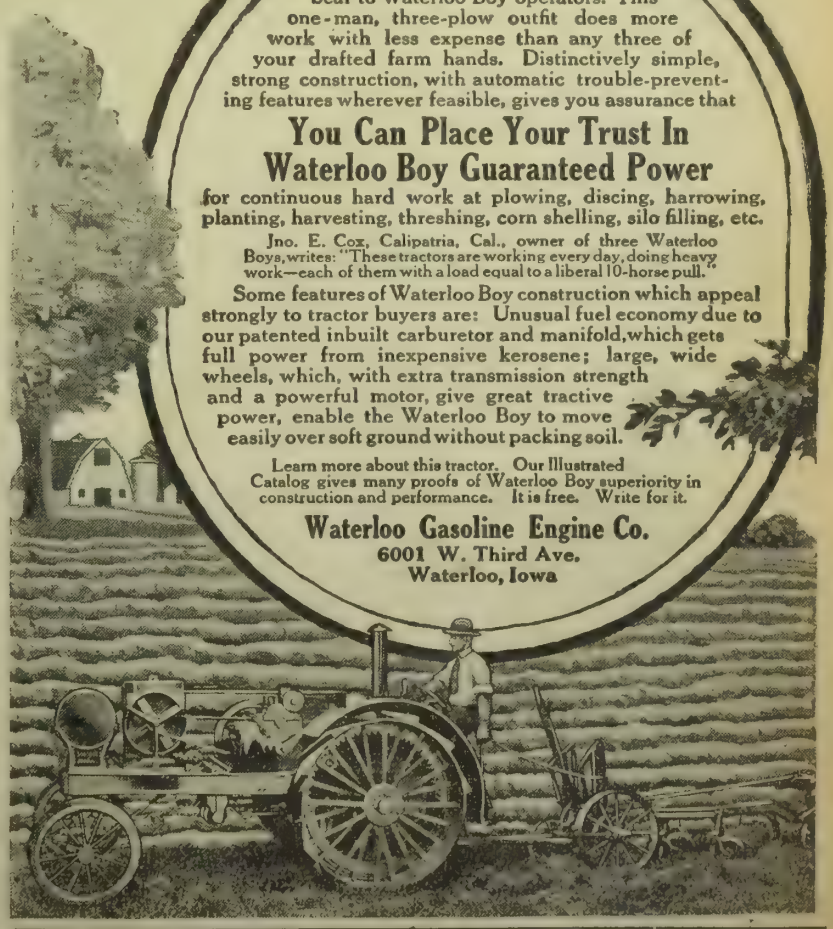
for continuous hard work at plowing, discing, harrowing, planting, harvesting, threshing, corn shelling, silo filling, etc.

Jno. E. Cox, Calipatria, Cal., owner of three Waterloo Boys, writes: "These tractors are working every day, doing heavy work—each of them with a load equal to a liberal 10-horse pull."

Some features of Waterloo Boy construction which appeal strongly to tractor buyers are: Unusual fuel economy due to our patented inbuilt carburetor and manifold, which gets full power from inexpensive kerosene; large, wide wheels, which, with extra transmission strength and a powerful motor, give great tractive power, enable the Waterloo Boy to move easily over soft ground without packing soil.

Learn more about this tractor. Our Illustrated Catalog gives many proofs of Waterloo Boy superiority in construction and performance. It is free. Write for it.

Waterloo Gasoline Engine Co.
6001 W. Third Ave.
Waterloo, Iowa



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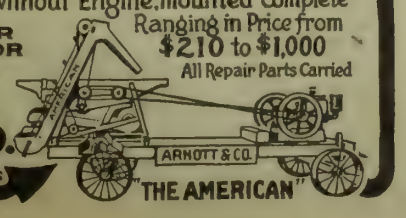
All Repair Parts Carried



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Write for Folder, Specifications, Prices Etc.

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BEAN THRESHER HEADQUARTERS
112-118 So. Los Angeles St Los Angeles

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The crops on the coast of Mendocino county are reported poor, because of no late rains. Many farmers are supplementing the cow feed by raising peas and beets.

At a meeting of the board of directors of the Ayrshire Breeders' Association, held in New York in July, James G. Watson was elected secretary and treasurer.

A contract for the construction of a new $20,000 cheese factory as a department of the Riverdale Co-operation Creamery Association plant at Riverdale has been let.

The Western Meat Co. has just completed a $35,000 cheese and butter plant at Patterson and gave a big reception for the farmers of that district last Saturday evening.

Minnesota's co-operative creameries, of which there are 646, paid their patrons for butterfat 10c a pound more in 1917 than in 1916. The price for 1918 promises to be still better.

Butter for the Navy is being inspected by dairy manufacturing specialists of the Department of Agriculture to insure a uniformly high quality. There are 60 specialists inspecting the output of 90 creameries in various parts of the country.

Cows are often worried by their mates during the few days after breeding, and this often results in the need for another service. L. J. Kelley of the Shoreacres Dairy, in Alameda county, says they are more surely bred with one service when each one is kept isolated a few days.

The ranchers from Pt. Arena to Ft. Bragg report that their cows never fell away in their milk so rapidly nor so early as this year; that everything seems to be drying up so soon. Ben Cuthbertson, who is running the old Cuthbertson place, is shipping in alfalfa costing him $30 per ton.

Dairymen of this State have organized the Association Dairymen of California, Inc., the largest co-operative combination in the United States. This is an entirely new association. The aim is to accomplish in behalf of the dairymen that which has been done by the raisin growers and the citrus fruit producers for their several interests through combination.

Mrs. N. M. Iversen of Elk, Mendocino county, who is milking ten cows, says her milk check in June was $150, besides two veals for $24.50 and two pigs for $50. Her neighbor could not get help to milk his cows and would have had to let them go dry but for Mrs. Iverson, who told her husband to go and help their neighbor and she would do their work. This is one way in which the farmers' wives are meeting the labor problem.

Beef Cattle.

The Ormondale Co., Redwood City, recently sold a registered Shorthorn bull and two heifers to Rafael Larco, one of the largest plantation and cattle owners in South America. All were sired by the Ormondale herd sire, Golden Goods, Jr.

In the improvement of beef cattle care has been taken to develop to the greatest extent those portions of the body from which are secured the high-priced cuts of beef. These points should be kept in mind when selecting breeding animals.

The average weight of French cattle slaughtered has been steadily diminishing since the outbreak of the war. Prior to the war the average weight was from about 770 to 880 pounds. Now the average hardly exceeds 550 to 570 pounds. This means that for the French to obtain the same supply of meat a constantly increasing number of cattle must be slaughtered.

For an auction sale of registered Shorthorns, under auspices of the California Shorthorn Breeders' Association, there ought to be a fixed charge per head for all stock sold, says James McDonald of the Ormondale Co. He thinks this would prevent the offering of inferior stuff, which dampens the ardor of the bidders, is no credit to the association, and does not help the next sale.

Prizes offered in the beef Shorthorn classes of the California State Fair's livestock show, August 31 to September 8, have been increased from $1,875, as listed in the premium list, to $2,187.50. The additional money is offered as the result of action taken by the American Shorthorn Breeders' Association, whose directors, at a meeting in Chicago, July 26, voted to increase the appropriation to the California State Fair 50 per cent, or $312.50.

Swine and Swinemen.

Anchorage Farms, Orland, has just sold a Berkshire boar picked out by Prof. J. I. Thompson for Mr. Alps of Reno, Nev.

Bert Chappell, former newspaper writer, with Frank B. Anderson of Sacramento, has yielded to the lure of purebred Berkshires and will be with Mr. Anderson hereafter.

Hewitt & Hewitt of Dixon report the sale of two big type Poland-China sows to A. C. Harding of Lincoln. They sold a fine sow to B. E. Tyle, who shipped her to his ranch in Oregon.

H. E. Boudier of Big Ranch, Napa, reports sales as follows: One boar to Napa Chapter, Red Cross; to James H. Daly, one boar; to Mrs. Henry Harmon, one boar; to W. L. Bohannon, one boar.

The Galland & Lowenstein ranch, near Willows, has started to replace its Berkshires with Durocs. They recently bought three sows from H. P. Slocum & Son of Willows and a boar from Elmer Lamb of Ceres.

The Jas. Mills Orchard Co. recently received a letter from Julio Donoso Foster of Melipilla, Chili, ordering a Berkshire boar by Ames Rival 70th or out of Forest Grove Laurel 8th and two sow pigs out of Silbirfa Lustre 9th and Penrith Champion.

G. S. Oliver of Chico had a notion to sell his Poland-Chinas, but has decided to look around for a man who will take care of them right. He has a large type boar from J. H. Cook of Paradise, a medium type sow and four gilts sired by Woodrow, C. L. Van Schoiack's medium type herd sire.

H. P. Slocum & Sons of Willows are shipping a Duroc boar and three sows to Honolulu. The boar is a full brother to last year's Nebraska State Fair junior champion and all are fine stock. Before shipment a certificate had to be signed saying there had been no cholera within five miles for the previous six months.

To let pigs in and out of the farrowing house with least effort, J. Francis O'Connor of the Castleview Ranch, Santa Rosa, has fixed the outside door to each pen so that it slides up and down in a groove. A light rope runs from the top of the door through a pulley directly over it and thence to a pulley over the central aisle in the farrowing house.

Sheep.

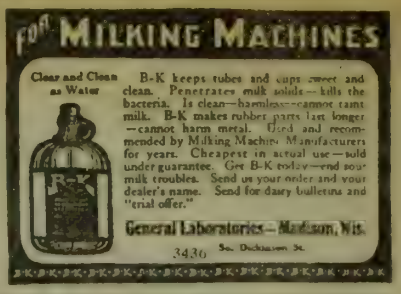
Efforts are being made in the several wool-growing districts of the State to pool all the different lots and make up carload shipments direct to Portland, Ore., which is the nearest Government wool-receiving station. Each grower is allowed his proper apportionment according to grade and quality, the wool being graded by wool experts.

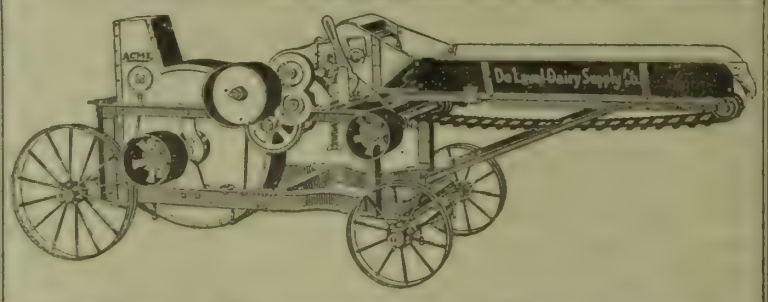
Wool so far shipped from Red Bluff district has averaged growers about 74½c. The Government allows the grower a rebate of 50c on each wool sack furnished.

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW.

Evidently Joseph E. Painter, the energetic manager of the California International Livestock Show, to be held in San Francisco in November, has been quoting scripture to Eastern breeders and exhibitors, for he seems to have persuaded them to obey the Biblical injunction not to hide their light under a bushel.

He has just received the good news from Longview Farm of Kan-





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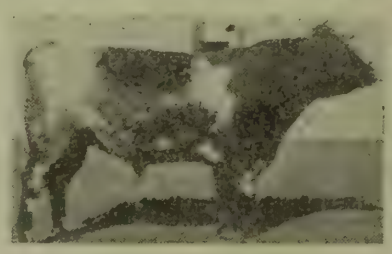
INNISFAIL DAIRY SHORTHORNS



GLENSIDE ROYAL 408155,
Grand Champion, Sacramento, 1916; Modesto, 1917. Farm on Grisly Island.

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

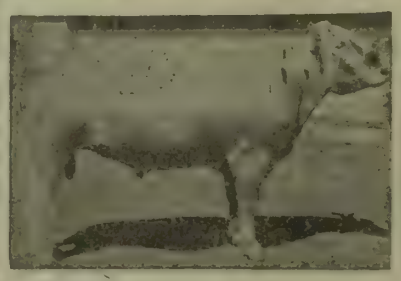
GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

Alexander & Kellogg, Suisun, Cal.



PRINCE BUTTER BOY WALKER
Senior and Reserve Grand Champion at Sacramento, 1917.

Holstein Friesian Cattle

Herd Sires:
Prince Butter Boy Walker
King Mead of Riverside
Yolo Valdessa Hengerveld

Young bulls by these sires and out of cows with records.

Write or Call

J. H. HARLAN CO., Woodland, Cal.

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING COMPANY LOS ANGELES

sas City that the famous Lula Long Combs string of gaited saddle horses will be shown, and perhaps several harness horses.

A large number of Hereford and Shorthorn breeders have agreed to exhibit, among them being the Hereford Corporation of Wyoming, W. N. M. Blaney of Denver, John E. Painter & Sons of Roggen, Colo., Maxwell & Miller of Steamboat Springs, Colo., and Frank Brown of Carlton, Ore.

AN UNIQUE PRODUCT.

We call the attention of our readers to the unique products of the California Corrugated Culvert Co., announced on this page. The material used in their manufacture is the rust-resisting "Armco" iron, proven to be much superior to the ordinary commercial article commonly used, which corrodes rapidly and calls for frequent repairs and renewals. The stock-watering trough to which particular notice is drawn this week will outlast any other form of similar device.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

I NOW OFFER my spring pigs, sired by Cook's Hancherdale Jones, a grandson of the famous Gerstdale Jones and out of big prolific sows, the best of the "Big Types." Write for prices and further information. J. H. Cook, Paradise, Cal.

FORTY LARGE TYPE POLAND-CHINA open and bred gilts from such sires as Jumbo Equal No. 92441, My Choice 94329, and Long Nelson 180065; some are being crossed with the great young boar, Giant Ben 2nd No. 304871; bred for farrowing in September and October. L. C. Trewhitt, Hanford.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 511, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

FOR SALE—Registered sow weighing about 600 lbs. and bred to Favorites Best. Am crafted, must sell at once. L. P. Grant, B. 46, K, Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Hilton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS — Bernstein, Trewitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts; weaned boar pigs. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, World's reserve champion. Special offering in weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar over one year, third aged boar, etc. Frank Brush, Santa Rosa, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

ANDREWS' QUALITY DUROCS—I offer 5 fine early March boar pigs, 4 of one litter; conditions met to enter futurity contest at State Fair, where it is believed they would be sure winners; but I find it impossible to attend. Who wants these pigs? $50 for one; special price for lot. W. P. Andrews, Evergreen Farm, Rt. A, Box 359, Modesto.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California.

FOR SALE—Boar, J. K.'s Model Chief, under two years; sire, Model Chief; dam, Beauty I Am. Price, $100.00. J. Stith, Hollister.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

DUROCS—Defender, Clinton B. and Golden Model strain; the big type. Allen Thompson, Tulare.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

BIG TYPE DUROC—Foundation stock our specialty. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS—Boars, gilts, and weanlings. Hans Duveneck, Ukiah, Cal

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

TWENTY-FOUR GOOD, FRESH MILK COWS for sale, mostly Holsteins. Address, Albert M. Bemmerly, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Special offering of fine heifers and young bulls.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

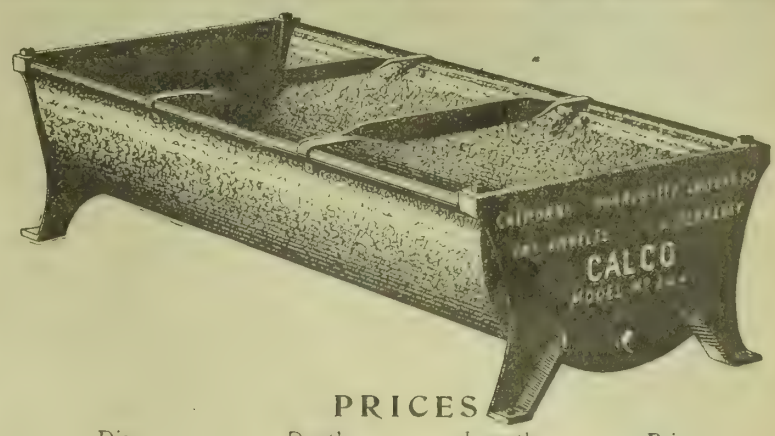
BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

CALCO HOG TROUGHS

All Metal Construction: STRONG, RIGID, DURABLE and SANITARY



PRICES

Dia.	Depth	Length	Price
10¼"	5 5/16"	24"	$2.60
10¼"	5 5/16"	40"	3.25
10¼"	5 5/16"	60"	3.90
14"	7 5/16"	24"	4.15
14"	7 5/16"	60"	5.70
14"	7 5/16"	120"	8.30

Mark size wanted, attach check or money order and state where to ship. Immediate delivery. TRY ONE TROUGH.

Circular on request.

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REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM GUERNSEYS—Herd headed by Argies Prince, first prize at Sacramento, 1917. Bull calves for sale. A. J. Welch, Redwood City, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

MILKING SHORTHORNS—Registered stock, 1 two-year-old bull, 3 bull calves, 1 junior yearling bull. Some grade bulls from registered sire. Pocket Ranch, Geyserville, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy. $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeedrs and importers of Shropshire, Rambouillets and American Merinos, both sexes Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

SHROPSHIRE RAMS—Some choice registered and grade yearlings. Also some purebred lambs. Call or write, Harry L. Huston, Winters, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots Call on or write to J. R. Bloom, Dixon, Cal.

WRAY BROTHERS, Davis, Cal.—Breeders of registered Hampshire sheep. Some fine two-year-olds and ram lambs for sale

FOR SALE—One young Toggenberg Billy from good milk strain Golden Glow Farm, Orange Cove, Cal

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep

CHAS. KIMBLE—Breeder and importer of Rambouillets Hanford, Cal

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, reserve champion, P.-P. I. E., 1915 John Matley, Reno, Nevada

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

MULE FOOT HOGS, large type; booking orders for spring litters These are the farmers' easy feeding, profit-producing kind Meet me at the Fair. H. T. Bailey, Box 37, Lodi, California "The Blue Gums"

Alfalfa Growing Made Sane and Safe

(Continued from first page.)

better producer than the same man under discouraging conditions, a rather important factor in these days of increasing scarcity of labor.

Overwhelmingly important as the combined hay and corn production is for the East, hay production has out here the importance of both hay and corn put together, as alfalfa here takes the place of both hay and corn. The only way to safeguard and insure this tremendously important production is to make alfalfa growing sufficiently attractive to the farmer as a business proposition.

THE GROWER GETS THE WORST OF THE MARKET.

One of the greatest difficulties in making hay prices stable and profitable to the grower lies in the fact that the alfalfa crop comes in during about five months, but is consumed only in the course of twelve months, while the average hay farmer is unable, under existing circumstances, to spread his sales over the twelve months corresponding with the rate of consumption. Being as a class chronically hard up, he had to crowd sales as soon as his hay was available, and as he could find a market, regardless of price.

The usual result year after year was an oversupply beginning early in the cutting season and, as it progressed, a glut of hay in San Francisco and Los Angeles, the leading markets; prices went down and kept on declining, in the absence of support of the market, so that in years of heavy crops and even in years of only normal crops the price would often go down below that of the cost of production. This would continue, with the cheerful assistance of dealers, until these thought that prices could not be forced down any lower, usually late in summer, when they would begin loading up for their winter trade at bottom prices. After that it would be their object to steady the market and lift up prices. In this they would usually succeed, but the majority of the farmers, having by that time sold what they had to sell, received no benefit from the higher prices prevailing during the balance of the crop year.

HOW THE TAIL WAGS THE DOG.

If this were the whole story as far as the farmer is concerned, it would be bad enough, though not of vital importance to the industry as a whole, as the total amount of alfalfa hay handled in those two markets is quite insignificant compared with the total alfalfa production of the State. I do not know what the percentage is, but presume conditions are similar to those of corn, of which, according to statistics, about 85 per cent never leaves the county in which it was raised. This would only leave 15 per cent shipped out of the county, and I doubt that even as much as half of this goes to San Francisco and Los Angeles. But it is this insignificant quantity sold in these places which makes the price for all the rest of the crop, and it is this combination which grinds the life out of the hay grower in California.

It seems strange to me that while almost all alfalfa farmers nowadays understand the working of the San Francisco market in its direct effects, a good many seem to be ignorant of its far more serious and, in fact, ruinous indirect effect just described. These men say that they do not have to sell to San Francisco or Los Angeles and are therefore not concerned about the markets there, being able to do better at home. It is true that in our section we can nearly always sell at home at relatively better prices than the so-called market prices published in the San Francisco papers, given them by the dealers. As a matter of fact, these dealers themselves, when they are ready to buy from the grower, usually go above these quotations.

But it is of course plain that nevertheless the sales of all kinds made by the farmers in our section are, after all, based on these San Francisco quotations.

HOW THE GROWER IS PUT TO SLEEP.

A grower would therefore fool himself badly if he thought he did not need the Association, in view of the fact that he generally manages to get what he thinks is a better price than the market, or more than most of his neighbors are getting. For instance, last year, early in the season, the parity of published San Francisco price for new alfalfa hay was equal to about ten dollars loose Fresno, while at the same time we could net at home about twelve dollars loose. With the Association in successful operation, the market would certainly not have been allowed to open at so low a price, which was under cost of production, besides which it was already plain at that time that the production of the season would fall short of requirements. What, therefore, would have been better for the farmer—a price of, say, $20, without any premium, assured him for his entire season's production by the existence of the Association, or the San Francisco price of $10, with a premium of one or two dollars added? It is true the market went afterwards much higher, as high as $35 Fresno, but this was late in winter, when the farmers, with few exceptions, were all sold out and got no benefit from it.

Extremely high prices are almost as injurious to the farmer in the long run as unreasonably low prices, because they react afterwards on him through the unsettling of related conditions all along the line.

What the farmer needs is the assurance of a reasonably remunerative price for his crop all the way through, and this will prove the most satisfactory arrangement for all the hay-consuming interests. This policy can be established by the Association but not without it.

WISE HOLSTEIN PLUNGE.

A. E. Slater & Sons of Pacheco were accused of being crazy when they paid $750 for Prince Riverside Walker, now owned by W. J. Higdon of Tulare. They had decided to start in purebreds and they took $500 to the State Fair to buy two females and a bull. Prince Riverside Walker, then a calf, looked so good to them that they paid Morris the entire $500 and sent him $250 more on their return home. That bull has sired many calves for them.

My Range Bulls are Shorthorn Show Bulls

All of them have been at the Fairs and have generally won something. Their get are uniform, vigorous, and hardy, raised to service age on the range. King Lancaster, three times Grand Champion at the State Fair and now 13 years old, is still getting fine calves. My bulls won Grand Championships every year for eleven years (1904 to 1914, inclusive), except 1907, when I showed only calves. I have a breeding herd of 400 cows and can supply service bulls in car lots, but they are going fast. Write me your wants pretty soon, or come and see.

Shropshire and Merino Sheep also for sale in any quantity

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E. C. SPEAR, St. Helena

Spread on Beef Feeders

[Written for Pacific Rural Press.]

The spread in price between feeders and fat stock should depend on several factors influencing the cost of the feeding. With half-fat cattle eating alfalfa hay two or three months, the best returns will come the first month on a half-cent spread, according to M. D. Lack of Shasta county. To do equally well in the second month, the spread should be ¾c and the third month 1c. A 1000-pound steer should gain two pounds a day the first month and nearly that the second month, if very thin. This does not mean that cattle could be fed only one month on a half-cent spread, because the overhead charge would be too heavy per pound. "How much spread ought there to be?" started real live discussion at the California Cattlemen's Convention. Following are digests of some of the replies:

NORTHERN CALIFORNIA.

"One cent per pound per month for four months to cover cost of ½ ton hay at $20 per ton."

"Feeding straight alfalfa hay at $20 per ton, 3½c will give a living profit."

"Three and a half cents is O. K."

"Cattle on alfalfa hay only will gain 1½ to 2 pounds per day for 40 days. During the next 20 days they will put on a pound a day. After that there is still less gain. Seldom are cattle fed over four months—mostly 60 to 90 days."

CENTRAL CALIFORNIA.

"If the animal can be fattened in three months, 3c spread is enough. Can't feed profitably four months."

SOUTHERN CALIFORNIA.

"Four cents spread will just break even on a feed of alfalfa silage and cottonseed meal with about nine dollars per head to cover losses and tailenders. Figure silage $8 per ton, but corn silage and alfalfa do not fatten fast enough, so cottonseed meal is added."

ARIZONA.

"The average feeding period in Arizona is four months."

The resolution finally adopted by the convention was in favor of a $3.60 spread.

Why Ship Live Beef East?

[Written for Pacific Rural Press.]

There is an economic waste of well over 50 per cent in freight costs on live cattle shipped East; and the West loses the benefit of fertilizer, by-products, and industrial development that would accrue from butchering them here. Cattle generally lose nearly 50 per cent of their weight in dressing, they shrink heavily on a long trip alive, and a carload of live cattle transports less total weight anyway than a carload of beef.

Then comes the question, "Why is not all of our beef killed here?"

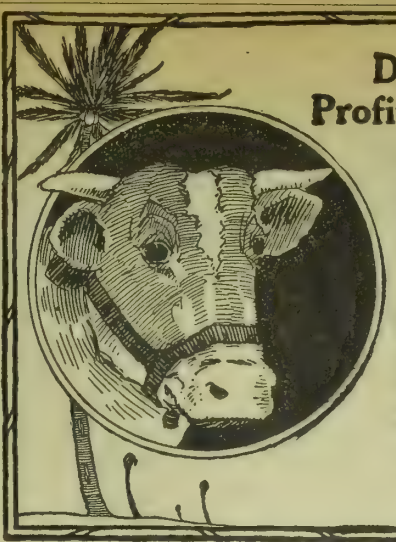
A partial answer in a drouth season like this is that we haven't the feed to put them into marketable condition. At least a partial remedy for this situation is urged by O. B. Fuller of the C. H. & O. B. Fuller Co. of Arizona, Southern California, and Mexico, who last year shipped 5000 head alive to Eastern markets and fed as many more. Mr. Fuller urges construction and operation of a cannery in San Francisco to care for a lot of stuff that is now sent to Eastern feeders or direct to Eastern canneries. "Instead of San Francisco killing 200 canners a day during part of the season, we are selling them to Kansas City at a low price and paying extra freight East," says he.

There is one cannery in Los Angeles with a capacity of 100 head per day and another with a capacity of 50 head per day, according to Mr. Fuller, but a big one in San Francisco would stabilize and strengthen prices for the whole State on such stock. The demand for canned beef at this time is strong, 26c to 30c being paid by the Government.

GOOD BULL IGNORANTLY SOLD.

What is the value of your young bull? How can you tell? Are you going to sell him before you know what he is worth? The Holstein bull, Diosa Paul, was considered a scrub purebred, but one good cow in the herd persistently did not get with calf. Finally she was bred by this scrubby bull and the calf was Laura Meka, State four-year-old record cow, with a production of 32.9 pounds butter in seven days from milk testing 4.99. Another of his daughters was Athalva, whose record was 25 pounds. But before the records were made the bull was sold at a low price to head a grade herd in Arizona.

One thousand breeding ewes, the experimental flock at the United States sheep experiment station at Dubois, Idaho, have recently been moved to the Targhee national forest reserve for summer and fall grazing. They will be kept under practical range conditions and the adaptability of range for different types of sheep will be studied. Investigations will also be made relative to the practicability of running sheep loose in fenced pastures as compared with the "herding" method.



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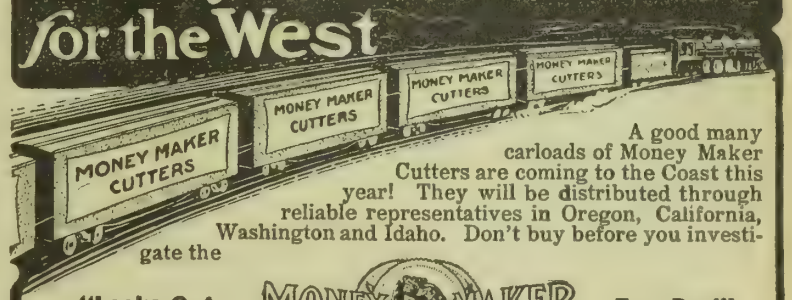

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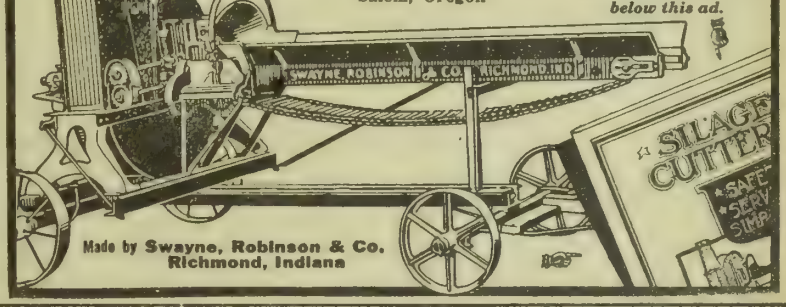

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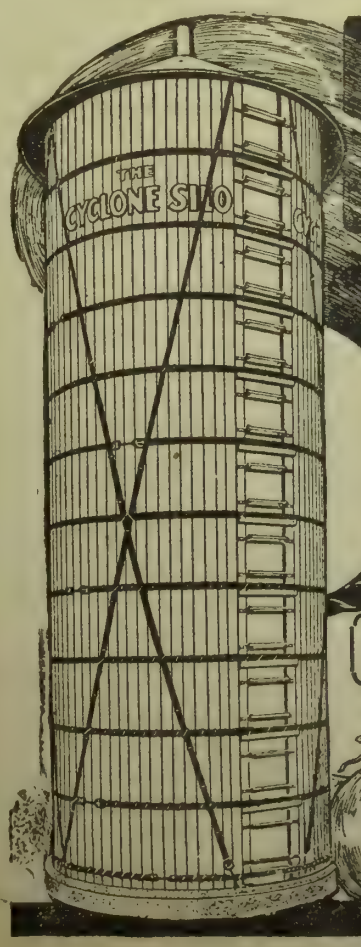

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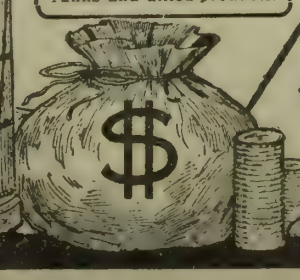

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Dear Sir: Please send me your Silo Feed Book and information about the CYCLONE SILO.
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VETERINARY QUERIES

[Answered by Dr. Edward J. Creely.]

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

Sow Had Pneumonia.

To the Editor: I had a sow which farrowed July 16. I continued her feeding and care as usual. Next day she refused to eat and appeared sick. She did not give milk, her udder caked, and she ran a high fever for four or five days. Now she wheezes and seems to have difficulty in breathing and hardly tastes food.—C. W. K., Madera.

Your animal most likely had pneumonia. The milk always dries up when fever is present. Keep her in a dry place with plenty of straw and highly nourishing food, such as milk, boiled potatoes, etc. Rub camphorated oil over the region of the lungs. Give morning and night two tablespoonfuls of brandy to which add a half teaspoonful of oil of eucalyptus.

Treatment for Thrush.

To the Editor: We have a valuable horse which has had thrush for four months. We are syringing it out every other day with bluestone and packing the frog with karona wool fat, keeping the horse on a dry floor. Can you suggest anything better?—F. W. S., Gilroy.

Keep the animal in a dry stall, remove the shoe and discontinue the bluestone at once, as it is too severe treatment and does more harm than good. Keep the foot clean by washing with soap and water, then pare out all of the diseased tissue with a hoof knife and apply a 2 to 3 per cent solution of formaldehyde in water as a pack twice a day.

Cow Will Not Breed.

To the Editor: After a number of attempts at intervals of about twenty days, my cow fails to breed. I drenched her once with a solution of sheep dip and water about 40 to 1, but that did no good.—L. L. E., Acampo.

Your solution is entirely too strong. Use 1 to 1000 permanganate of potash. A good examination should be made to see if any abnormalities are present. If so, call a veterinarian, and if none are present, irrigate the vagina and more internal organs with the above solution once every other day until she comes in season. Just before breeding irrigate thoroughly both the cow and the sheath of the bull.

Twin Calves as Breeders.

To the Editor: I maintain that twin heifer calves are useless to save for cows, as they will not breed. Am I right? Also if twins, heifer and bull, will the heifer breed?—J. W. F., Fresno.

In investigations carried on by experiment stations it was found that when twin calves were heifers both proved just as sure breeders as if born singly, but that when one twin was a bull and the other a heifer the bull would prove a breeder, but only one heifer out of nineteen would breed. Consequently, only when a heifer is a twin with a bull should she be vealed because of her doubtful value as a breeder.

Butter Comes Soft.

To the Editor: My cow's calf is now eight weeks old and we have not been able to get the butter hard enough to work the milk out of it and often it is hard to get the butter to come at all. We sometimes let it stand until next day and then the butter will come, but just a soft butter.—J. L. McN., Bellflower.

The condition you describe is quite common when cream is not kept at a low temperature. Keep all utensils clean and scald them with boiling water. Cream should be kept at as low a temperature as it is possible to attain under ordinary conditions. When ready to churn bring the cream down to a temperature of at least 60 to 62 degrees Fahr.

Warts on Cow's Teats.

To the Editor: What shall I do to get rid of large horny warts on my young cow's teats. They are literally covered and become hard unless greased morning and evening.—C. M. B., Meridian.

The teats should be well oiled daily, and give each cow one-half tablespoonful of Fowler's solution daily in the drinking water.

Hoof Very Brittle.

To the Editor: I have a fine ten-year-old mare whose front feet are brittle so that shoe nails split the hoof. Can you tell me what to do for her?—C. R. G., Delano.

Apply oil or vaseline over the hoof up to the hair. Then have your horse shod and the sole packed with tar and oakum.

DR DE LAVAL DR BABCOCK DR. McCOLLUM

The Rural Press is in receipt of a cut presenting pictures of three men so intimately associated with the development of the dairy industry that we gladly give it space in our columns. Dr. De Laval's invention of the centrifugal cream separator revolutionized farm dairying by doing away with the old slow and wasteful methods of milk separation. Dr. Babcock's discovery established a new standard for appraising the market value of milk and supplied the means of gauging the worth of the individual breed and the individual cow as a producer. Dr. McCollum's discovery proved beyond dispute that there is some unknown substance contained in butterfat which is absolutely necessary in the human diet. He laid bare the folly of a decreased consumption of milk.

BOYS!

Here's a regular, bang-up, man-fashioned overall that takes to rough play like a duck to water. Easy-breezy, loose-cut overalls that stand for rough treatment—and, like Oliver Twist, come back for more.

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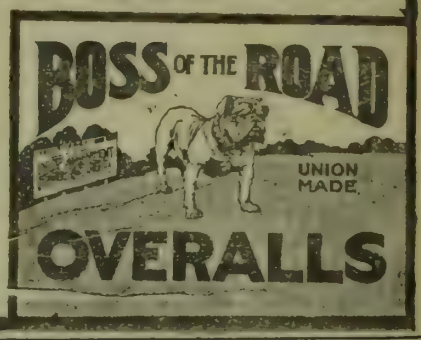

HAY TOOLS
STEEL STALLS
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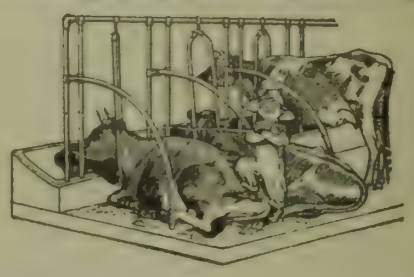

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

EXTRA WATCHFULNESS CALLED FOR IN HOT WEATHER.

Hot weather calls for diligence and, above all, watchfulness. Keep your eye on the flock to note changes in them. Morning is the best time to see the difference in appetite and health. Only last week my son wanted to know what ailed a hen that flopped her wings while she was eating her breakfast and then turned turtle. I said she is too fat internally and the heat got her. He said he knew better than that.

"All right," I said, "bring her up and open her. If she is not full of fat, I'll lose the price of her. So he brought the hen and opened her and, although she had been laying heavy, she was lined with fat until her liver and gizzard were buried in it. He wanted to know what made her so fat when he fed very little mash at all and dry grain.

Now that is just the trouble. People think in order to make hens get too fat they must stuff them; but that is only one side of the question. The trouble in this case was that he never examined his hens to find out what condition they were in, and he had some Leghorns, some Minorcas, and some Brahmas all running and feeding together, when the treatment for Brahmas should be quite different.

EXERCISE THE HEAVY HENS.

Scratch material is high, granted; but eight-pound hens alive are worth between two and three dollars, and that much scratch material would go a long way. I have warned him repeatedly that if those heavy hens did not have more exercise some of them would come up missing; and now I want to warn those who are preparing to hatch fall chicks that, unless the hens are kept in scratch material, even though the chicks hatch, they will drop by the wayside one by one.

Exercise is the greatest thing in the world for breeders. Fat, slobby parent stock never produces healthy young, and when you are hatching what account is the number of eggs to you unless they hatch livable chicks. What is wanted is quality, and that can only be gotten by care and watchfulness.

Plenty of fresh water these warm days, for both grown fowl and chicks, is among the necessities, also shade and a moist, cool place to dust themselves. Last Saturday it was a very hot day, the hottest of the season, but where the yards were sprinkled down and the fowl furnished with plenty of drinking water there were few if any losses.

CARE OF HATCHING EGGS.

Hatching eggs will require a good deal of care to keep in right condition for hatching. They will need gathering twice or three times a day, not allowing the hens to sit on them for several hours in succession. Then as fast as they are gathered they must be put in a cool place, where the temperature is not over 50 nor under 45 degrees. A cement floor with a covering of excelsior on the bottom of the case and the cover kept on is about right.

ALLIES WILL NEED NEW STOCK AFTER THE WAR.

Last week I mentioned the State Fair. Now the time is getting short and those who intend to exhibit should be preparing for it. We Californians ought not to let the standard bred poultry business die, for when things get normal once more the whole world will be looking towards us for supplies. Italy, the native home of the Leghorn, will have to be started up with new stock, so will Belgium, France and Serbia. Indeed, all our allies will need new stock to get started again, and they will want purebred stock, not mongrel.

BRINGING PULLETS TO THE LAYING PERIOD.

The best thing in the world to bring a bunch of pullets to the nest and give them staying qualities is sour milk and sprouted grain, either barley or oats. If there is a spare piece of ground on the premises, soak a few bucketfuls of the grain and cultivate it in, then turn the pullets on the job of digging it out and put a crock of clean sour milk in the shade and another of water and let them have their choice. One month of this sort of treatment will make the most stubborn cases begin to redden up and get ready to pay their board bill.

RESTORING AN AFFLICTED FLOCK.

To the Editor: Your answer to my query in a recent Rural Press is correct. My chickens have worms by the carload. Now I would like to know if my laying hens are injured by the worms. I used to get from ten to fifteen dozen eggs a day from 200 hens. Now I don't get one egg a day. They are molting now. Will they lay again?—C. S., Oakley.

If your hens are good layers, it will pay to go to some trouble to cure them. You would have to go to almost as much trouble before you could profitably keep chickens on that ground again, so while they are molting get to work and make a good job of it, then your hens will be just as good as ever.

For 200 hens, take two pounds of finely cut tobacco stems, steep for two hours in sufficient water to keep them covered, mix this liquid and tobacco with half the usual quantity of mash feed. If you could feed light a day or two before giving the treatment, all the better, and give no breakfast at all that day. Then about 2 p. m. give this moist mash with the tobacco in it. At 4 o'clock give about one-fourth as much mash in which you will dissolve twenty-two ounces of Epsom salts in the mash water. See that every hen gets some of each of these mashes. If you can buy tobacco stems, the treatment costs but a trifle; but if you have to buy good tobacco it will cost more.

Remove the chickens from the yards and houses they are in now in order to clean up better. Clean up and burn all the droppings around, then spray the yards, houses and dropping boards with a 1 to 1000 solution of bichloride of mercury (corrosive sublimate), of which use one ounce to eight gallons of water. It will take one gallon of the solution to every ten square feet of ground. Use wooden vessels to mix in. For a week after treatment carefully sweep up and burn all droppings and feed your hens well, so that they can get new feathers and get to work again.

A CASE OF NEAR CHOLERA.

To the Editor: My chickens have a drowsy appearance. They are very thirsty. Their eyes are swollen. They have a slow gait, and the discharge is like sulphur and water. At last their combs get almost black and in a few hours they die.—Mrs. A. O., Vacaville.

This lady omitted the most essential points to enable me to diagnose the trouble with certainty, but from her description I would judge this to be a case as near to cholera as we have in California. Generally speaking, only corn-fed, hence over-fat poultry have true cholera. In cholera there is always thirst, and the droppings are always yellow. It is best to treat this case as we would true cholera, though it is very doubtful about its being the real thing.

It is only the man or woman who is quick to notice any slight difference in the appearance of his flock that ever succeeds in stopping the ravages of cholera, and if this lady saves any of her hens it may be set down as a case of near cholera or indigestion.

Remove all sick birds to a hospital, clean up and burn all rubbish and spray ground and houses with a good commercial disinfectant. Give the whole flock an antiseptic drink. A teaspoonful of creolin to a bucket of water will serve the purpose, and see that they have no other drink.

Kill and cremate all birds badly affected, and give the others a one one-thousandth of a grain of corrosive sublimate. Give this individually. Then give the creolin and water to drink, and if the birds can be induced to eat, feed them bread that has been scalded with whole milk.

When they begin to eat, the feed must be good, not too bulky, and non-irritating. A little rolled oats and rolled wheat will be of much benefit.

NAMES OF EXHIBITORS ON COOPS TO BE RETAINED.

The executive committee of the San Francisco Poultry Association has adopted the plan recommended by George H. Croley, the show secretary of the Poultry Division, to place the name and address of exhibitors on the coops during the entire period of the annual show to be held in conjunction with the San Francisco Livestock Show, November 2-10. This feature will be welcomed by all experienced exhibitors, for the reason that San Francisco shows are known as the best at which to make sales of stock. This plan enables exhibitors to become acquainted with interested visitors from the moment the show opens. With few exceptions it has been the custom to omit the names of exhibitors on the coops until after the birds were judged. This precautionary measure is supposed to prevent the judges from knowing whose fowls he is judging, and thereby insure fairness. This method works a hardship on the exhibitors whose classes are judged long after the opening of the show; it also reflects on the honesty of the judges. The judges who will be employed for this show will be men with a reputation for integrity as well as ability, and who may be trusted to be fair under any circumstances.

Petaluma contemplates spending $50,000 on an egg fiesta to be held there some time during the last week of this month. The occasion will be known as National Egg Day.

Poultry Breeders' Directory

BABY CHICKS FOR SEPTEMBER—R. I. Reds, Barred Rocks, Black Minorcas, White-Brown Leghorns. Small or large lots by parcel post or express; safe arrival guaranteed. Fall chicks grow quickly, easily raised, and pay well for meat and eggs. Quality and price will both suit you. Send for free circular. Mission Hatchery, Campbell.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THOROUGHBRED MUSCOVY DUCKS—and ducklings for sale. Also Light Brahma chickens, Rouen ducks, and Bourbon Red Tom—all prize stock. Emma Miller, Farmington, California.

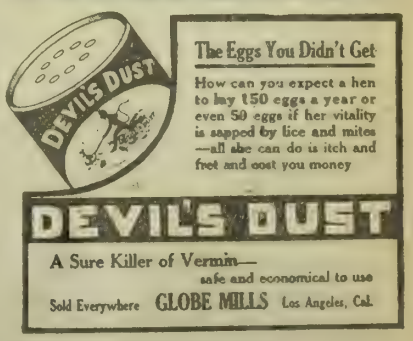
FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

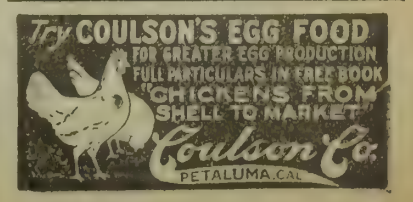
EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Hatching eggs. Fairmead Poultry Farm, Fairmead, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.





Mrs. Best's Letter.

HOUSEHOLD FURNISHINGS ON BARGAIN COUNTER.

My Dear Friends: Several of the good stores are having home-furnishing sales this month and the reductions in some lines are quite considerable.

BRIC-A-BRAC.

In ornaments, potteries, mirrors and similar type of furnishings reductions run as high as 50 per cent on discontinued lines. It should not be assumed that a much-reduced article is out of date or in any way undesirable, for that is not necessarily the case—many times it is because a line is being closed out or it is the policy of the house not to carry goods over from one season to another.

In one of the very large stores a full line of lamp shades in many different styles and practically all wanted colorings are being sold from one-third to one-half off.

CURTAINS AND RUGS DOWN

Remarkable price reductions prevail on certain lines of rugs, when you consider that many mills have already stopped their production and still more must ultimately do so. This includes Wiltons, Axminsters and Brussels rugs and Orientals, and the cheaper grass rugs are included, too. Carpet by the yard is correspondingly marked down and linoleums and oilcloth may be purchased much below the standard prices.

A sale of curtains might be of especial interest to housewives—some of them elaborate, but most of them of marquisette or scrim, either plainly hemstitched or with a lace edge, for as little as $1.75 a pair. These are substantial curtains that will wear well and launder well. Drapery and upholstery goods, ranging from tapestries and velours to cretonnes and linens, are included in these sales, and it is a wonderful opportunity to pick up these fabrics.

REPLENISH THE LINEN CHESTS.

Bedding is constantly increasing in price and if there are winter needs to be filled it would be wisdom to take advantage of the reductions in that line that are now in force.

One of the very best houses is having a sale of odds and ends in linens—odd tablecloths and napkins at about the price we will have to pay for all cotton damasks in the near future—broken lines of face and bath towels at less than present wholesale prices.

WINTER SHOWS ITS SHADOW.

More and more new fall and winter goods are displayed—in the new suits the slim silhouette is noticeable—skirts a trifle longer and coats as well. Belted effects are much shown and the tie-back is one of the new features. These are sash ends that cross in front and tie at the back in youthful fashion. The distinguishing mark of the new garments is simplicity—a simplicity that is charming.

A great many jersey dresses are being shown in combination with other materials, or heavily braided in self-color braids. These dresses seem to have been accepted as all-the-year-'round clothes, almost equalling serge in popularity.

The cape and cape-coat have been hovering in the background, but there do not seem many in evidence on the streets.

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High School, Lower School. Accredited best colleges East and West. Strong French, music and home economics courses. Comfortable buildings. Favorable climate and large grounds permit outdoor life all year. Physical culture. All sports. Resident nurse. 17th year opens September 16th. For illustrated booklet, write

Miss Catherine Harker,
Principal
PALO ALTO :: CALIFORNIA

THE HOME CIRCLE

CLASSIFICATION OF FRUIT JUICES

Instead of filtering, fruit juices may be made clear by adding substances which will coagulate and settle, carrying with them to the bottom the material that causes the cloudiness. Pure clay, casein and white of egg are the most suitable materials for this purpose. Clay and casein are coagulated by the acid of the fruit juice. Egg white must be coagulated by heating.

A clay known as Spanish clay is considered best for this purpose. It is a medium grade of potter's clay. Mix with water at the rate of one pound to a gallon, soak for ten days and then work with the hands until it forms a smooth, thin mud.

To clarify apple juice, add one pint of the mixed clay to ten pints of juice; heat to 150 degrees F. while stirring. Let stand over night. The next morning pour off the clear juice and filter the sediment. Bottle the juice and pasteurize just as unclarified juice. For grape juice use three-quarters of a pint of the clay to each ten pints of juice and proceed as with apple juice.

Casein is a granular powder and may be bought at a drug store. To dissolve it, add to each three ounces of casein one tablespoon of sal soda and one pint of water. Boil till dissolved and then add seven pints of water. Casein is used for grape juice only. To each ten pints of juice add one-half pint of the casein solution. Heat to 150 degrees. Let stand over night. Pour off the clear juice and filter the sediment.

Mix the whites of two eggs with half pint of water. Add this to each gallon of grape juice. Heat, allow to stand 18 hours and proceed as above. Egg white gives good results with grape juice, but is not so satisfactory for most other juices.

LOOKING AHEAD TO THANKSGIVING.

In the effort to stop the wasteful practice of slaughtering broiler turkeys—those weighing from two to four pounds—the Food Administration is requesting farmers to raise their turkeys to maturity, thereby adding to the nation's meat supply. Dealers have been notified of the Food Administration's desire that they refrain from purchasing the immature birds. Hotels, clubs and restaurants, where most of the broiler turkeys are consumed, have been asked to discontinue serving them. It is pointed out that turkeys, unlike chickens, do not become plump and well-meated until nearly full grown.

CHILD WELFARE PROBLEM.

Mothers in California will be interested to know that Norway has recently enacted laws giving complete national recognition to illegitimate children. In doing so Norway takes the lead among modern nations.

The legislation establishes the responsibility of the state in providing for the protection and education of these children and holds both parents equally responsible for training and maintenance.

CANNING SWEET POTATOES.

Use freshly dug potatoes. Boil until the skin will slip from the potato easily. Peel while still hot. Pack tightly into cans or jars, pressing down to make the container as full as possible. Seal cans. Place caps and rubbers on loosely. Sterilize from three to four hours. Sweet potatoes should not be sterilized under pressure and the cans must be well filled to prevent darkening.

SUNFLOWERS FOR FUEL.

To the Editor: You asked someone, some time ago, what they were going to do with the sunflowers they were proposing to grow. I am growing a row across my back yard for a fence. When the heads are ripe I am going to put them in my coal hod and carry them to the furnace, also the stalks. A good, fat, ripe sunflower head makes good coal.—Mrs. E. P. Flint, Hartford, Conn.

JUST THINKING.

Standin' up here on the fire-step,
Lookin' ahead in the mist,
With a tin hat over your ivory
And a rifle clutched in your fist;
Waitin' and watchin' and wond'rin'
If the Hun's comin' over tonight—
Say, aren't the things you think of
Enough to give you a fright?

Things you ain't even thought of
For a couple o' months or more;
Things that 'ull set you laughin',
Things that 'ull make you sore;
Things that you saw in the movies,
Things that you saw on the street,
Things that you're really proud of,
Things that are—not so sweet;

Debts that are past collectin',
Stories you hear and forget,
Ball games and birthday parties,
Hours of drill in the wet;
Headlines, recruitin' posters,
Sunset 'way out at sea,
Evenings of pay-days—golly—
It's a queer thing, this memory!

Faces of pals in Homeburg,
Voices of womenfolk,
Verses you learnt in school-days
Pop up in the mist and smoke
As you stand there, grippin' that rifle,
A-starin', and chilled to the bone,
Wonderin' and wonderin', and wonderin',
Just thinkin' there—all alone!

When will the war be over?
When will the gang break through?
What will the U. S. look like?
What will there be to do?
Where will the Boches be then?
Who will have married Nell?
When's that relief a-comin' up?
Gosh! But this thinkin's hell!
—Hudson Hawley in the Stars and Stripes.

CANNING OF HOMINY.

Dissolve two level tablespoons of soda lye (commercial sodium hydrate) in each gallon of water in an agateware pot. Place dry white corn in this and boil hard for one hour. Place the corn in a wire basket or mosquito-netting bag and allow cold water to run through it for five or six hours. If this cannot be done, place in a large tub of water, change the water often and stir frequently for six or eight hours. This is to remove the lye.

After the lye has been removed, rub off the hulls and black-tip caps. This can be done by rubbing the kernels over a screen or colander. Separate the hulls and kernels by washing upon a coarse screen.

Fill into cans. Add a boiling hot brine of two tablespoons of salt per gallon of water. Cap and seal. Sterilize cans 45 minutes at 15 pounds pressure, or 1¼ hours on each of three successive days in a wash boiler. If jars are used, sterilize 1½ hours for three successive days.

Defective teeth reduce physical efficiency and are responsible for many cases of heart disease, rheumatism and other chronic affections. Parents who are doing their full duty by their children should see that their teeth are properly attended to.

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MARTINEZ, CAL.

Good Health.

Cathartics for Constipation.

Don't use them except in cases of emergency. Their constant use will in the end only confirm the condition they are intended to relieve. We do not believe a case of constipation exists, except where due to some malformation or misplacement of the intestines, that cannot be cured by dieting and proper hygiene. Drink plenty of water (the "universal solvent"), eat plenty of good fruit and vegetables, avoid foods too concentrated or too rich, go to stool at regular intervals, whether you feel the prompting or not, take plenty of physical exercise in the open, live and sleep in well-ventilated rooms only, and you will rarely or never be troubled with this ailment. Coarse grains, such as whole wheat or bran breads, are excellent. Don't be afraid of grain hulls or husks, but masticate them thoroughly.

The Baking Soda Habit.

Too much baking soda is harmful to the digestion. It is commonly used with sour milk in cookery. Being an alkali, it counteracts the lactic acid contained in such milk. Where the soda is taken to correct the eructations of a sour stomach after meals, its action is the same—the neutralization of the superacid contents of the stomach. The physiological objection to soda in cookery is that it neutralizes the hydrochloric acid of the gastric juice—a natural secretion—and thus disturbs normal digestion.

Sugar Crystals in Jellies.

The crystalline substances that occur occasionally in grape jellies and some forms of jam are either crystals of pure sugar or of dextrose, an antecedent of sugar. They occur when an excess of sugar is present. As a form of sugar they are a perfectly good food, but not as acceptable to the taste as when the sugar coalesces with the jelly mass.

Food Value of Nuts.

Almonds contain 21.4 per cent of protein, 54.4 per cent fat, and 13.8 per cent carbohydrates. Walnuts contain 18.2 per cent of protein, 60.7 per cent fat, 13.7 per cent carbohydrates. Nuts generally average 20.76 per cent protein, 53.08 per cent fat, and 18.23 per cent carbohydrates. But, after all, the chief value of nuts lies not in their chemistry but in their delicious savor.

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Agricultural Summary

Heavy Receipts and High Prices.

Statistics recently published show the cattle run of last month the largest of any July in history. There were 314,000 cattle and 54,000 calves. Over 600,000 hogs run through the pens was the largest July run since 1901. The average cost of hogs for the month was $17.75, second highest on record here. Near-record prices for hogs are ascribed to recent heavy Government orders. Also, in spite of the heavy receipts noted, the better classes of beef cattle have been steadily advancing in value, new records being made the last week of the month, $18.65 being paid for corn-feds weighing 1225 to 1350 pounds. The July top last year was $14.15.

Egg Prices the Coming Winter.

There is little doubt that the rules of the Food Administration which prohibits the making of more than a fixed profit on eggs is having a tendency to bring eggs out of storage earlier than usual. One result of this is likely to be a decided shortage when eggs become scarce, and the dollar a dozen egg is again predicted for the coming winter. Meantime some effort is being made to bring eggs into this market from the Middle West. Should this prove successful, it may tend to stabilize the market and prevent the withdrawal of the winter supply from storage before the winter arrives.

The 1918 Rice Crop.

The millers and the Food Administration have now signed up an agreement as to the price to be paid for the 1918 crop. The growers are not a party to the agreement, but a majority of them requested that such an agreement be drawn. The price under the agreement will be $4.32 per hundred for paddy and the price at the mills will be $7 per hundred for No. 1 clean rice. This means that the jobber will add one dollar as his profit and the retailer will add two dollars, making the price to the consumer 10c per pound.

Cattle Moving Eastward.

Good cattle continue to be scarce in the East and bring top prices—$17.75 to $18.25 being offered at some receiving points for extra choice lots. It is rumored there has been a big movement of beef cattle from California eastward. Some of our ranges are said to be overstocked for the amount of diminished feed available, and the record prices prevailing at Eastern markets are an attraction not to be ignored.

Bean Market Dormant.

It is difficult at the present time to force into sale the few shipments that are received. The period of most active demand is past, when large orders were filled by local dealers from foreign sources. On the whole, the immediate outlook for beans is not promising. Late forecasts of the U. S. Department of Agriculture indicate an increase of almost 5,000,000 bushels in the crop, with a total of 19,791,000 bushels.

Term Contracts on Fruit Permissible.

The Food Administration has announced that under its rules growers of dried fruits may enter into term contracts with packers if definite prices are not named and where the intention of the contract is merely to secure the crop. Such contracts must also include a provision stating that they are subject to the rules and regulations of the Food Administration.

Enormous Demand for Hog Products.

Tremendous exports of hog products are being made to our European allies. The last week in July 25,956,000 pounds of lard and 38,590,000 pounds of bacon were shipped, as against only 993,000 pounds of the former and 1,536,000 pounds of the latter a year ago.

Milk Goes Up.

Certified milk was advanced last Thursday in San Francisco from 17c to 20c a quart, cream from 26c to 35c a pint.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, August 14, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 2	2.09

BARLEY.

While there was not much movement in barley this week, prices stiffened somewhat under the refusal of the growers to sell at the figure offered.

Choice feed, per ctl	$2.40@2.47½

OATS.

Oats are quiet at last week's quotations.

Red feed, per ctl	$2.50@2.65
Red seed	2.75@3.25

CORN.

There is no California corn on this market and very little Eastern. The market is dead.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$4.20@4.25
Milo maize	3.95@4.05
Egyptian	4.05@4.10

HAY.

The receipts of hay for the past week were 2509 tons, compared with 2422 the previous week. The market has been heavily stocked throughout the week. Demands have been light and it was only with difficulty that arrivals were removed from the tracks. Practically all the hay arriving is that which has been purchased by dealers at good prices in the country throughout the summer. Considerable alfalfa has arrived during the week from the river districts as well as from the interior. It is reported that, owing to the lack of water in many districts, and trouble with grasshoppers in others, later cuttings of alfalfa are liable to be short of former estimates.

Wheat No. 1	$23.00@25.00
do, No. 2	20.00@22.00
Choice tame oat	24.00@26.00
Wild oat, new	19.00@23.00
Barley, new	19.00@23.00
Alfalfa, first cutting	18.00@20.00
do. second cutting	22.00@24.00
Stock	18.00@20.00
Barley straw	50@80c

FEEDSTUFFS.

Rolled barley and rolled oats were again lower this week, but otherwise there were no changes in the prices of feedstuffs. The wheat by-products are now being quoted at the Government prices, which are for carload lots and without sacking. The demand for these feedstuffs is said not to have developed as yet to any extent.

New alfalfa meal, per ton	$33.00@34.00
Coconut cake or meal	44.50
Cracked corn	86.00@88.00
Oilcake	$75.00@76.00
Rolled barley	52.50@53.50
Rolled oats	55.00@56.00
Bran, carload lots in S. F.	23.75
Mixed feed, do, do	25.00
Middlings, do, do	25.75

POTATOES, ONIONS, ETC.

Yellow onions are in good demand and their price has advanced considerably. Potatoes are firm at last week's quotations. Green vegetables are coming in in large quantities and in most cases show a recession in prices from last week.

Peas	6@8c
String beans, per lb	3@4c
Wax beans, per lb	4@5c
Carrots, per sack	50c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
Summer squash	50@90c
Cucumbers (hothouse), per box	50@90c
do, Alameda, lugs	50@90c
Eggplant, per box	50@65c
Lettuce, Sacramento, crate	75c@$1.00
Tomatoes, per crate—	
Merced	50@75c
Bay	75c@$1.00
Potatoes—	
Garnet Chile, on street	$2.00@2.25
Whites	2.25@2.60
Sweets, per lb	4¾@5c
Onions	
River Reds	$1.50@1.65
do, Yellows	2.35@2.50
Garlic, new	12½@15c
Green corn, Alameda, per sack	$2.00@2.50
Okra	6@8c

BEANS.

Few sales are reported. Red kidneys are now practically off the market and garbanzos are becoming scarce. The price of the latter was advanced on account of some inquiry for the depleted stock. Cranberry and tepary beans were weak on offers of more than the market could absorb.

Bayos, per ctl	$ 7.75@ 8.00
Blackeyes	6.75@ 7.00
Cranberry beans	10.25@10.50
Limas (south, recleaned)	12.50@12.75
Pinks	7.00@ 7.10
Red kidneys	Nominal
Mexican Reds	7.50@ 7.75
Tepary beans	8.00@ 8.50
Garbanzos	8.00@ 8.75

POULTRY.

The general tone of the poultry market is firm, with an upward tendency for hens and small broilers. A temporary oversupply of 1¼ to 1¾ lb. broilers lowered their price. Fryers and young roosters are plentiful and their quotations were temporarily lowered.

Turkeys, live, per lb., young	28@30c
do, dressed	32@34c
Broilers, 1½ to 2 lbs	36c
do, 1¼ lbs	37@38c
do, ¾ to 1¼ lbs	42@43c
Fryers	35@36c
Hens, extra, per lb., colored	31@32c
do, Leghorn	27@30c
Smooth young roosters, per lb. (3 lbs. and over)	36@38c
Old roosters, colored, per lb	20@21c
Geese, young, per lb	22@23c
do, old, per lb	21c
Squabs, per lb	42@45c
Ducks	25@27c
do. old	23@24c
Belgian hares (live)	15@18c
do, dressed	19@23c

BUTTER.

The butter market has been strong throughout the week, with very slight fluctuations in price. More or less butter is being constantly taken from storage and placed on the market and it is reported that the quantity now in storage indicates high prices the coming winter.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	52	52	51½	52	52	51½
Prime 1st	50	49	49	49	49	49
Firsts			Nominal			

EGGS.

Eggs took a decided jump since last Saturday, advancing 4½c for extras and 2c for pullets. The latter passed the 50c line today for the first time in the season. All business is at present concentrated on these two descriptions. The only suggested reason for the rapid advance in price of eggs this week is that the distribution has been poor. Arrivals have been about normal, but a few dealers seemed to have a monopoly of the receipts.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	50½	50½	50½	52	53	54½
Extra 1sts			Nominal			
Firsts	46	46	46	46	46	Nom.
Extra pullets	48½	48½	48½	49½	49	50½

CHEESE.

The cheese market is showing continued strength and advances of 1c a pound are noted in Fancy California flats, first California flats and cold storage Oregon triplets fancy. This latter cheese now sells at an advance of 2½c a pound over the same description of new cheese.

Fancy California flats, per lb	28c
First California flats	26½c
Oregon triplets, fancy	27½c
Oregon Y. A. fancy	27½c
C. S. Oregon triplets fancy	29c
do, Oregon Y. A. fancy	27c
Monterey cheese	21@23c

FRESH FRUITS.

The berry market was weaker this week. The demand was light throughout the period, and while arrivals were not heavy the prices had to be lowered to move the stock. Apricots are becoming scarcer and were advanced in price. Grapes are coming in in greater variety and quantity and seem to move readily.

Apples	$1.50@2.50
Apricots, per crate	1.25@2.00
Peaches, 4-box crate	.75@1.00
Figs, black, per box	None
do, double layer	$1.00@1.50
Strawberries, per chest	$7.00@9.00
Blackberries, per chest	6.00@7.00
Raspberries, per chest	9.00@11.00
Loganberries, per chest	8.00@10.00
Plums	$1.00@1.50
Cantaloupes, flats	75c
do, ponies	$1.50@1.75
do, standard	1.75@2.00
Watermelons, per lb	1½@2c
Pears, Bartlett, per box	$2.00@2.50
Grapes, seedless	1.00@1.25
do, Malaga	1.75@2.00
do, Fountainbleu	.90@1.00
do, Tokay	1.50@1.75

CITRUS FRUITS.

The citrus fruit market is in the same condition as last week, but no changes in quotations are reported. While some grapefruit has sold at $6, not enough has gone at that price to establish it as a market quotation.

Oranges:	
Valencias, fancy	$6.75@7.00
Valencias, choice	6.25@6.75
Lemons:	
Fancy, per box	7.00@7.50
Choice	5.50@6.50
Standard	4.00@4.50
Lemonettes	4.00@5.00
Grapefruit, fancy, new	4.00@5.00

DRIED FRUITS.

No market quotations have as yet been established on either apples or pears. There has been some buying of the former at 13c, but very few dealers are willing to pay this price. For pears the growers are demanding 10c and 11c for the class of stock they received 7c and 8c for last year. It is reported that some scattering sales have been made at 10c, but the local dealers decline to accept this as establishing a market price. The other crops have been pretty well bought up as far as is safe on the present status of the crops.

Prunes, graded, price to growers: gain in dip	11c
Prunes, graded prices to growers:	
20-30, inclusive, per lb	15c
31-41, inclusive, basis	10c
42-51, inclusive, basis	9½c
52-61, inclusive, basis	8½c
62-71, inclusive, basis	8½c
82-91, inclusive, basis	8c
92-101, inclusive, basis	8c
102-121, inclusive, per lb	4½c
122 and up, per lb	4c
Apricots	12@19c
Figs	12@16c
Raisins—	
Muscats	5½c
Thompsons	6¾c
Sultanas	6½c

HONEY.

The honey market is stagnant. There has been quite a movement, but at the present time no one seems to want to buy at the prices quoted.

White, extracted	21c
Light amber	18@20c
Amber	15@18c

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop at mill	7.00

HIDES.

Due to some confusion arising from Government regulation of prices, dealers are buying sparingly, or at prices sufficiently low to insure a safe margin.

Wet salted hides, per lb., taken off from August 1 to September 1, all weights: No. 1, 19c; No. 2, 17c; No. 3, 16c; bulls and stags, No. 1, 15c; No. 2, 13c; kips, No. 1, 21c; No. 2, 19c; calf, under 15 lbs., No. 1, 33c; No. 2, 31c.

Horse—Dry, per lb.: No. 7, large, $2.25@2.50; medium, $1.75@2.35; small, $1.00@1.50; salted, $3.00@5.00; colts, 25@75c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, August 12, 1918.

Under increased offerings in most of the auction markets and due also to the fact that a greater proportion of the stock has been arriving ripe, there has been a decline in Bartletts. Sound stock not showing color has been selling equal to the week previous, but ripe stock has taken a slump. The arrivals of Northwestern pears have also had some effect upon the markets, but conditions will revert to normal as soon as the heavy movement of fruit now rolling has been disposed of. Sacramento river Bartletts will probably all have been shipped by the middle of this week. This applies also to plums.

Placer county plums and Elbertas will clean up by the end of this week and the later varieties of peaches will undoubtedly find a ready market. Northwestern peaches are arriving in some of the Eastern markets and the supply has had some effect upon the market.

A few Tokays from Winters and Vacaville have begun to move, but the quality is very poor. The Bartletts show lack of color and are undersized, due to the lack of moisture in soil. The unirrigated districts of the San Joaquin Valley will produce an inferior Tokay this season, but the irrigated stock will be of excellent quality. We look for the movement of Tokays from the Lodi section to begin about the 20th.

Early Thompsons from the Fresno district sold to good advantage, but shipments have practically ceased, giving way to Malagas. The shipments are heavy and will be for the next few weeks. At present the markets are in good condition, though we look for a decline shortly, though prices will probably hold to a satisfactory basis. If the distribution of Malagas is equalized and the auction markets not overloaded by uninformed speculators, there will be no difficulty experienced in disposing of the entire crop to good advantage.

The refrigerator car situation has improved considerably during the past few days and we do not look for any inconvenience for the balance of the season.

Transportation conditions, as a whole, are better than last season, and with the exception of a few instances the schedules are being maintained and diversions accomplished without much delay.

There is nothing to indicate that anything will interfere with any of the markets for the balance of the season, but conditions can be best regulated and satisfactory sales assured by careful distribution.

New York: Bartlett pears $3.24; Malaga grapes $2.84, Thompson Seedless $2.40; St. John peaches $1.37; Elberta $1.63, Tuscan $1.71, Crawford $1.27; American Blue plums $1.67, Yellow Egg $1.67, Wickson $1.93, Burbank $1.78, Diamond $1.80, Hiniori $1.70, Tragedy $1.65, Duane $1.40, Grand Duke $1.88, Kelsey $2.40.

Boston: Kelsey plums $2.19, Diamond $1.67, Yellow Egg $1.40, American Blue $1.55, Burbank $1.51, Wickson $1.81, Grand Duke $1.62, Tragedy $1.73, Duane $1.45, Bradshaw $1.50, Giant $1.70, Standard $1.42; Crawford peaches, 99c, Elberta $1.17, Tuscan $1.26, St. John $1.16; Malaga grapes $2.87, Thompson Seedless $1.73; Bartlett pears $2.60.

Chicago: Bartlett pears $3.33; Elberta peaches $1.46, Tuscan $1.41, Crawford $1.24, St. John $1.29, Foster $1.35; Malaga grapes $2.54, Thompson Seedless $1.44, Tokay $3.15; Nectarine $2.14; Tragedy plums $1.87, Burbank $2.06, Wickson $2.18, Diamond $1.91, Giant $1.70, Grand Duke $1.80, Kelsey $1.98, Sugar $1.74, Gaviota 2.19, Satsuma $1.94.

Shipments, by cars, from August 3 to 9, inclusive: 778 peaches, 121 plums, 564 pears, 206 grapes.

Total shipments to date, 1918—6635 cars.
Total shipments to date, 1917—5909 cars.

LOS ANGELES

Los Angeles, August 13, 1918.

BUTTER.

There was quite a falling off in the receipts the past week, but as the high prices had commenced to tell on the demand the market lost tone and the middle of our review week extras on 'change broke 2c and the demand was not strong at this decline. Receipts for the week were 246,000 pounds, against 371,100 pounds the same week last year. There was taken into cold storage 15,372 pounds, which had a bearish influence. Cold storage stocks now being 211,545 pounds heavier than this time last year.

We quote:
California extra creamery..............48c
do, prime first 47c
do, first 46c

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	50	50	50	48	48	48
1917—						
Extra	44	44	44	44	44	44

EGGS.

A snappy market continues to be had for what few fresh eggs are coming in. The receipts for the week by rail were 952 cases, against 1080 cases the same week last year. The truck receipts continue to run about four times as large as the arrivals by rail, which would make the supply for the week 4760 cases against 5400 cases the same week last year. The cold storage stocks had to be drawn on to the extent of 507 cases to make up the shortage in the fresh receipts.

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	48	48	48	48	48	48
Case count	47	47	47	47	47	47
Pullets	46	46	46	46	46	46
1917—						
Extra	42	42	42	41	37½	37½
Case count	41	41	41	41	37½	37½
Pullets	38	38½	38½	37	37	37

POULTRY.

A good deal of young stuff coming in and demand is only fair. There is no life for anything at the high prices.

The following prices were agreed upon last Friday, August 9, and hold good until the coming Friday:

Broilers, 1@1¼ lbs. 30c
Broilers, 1½@1¾ lbs.......................33c
Fryers, 2@3 lbs. 31c
Roasters (soft bone), 3 lbs. and up.....31c
Stags and old roosters, lbs.............19c
Hens ....20@27c
Tom turkeys ....30@33c
Ducks ....22@28c
Geese 15c
Squabs, live, per lb. 30c
Squabs, dressed, lb. 40c

VEGETABLES.

There are but few changes in this market the past week. Offerings pretty good of most everything. Demand fair for all fresh stuff, but stale and poor hard to move. Only local potatoes are on the market, and receipts light, hence a higher market and good demand. The best onions are in fair request and prices steady. Cabbage scarce, steady and firm. Peppers slow sale and a little lower. Tomatoes steady and the best are in fair demand. String and lima beans steady. Cucumbers, corn and summer squash steady but dull.

We quote from growers—
Potatoes, new, per lug............75c@$1.00
New potatoes, per cwt..........$2.25@2.50
Sweet potatoes, per lb.................4@5c
Garlic, per lb. ....5@6c
Onions—Stockton Yellow Danvers, cwt. ....$2.00@2.25
Onions—White Globe, per cwt.. 2.00@2.25
Onions—Small Bermuda, per crate..80@90c
Garlic, lb. ....5@7c
Cabbage, per 100 lbs. ....$2.00@2.50
Bell peppers, per ....3@3½c
Chile peppers, per lb.................3@3½c
Peas, Northern, per lb. ....10@12c
Summer squash, local, per lug.....25@30c
String beans, per lb. ....4½@5c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb....4@5c
Cucumbers, home-grown, per lug..25@40c
Corn, per lug of 3 doz. ....65@75c

FRUITS.

With abundant stock on the market the past week, the market was dull. Black Spanish figs, being in light supply, showed the most life. Nectarines sold fairly and so did fancy pears. Grapes were both dull and lower.

We quote from growers:
Figs, Black Spanish, 7-lb. box.....75@85c
do, White, 7-lb. box..............60@70c
Peaches, freestone, per lug......$1.00@1.35
do, clings, per lug............. 1.25@1.50
do, Northern, freestone, lb.........3½@4c
do, do, clings, lbs.................3@3½c
Pears, per lb...........................4@7c
Crabapples, per lug ....$1.00@1.25
Beauty plums, per lb. ....6@7c
Climax, per lb. ....5@6c
Tragedy, per lb. ....7@8c
Satsuma, lb. ....5@6c
Burbank, lb. ....4@4½c
Santa Rosa ....6@7c
Nectarines, per lb......................5@7c
Grapes—Imperial Valley Malagas, per lb. ....3@3½c
Grapes, Muscat, per lb..............3@3½c
Thompson's Seedless, per lb.......3½@4c
Apples, Red Astrachan, per lug....65@80c
do, White Astrachan, per lug....65@80c
Banana apples, per lug ....90c@$1.00
Apples—Alexanders, 4-tier............$2.25
do, 4½-tier 2.00

BERRIES.

There were more strawberries and blackberries in the past week than for some little time, and the market was slow and lower for both. There is too much other fruit on the market. Raspberries in light supply and firm, while loganberries have been all marketed.

We quote from growers:
Strawberries—
Fancy, per 30-basket crate....$2.00@2.25
Poor to choice, 30-basket crate 1.50@1.65
Blackberries, 30-basket crate.... 1.80@2.00
Raspberries, 30-basket crate..... 2.50@2.85

MELONS.

Cantaloupes are now coming to market freely; quality is good. Under increased offerings the market ruled lower the past week, but at the decline there was a very good movement. Watermelons have been dull under the influence of cooler weather, but prices hold steady.

We quote from growers:
Cantaloupes—
Tip Top, home-grown, standard crate ....65@75c
do, do, pony crate ....40@60c
do, do, jumbo crate...........$1.50@1.75
Columbia, jumbo crate........ 1.75@2.00
Casabas, per lb.........................2½@3c
Pineapple, standard crate..........65@75c
do, jumbo crate ....$1.50@1.75
do, Paul Rose, standard crate.75c@$1.00
Watermelons, per 100 lbs. .... 1.00@1.25
Honeydew melons, special........... 2.00
do, do, flats........................ 1.25

HAY.

Receipts the past week were in excess of the demand, though not especially heavy. Buyers holding back and only taking what was needed from day to day. Hence a draggy and weak market for barley hay and alfalfa. Oat hay rather firm under scarcity.

We quote f. o. b. Los Angeles—
Barley hay, per ton ....$24.00@26.00
Oat hay, per ton .... 25.00@27.00
Alfalfa, northern, per ton .... 21.00@22.00
Alfalfa, local, per ton .... 22.00@24.00
Straw, per ton .... 9.00@10.00

BEANS.

It is too early yet for new crop beans and there are not many old ones on hand. But few are wanted. Only a few small lots being taken by the home-consuming trade.

We quote from growers:
Limas, per cwt.....................$12.00
Large white, per cwt................ 12.50
Small white, per cwt................ 12.50
Pink, per cwt......................... 7.50
Blackeyes, per cwt................... 7.00
Tepary, per cwt...................... 8.50

COTTON.

There was less excitement in the market the past week. Realizing by some longs and reported showers in some sections of the cotton belt caused the market to weaken a little early in the week. It recovered on the report of continued dry weather in Texas. The annual report of the New Orleans Cotton Exchange Monday gave the annual crop for the year marketed up to the first of August, 11,906,973 bales, or 1,033,961 bales less than the previous year. This started speculation again and there was very good buying Monday both in New York and New Orleans. August closed in New York, Monday, at 29.43c, and October at $29.53c. Spot middling in New Orleans, 28.75c.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan.	2	34.50	50.40	35.25	50.16
"	9	39.41	51.08	36.90	50.00
"	16	35.83	52.33	37.00	50.50
"	23	36.91	52.50	35.00	52.00
"	30	38.48	53.00	38.87	51.83
Feb.	6	40.00	50.80	41.19	49.66
"	13	39.70	52.00	39.00	48.00
"	20	36.00	51.41	37.00	48.00
"	27	37.00	51.30	36.00	49.33
March	6	35.50	50.66	34.50	50.00
"	13	33.50	51.16	33.00	49.50
"	20	33.25	47.83	33.00	47.00
"	27	36.00	46.30	33.00	43.30
April	3	37.91	43.16	36.33	42.16
"	10	39.33	39.25	37.00	39.50
"	17	39.58	39.00	38.00	36.83
"	24	35.56	40.50	36.50	38.16
May	1	33.08	40.83	33.00	39.00
"	8	34.05	40.66	33.20	39.00
"	15	35.50	40.46	34.16	39.00
"	22	36.30	44.33	35.16	41.00
"	29	36.60	42.30	37.33	39.00
June	5	36.30	43.90	37.66	41.58
"	12	36.50	44.92	38.00	40.58
"	19	36.00	46.50	37.50	41.75
"	26	35.06	47.42	37.00	43.00
July	3	35.06	48.08	37.00	46.00
"	10	36.41	48.90	37.16	47.50
"	17	37.83	50.83	38.66	48.66
"	24	40.25	52.66	42.58	45.16
"	31	42.82	52.16	44.00	51.00
August	7	43.00	52.16	43.00	50.83
"	14	41.66	51.66	42.00	49.00

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan	2	38.10	52.80	37.00	48.16
"	9	37.91	60.91	38.16	50.66
"	16	41.83	65.66	40.83	55.00
"	23	32.50	65.66	33.12	58.00
"	30	32.08	61.25	33.02	54.00
Feb.	6	34.99	58.50	34.70	51.66
"	13	33.30	44.40	31.66	44.83
"	20	33.01	44.75	30.75	40.83
"	27	29.00	42.40	27.66	39.58
March	6	24.75	36.83	24.91	35.00
"	13	25.96	37.91	26.08	38.00
"	20	25.66	40.66	25.91	39.63
"	27	27.16	39.50	28.00	40.00
April	3	28.58	38.91	29.25	38.33
"	10	29.66	37.58	30.41	36.33
"	17	32.33	39.16	32.08	36.83
"	24	32.91	40.50	32.83	39.66
May	1	32.00	41.66	31.83	39.33
"	8	33.75	40.08	32.00	37.00
"	15	34.20	39.16	32.50	38.83
"	22	33.40	40.50	34.00	39.00
"	29	33.80	38.66	33.50	37.41
June	5	33.20	40.80	34.66	38.83
"	12	31.16	41.00	33.00	33.75
"	19	31.41	43.33	33.10	33.00
"	26	30.16	44.32	32.16	39.08
July	3	31.90	44.91	34.25	41.75
"	10	33.50	48.30	36.00	45.00
"	17	33.66	47.66	34.41	45.50
"	24	35.25	47.91	36.91	45.16
"	31	38.00	48.83	40.16	46.56
August	7	42.58	49.50	37.08	46.58
"	14	41.41	52.08	42.25	48.00

Special Citrus Market Report

Los Angeles, August 12, 1918.

The feature of the citrus market this last week is the lemon situation at Eastern points. The exceptionally hot wave which wilted down the Eastern seaboard and prompted parched throats to yearn for deep draughts of citrated relief, sent the lemon market skyward, prices reaching above $10 a box at several points of distribution. Of course, prices will fall with the subsidence of the hot spell, though a healthy level will be maintained doubtless until about the middle of next month, when the distinctively summer demand for the fruit ceases. There are fairly heavy arrivals of foreign lemons, but their generally inferior quality declasses them as competitors of the California article.

Valencia oranges have it all their own way. The demand so greatly exceeds the supply that unprecedentedly high price levels prevail. It is reported that the fruit sells higher in the auction markets than at private sale, and therefore the bulk of the stock is moving that way. The New York market has ranged from $4.15 for poorer grades up to $9.75 for fancy, Philadelphia $6.55@8.75, Boston $7.30@8.25. F. o. b. quotations are around $7 for good stock.

Seasonal shipments are approximately: Oranges, 12,900 boxes (against 35,600 last year); lemons, 5000 boxes (against over 7000 last year).

Special Livestock Market Report

San Francisco, August 14, 1918.

CATTLE—In the East, owing to the heavy call for meats for foreign export, and the scarcity of feedstuffs, the demand for meat animals of all kinds is unprecedented and prices range around the record level. The movement of cattle from the West has slackened up somewhat. Local conditions are not greatly affected by the Eastern situation. There is a plentiful supply of cattle in the market here, such as they are, though a great scarcity of choice stock persists and the latter commands premium prices.

Grass steers—
No. 1, weighing 1000 to 1200 lbs.11½@12c
No. 1, weighing 1200 to 1400 lbs.11½@12c
Second quality ....10@11c
Thin ....8@9c
Cows and heifers—
No. 1 ....8@8¼c
second quality ....7@7½c
Common to thin ....4@5½c
Bulls and stags—
Good ....6@7c
Fair ....5@6c
Thin ....4@4½c
Calves—
Lightweight 11c
Medium 10c
Heavy ....8@8½c

SHEEP—There is a free supply of mutton sheep in the San Francisco market at the present time, with a very limited demand from the retail trade, people preferring to buy the more substantial and lower priced beef instead.

Lambs—
Yearlings ....12@12½c
Milk ....14@14½c
Sheep—
Wethers ....11@11½c
Ewes ....9½@10c

HOGS—Owing to the continued and growing scarcity of hogs, coupled with the poor quality of most of those offered, prices for good stuff have made another slight advance. Stubble hogs have not yet begun to move.

Hogs—
Hard, grain-fed, 100@140.....17¼@17½c
do, do, 140@300...................17¾c
do, do, 300@400...................17¼c

Los Angeles, August 13, 1918.

CATTLE—A good many thin cattle are being offered, forced to market by the high price of feed. They were both dull and weak. Choice fed steers are scarce and meeting with ready sale.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs. $10.00@12.00
Prime cows and heifers........ 8.00@ 9.00
Good cows and heifers......... 7.50@ 8.00
Canners, per cwt............... 5.50@ 6.00
Calves, per cwt................ 8.50@ 9.50

HOGS—A firm and fair market was had the past week. Not many coming in and what few arriving only half fat. Yet under scarcity prices are being held steady at quotations, as all killers wanted a few for their fresh meat trade.

Per cwt. f. o. b. Los Angeles—
Heavy, averaging 275@300 lbs..$15.00@16.00
Mixed, 225@275 lbs. .... 16.00@17.00
Light, 175@220 lbs. .... 16.00@17.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Not many coming in and very few wanted. A dull mutton market causing killers to handle but few.

Per cwt. f. o. b. Los Angeles—
Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....13.00@14.00

North Portland, August 12, 1918.

The run of livestock at the North Portland yards today consists of 1400 cattle, 125 calves, 900 hogs, and 1100 sheep.

CATTLE—What few choice to prime steers we are receiving are selling upon a fully steady basis, some changed hands today at 13c, which is the mark for grass cattle. The bulk of the cattle are selling strong as quoted. Prime steers, $11.75@12.75; good to choice steers, $10.75@11.75; medium to good steers, $9.50@10.75; fair to medium steers, $8.50@9.50; common to fair steers, $5.50@8.00; choice cows and heifers, $8.00@9.00; medium to good cows and heifers, $6.00@7.50; fair to medium cows and heifers, $5.00@6.00; canners, $3.00@5.00; bulls, $5.50@7.50; calves, $8.50@11.50; stockers and feeders, $6.00@8.00.

HOGS—What hogs we have today on the market are of good quality generally. The call is good and the market shows an advance of 10c, with indications strong for further advances before the market closes. Prime mixed, $18.95@19.25; medium mixed, $18.75@18.95; rough heavies, $17.25@17.65; pigs, $16.50@17.00; bulk, $19.10@19.15.

SHEEP—The lamb market is showing some life and we are able to quote valley lambs up to 14c. However, the general sheep trade is steady as quoted. East of the mountain lambs, $13.50@14.50; valley lambs, $13.00@14.00; yearlings, $9.50@10.50; wethers, $8.50@9.50; ewes, $6.00@8.00.

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BE PATRIOTIC—Raise stock on productive Government land, plainly marked on county sectional maps; $2.50 any county; booklet. Particulars for stamps. Write Joseph Clark, Sacramento.

BEAUTIFULLY LOCATED INCOME HOME—67 acres. Nuts, fruits, alfalfa, etc. Full equipment. Horses, tractor, etc. Terms. Good schools, roads, and conveniences. Box 163, Elk Grove, Cal.

FOR SALE—A bargain; ten acres desirable cherry land in Atascadero colony, California. Paid principal and interest, $5,400. Present price, to get money quickly, $4,000. Carl Storla, Paso Robles, California.

400-ACRE IMPROVED stock and grain ranch, 3½ miles Pleasant Valley R. R. station, Mariposa county, Cal. 100 acres cleared and tillable; nearly all could be farmed if cleared of large oak and other trees; 3 and 6-room house, large barn and outbuildings; blacksmith shop and tools; fenced and cross fenced, part hog tight; nice family orchard and garden irrigated from springs. Average rainfall, 29.88 inches. Grapes, olives, almonds, etc., grow without irrigation. No alkali or hardpan. Feed in pastures and free outside range adjoining, knee high. Elevation, 1500. School and church, one-half miles. Price, $30 per acre, including 300 goats, 3 horses, 3 head cattle, turkeys and chickens, and all farm implements. $3,000 cash, balance long time, 7 per cent. Fred B. Palmer, owner, Coulterville, Calif.

FOR SALE—Eighty-acre wheat ranch, Monterey county. Good house, 5 rooms, porches, furniture and piano. Barn for 8 horses and hay, wagon shed, blacksmith shop, engine house and small engine, windmill and tank. Three chicken houses, other buildings. Two good wells. Fine water and climate. Price, $3600. Mrs. Ida L. Young, 1920 Sutter street, Vallejo, Cal.

FOR SALE—Best cattle alfalfa ranch proposition in San Joaquin Valley. Half section, 220 acres. A1 stand of alfalfa, 25 acres corn. Abundance of electric pumped water. 300 tons alfalfa in stack. S. P. main line siding on ranch. State highway passes through ranch. Will give terms; deal direct with owner. J. S. Going, Quail Ranch, Pixley, Cal.

FOR SALE—By owner, 19 1/10 acres, fine improved alfalfa ranch. Best water rights, bearing family and grape orchard. In a fine location. For price and information, address Robert Meyers, R. B. 12, Los Molinos, Cal.

ALFALFA RANCH IN FRESNO COUNTY—50 acre alfalfa ranch, subirrigation, with substantial improvements, work stock and implements. Price, $20,000. $6,000 cash, balance long time. J. Hargeshimer, Sanger, Cal.

WANTED.

WANTED—Foreman for large ranch in upper San Joaquin Valley. Grain and fruit. Steady position, good wages for honest, experienced, intelligent, and energetic man. Give full information, references, and salary expected. Address Superintendent, Box 1220, Pacific Rural Press, San Francisco.

WANTED TO RENT—An orchard or combination ranch, either shares, cash or salary with percentage. Have had years successful experience, with modern agricultural training. Best references furnished from percentage concern. Box 1210, Pacific Rural Press.

WANTED—To rent, a ranch suitable for hogs, about 60 acres farm land, part in alfalfa. Hans Duveneck, Ukiah, Cal.

A Message from the Secretary of Agriculture to American Farmers

TO THE PATRIOTS ON THE FARMS:

You are asked to undertake another offensive—to go "over the top" this fall for a great harvest of wheat in 1919. I need give only a few figures and facts to impress you with the increasing and urgent need of our people, our armies, the allied peoples and their armies for large supplies of American wheat.

Our reserve supply or carry-over from the 1917 crop is practically exhausted and is the smallest on record. The need of building up reserves of wheat is evident. Although this country produced a small crop of this grain in 1917, the total exports of wheat in excess of imports, including flour in terms of wheat, amounted to approximately 100,000,000 bushels for the year ending June 30, 1918. This is in comparison with 178,000,000 bushels exported in 1917, 236,000,000 bushels in 1916, and 331,000,000 bushels in 1915. It was possible for the United States to export wheat in large quantities in 1915 and 1916 only because of the large wheat crops of 1912-13-14-15, which gave this country an accumulation of stocks of this grain. Both the 1916 and 1917 crops were smaller than any crops since 1911 and besides this there was a greater demand for seed wheat and an increased population to be fed.

Moreover, it must be borne in mind that the carry-over in all the ten importing countries in Europe was practically exhausted this year before the new harvest; that the normal requirements of the exporting countries are increasing instead of diminishing; that some losses in storage and transit may be expected to continue; and that it is highly desirable that a surplus should be accumulated as insurance against partial crop failure next year.

You have been asked to sow to winter wheat this fall not less than 45,000,000 acres — an increase of 7 per cent over last year's sowing — and the Department has suggested that an even greater area, 47,500,000 acres, is desirable. The increased planting asked of each State has been carefully determined with regard to its local conditions and its reasonable capabilities. Your county agent can tell you the quota assigned to your State and you can apply the responsibility to your case.

You have occupied and do occupy the first line trenches of the food army. You have to fight difficulties too. I am not unmindful of these. In the Department of Agriculture we consider them daily, and daily we give our best efforts to help you meet them. You know of the difficulties in your community, but I know of them in many communities of many States, and so seriously do they impress me that I might almost consider them insurmountable had not American farmers last year, and again this year, revealed the true American fighting spirit and ability to meet serious situations. They will not let the war fail because of deficient food production.

Let us sow liberally for a big harvest in 1919. It has been called the Liberty Wheat Harvest. We all hope it will be. But let us undertake the task with the determination that we will sweat our blood for many more if need be before we yield one measure of our freedom to a Prussian domination. Let us fight in the furrows.

D. F. Houston.

Secretary of Agriculture.

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THE PACIFIC RURAL PRESS

Vol. XCVI—No. 8

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — AUGUST 24, 1918 — LOS ANGELES

State Library

Why I Want to Go to the State Fair

Written for Pacific Rural Press

I'VE JUST BEEN UP TO SACRAMENTO nosing about the State Fair grounds. You remember the main building that burned down two years ago. They are putting up a whale of a brick, concrete, and steel pavilion there for fruits, nuts, field crops, and the like. Several of the counties will display the best of their agricultural resources. There's been a fellow here trying to sell fruit land in Paradise Valley. Maybe they will have an exhibit and we can see some one from there. Dry spraying has been boosted lately. Spray guns were advocated last winter. Probably some of these machines will be exhibited. It will be good to see all the different power spray rigs together, too, and get a line on other developments.

I'm worried about my trees. They need water and next year's crop may be shy unless they get it pretty soon. It will be safest to see the various kinds of pumps working together at the State Fair before selecting one. Maybe folks will tell the good points of each and defects of the others. Secretary Paine says they are going to put pumps with their engines and other noisy machinery outdoors. They are building a pit beside the tractor tents so the pumps can be working. There will be all kinds of heavy subsoilers, land levelers, disks, plows, harvesters, threshers, and machinery in and around the tractor tents. It's wise now to keep posted on easier ways of getting the farm work done.

Grandstands at the State Fair are being enlarged. Marines and marine bands will drill twice or more daily at the State Fair this year.

New $300,000 Agriculture-Horticulture Pavilion at the State Fair, Sacramento.

Getting the Right Tractor.

Jones bought a tractor awhile back, but he says it was built for his brother's farm over in the valley and isn't what he wants here. He is going to see the tractor exhibit and pick the one he wants. The California Tractor Association will have two big tents and most every kind of tractors there are in the West. The Pacific Rural Press says there are more improvements on tractors this year than ever before, but no one tractor has most of them. I need one that will help in silage cutting pretty soon and will cultivate the orchard, too. Maybe the right machine is there.

The milker has worked me several times for a raise. He has a tendency to break the camel's back. If in that long line of dairy machinery by the cow barns a suitable milking machine can be found, I may get one and run it myself. It's easier to get field hands than milkers. A separator that doesn't leak butterfat for hog feed might save some coin on our farm, too. Some cream came on a bucket of old skim milk the other day. There are improvements in silage cutters also that it might pay to know about; and the articles printed lately about chopped hay and straw make a fellow interested in that machinery. An electric power line is coming through this neighborhood pretty soon, but they say electricity costs more than gas engines and is less convenient in some ways but more convenient in others. There will be a chance to look that up.

We Need Better Stock.

I had a notion to buy some registered cows two years ago. Makes you kind of sick to milk common cows after you see those at the Fair. But purebreds cost a lot of money. Still, neighbor Smith is making money and getting pretty well known all over the West. He bought his first registered females a few years ago and people called him a fool for paying so much money. But when the heifers freshened it didn't take him long to kick the scrub cows out of the herd. Wish I had at the same time.

Uncle Sam wants us to raise more pigs. But he doesn't like us to feed good grain into these broken-backed, cat-legged, common hogs. The sort they show at the Fair is the sort that makes the most pork per pound of grain. They say that skim milk is worth 75 cents a hundred pounds for hog feed along with other stuff at present hog prices. Maybe I'd better quit raising dairy steers and give the skim milk to hogs. Governor Stephens is going to auction some hogs and beef cattle for the benefit of the Red Cross. That would be a patriotic way to start. Those beef cattle at the Fair made me discontented with dairy steers anyway and if I raise any more cattle for meat they had better be that kind.

Wife and the kiddies will enjoy the horses and the horse show and the

(Continued on page 184.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

TO HELL WITH THE KAISER!

JOIN THE MARINES!

—U. S. Navy Placard.

WE ARE adding fifty per cent to our usual mid-summer dimensions this week that we may more fittingly exalt an opportunity which California will have during the next few weeks to temper anew the blade and whet the edge of her lofty purpose for mankind and to lay fresh hold upon it with her strong arm of national patriotism!

A million and a quarter American soldiers are now in France aiding and supporting the allied movement which is resistlessly rolling back the hordes of inhumanity and outrage and twice as many more within a half year are decreed by Congress to stand beside their brothers in the war for human rights. It is a time to fill the soul with high resolve: to fan the flame of patriotism into a roaring conflagration of devotional ardor before which all petty doubts and disputes shall perish, that we may pour forth a pure stream of service and sacrifice to save the world! It is a time when every American should rise to his full height, fling out his arms to the sky and cry aloud:

Good Lord! look down from the windows of Heaven upon us! Fill us with Thy Spirit! Make us men in Thine Own Image—and watch us put up the best fight for righteousness which has been pulled off since Thine Own: of which Thy servant Milton wrote:

The infernal Serpent * * * what time his pride
Had cast him out from Heaven, with all his host
Of rebel angels: by whose aid aspiring
To set himself in glory 'bove his peers,
He trusted to have equall'd the Most High,
If he opposed: and with ambitious aim
Against the throne and monarchy of God,
Raised impious war in Heaven, and battle proud
With vain attempt. Him the Almighty Power
Hurl'd headlong flaming from th' ethereal sky,
With hideous ruin and combustion, down
To bottomless perdition—there to dwell
In adamantine chains and penal fire,
Who durst defy th' Omnipotent to arms.

* * * * * * * * *

—but that the will
And high permission of all-ruling Heaven
Left him at large to his own dark designs,
That with reiterated crimes he might
Heap on himself damnation, while he sought
Evil to others, and enraged might see
How all his malice served but to bring forth
Infinite goodness, grace and mercy shown
On Man, by him seduced: but on himself
Treble confusion, wrath and vengeance poured.

And to this end, O Lord, give Thy servants of today wisdom and force to fight for Man once more. Grant that once more "treble confusion, wrath and vengeance" shall be poured upon the enemy of all mankind who aimed "to set himself in glory 'bove his peers" and impiously claimed his right from Thee! "To hell with the Kaiser": that once again thy "infinite goodness, grace and mercy" by him denied may shine upon mankind!

TRAINING FOR ARMAGEDDON.

AT LEAST two things are essential in equipment for Armageddon—knowledge and spirit. No matter how brave the heart and alert the conscience to discern virtue, victory for the right requires the science to fight and the strength of soul to wield it. These are the possessions and attributes which are now enabling the forces of humanity to roll back the Huns from their barbaric invasions and their devilish outrages upon peaceful peoples. The continuous advance to victories on the fronts which shall rescue civilization from unspeakable barbarism, depends not alone upon the science to fight well and the valor to keep on fighting on the fronts, but upon the fullness of knowledge, courage, spirit and force in all the allied nations which are sending not only munitions and supplies to their heroes on these fronts but are adding strength to their arms and courage to their hearts by their own unyielding spirit of service and sacrifice. It seems to be the opinion of the world that it is the force of America which will enable those nations which sprang first to the defense of humanity to realize victories for which they braved destruction and subjugation. It is our duty, then, to keep our courage and resolution fresh and our strength from staling. This is best secured for some by serious meditation—by fighting weariness of soul and infirmity of purpose with soulful self-scourging in the solitudes of the seashore or in the recesses of the mountains. If such there be, to them we say: go to it—hard and long! Possibly there are other patriots who really feel that they ought to put on sack-cloth and ashes and repent of the colossal sins of the world before they can make a good fight for the right. To such we say: go to it—even at the present prices of burlap and potash. It may needs be that your patriotic salvation shall thus be achieved. We are quite sure, however, that most people are not that way. Solitude makes them afraid of themselves. Individual repentance is wholesome for their souls, but national repentance means to them infirmity of purpose. As for the sins of the world: only one man in the history of the race has ever felt sufficiently bad about them and during the war at least it is just as well to leave repentance for world-sin to Him who has the only antitoxin, and do your duty in enforcing obedience to His simple laws upon manifest transgressors thereof—for by their works shall ye know them. For these reasons it seems evident to us that the best way for most people to awaken and to keep clear-eyed and whole-souled in patriotic thought and deed is to seize all possible opportunities for coming together for demonstration, for conference and for exhortation. It is in this way that new thoughts are conceived, new emotions evolved and new deeds inspired. This is true in affairs of individuals: it is indispensable in collective action toward the attainment of great purposes. Wisely the Government is encouraging such action on the part of the people. Everyone, from the President to the newest farm adviser, is officially enunciating principles or demonstrating practices of patriotic significance and importance. All fountains of unofficial eloquence are also flowing free and all ink-wells of patriotic script are uncapped. It is well nigh one's patriotic duty, therefore, to refuse the sweetness of solitude for a season and nerve himself anew by contact with his fellowmen. For, "as iron sharpeneth iron, so a man sharpeneth the countenance of his friend." And what we need now is iron—red-hot iron for Armageddon!

WHAT FAIRS CAN DO IN WAR TIME.

THE OPPORTUNITY which we had in mind when we first struck the kaiser's goose-step in this writing is that which our agricultural fairs afford for the promotion of patriotism. On the many pages which we add to this issue to give other writers space to suggest what our readers can do for themselves at the fairs and what the fairs can do for them and their industries, there are many intimations of edification, enrichment and entertainment which are to be derived from attendance upon these exhibitions and seeing and hearing what is shown and said in farming lines. Our suggestion is that over and above all single words which our associates give as sufficient to the wise, and above all prolonged verbal wanderings which they indulge in to meet the requirements of the unwise, our general exhortation to make the best of this year's fairs is to recognize them as promoters of patriotism and as inspirers of states of mind fit to cope successfully with the many problems which are now pressing in our farming industries, the successful handling of which is itself practical patriotism. There can be no doubt that as demonstrators of what it is profitable to do in production, how to do it and what to best do it with, the fairs are our best educators in the line of quick wisdom and quick riches—to the limit to which either of these things is attainable in farming. It is that aspect of a good fair to which our associates chiefly address themselves. And all these things are practical patriotism because of their relation to increased and continuous production, which is the basis of the national strength to win the war. But it must not be forgotten that a farmer needs a continuous spiritual strengthening to keep him at his task in the face of the difficulties which surround his effort. He has good prices to aim at, it is true, and sometimes he gets considerable stimulus from hitting them right, but he is still largely at the mercy of everybody, whether he hits these prices right or wrong. Therefore he needs a freshening of spirit to face the risks and to endure the ceaseless effort which his work requires under the war conditions now prevailing. Wisely this fall's fairs have been planned largely along the line of patriotic stimulation and recreational contribution. The oratory will be mainly patriotic; the music grandly martial and profoundly stirring; the displays smothered in bunting, and the farcical affairs suggestive of the confusion of our national enemies. All these things will be in their several ways uplifting to the heart of a man and stiffening to the upper lip of him, and after a few days at whatever fairs are within the contents of his purse or his gasoline tank any farmer will surely return to his work and his worry with increased courage and endurance. And this is what the world now needs from the farmer as it never needed it before. From the State Fair (which will open on August 31 at Sacramento and fill the following week) onward for three months there will be fairs at intervals in California cities and rural communities in all parts of the State. Their success will be indication of our producing force and patriotic fervor which will in turn be stimulated and increased by them. Read what is said about the State Fair elsewhere in this issue and go to see how true it is!

THE MORNING AFTER.

AND NOW, having tried to impress the solemn world duty of ending the war aright and of resolute persistence to that end alone, it is perhaps permissible to forecast the things to follow such an ending. None save those upon whom judgments must fall for cruel purposes and inhuman deeds can doubt that the world will be the better for its cleansing of colossal crimes and errors, but none can clearly see along what lines of social readjustment the betterments will come. That may be a problem over which a generation or two may labor for solution. Economic adjustment must be first achieved as a foundation for new social structures in all countries, and already economic forecasts are being keenly scanned. While suffering and sacrifice are still in progress and possibly have not yet reached their depths, courage to endure them may be summoned by recreative thought about the speed and completeness of the economic recovery which it is reasonable to expect. A confident prophet in that line seems to be William B. Joyce, president of the National Surety Company of New York, who, in a forecast of conditions after the war, declares that the United States seems likely to enter the most prosperous period of its history. Our readers may be interested to examine the grounds upon which this prophet of prosperity proceeds. We condense them from another writer, who has apparently seen the original statement:

The export trade of the United States will greatly develop, in gross value of goods, in the extent of territory served, and in variety of goods sold abroad. Pre-war competitors will, for many years, be handicapped by home conditions.

Agricultural development will keep pace with

manufacturing expansion. Foodstuffs will be sought by most of Europe. The farm labor problem will be solved by returning soldiers, who will prefer to continue a healthy, physically active, outdoor life. Farm land will be forced into high production by the energy and modernized methods of returned soldiers.

After-war taxes will be heavy, but will constantly grow lighter. Most other great nations will suffer from still heavier taxes, without compensations of the almost limitless and wholly unimpaired natural resources of the United States.

Fear of wide after-war unemployment, through our returning armies and European immigration, is groundless. Bringing back our millions of soldiers will be a two-year process, allowing ample time for economic absorption. Instead of a large European immigration after the war,' experts expect that there will be a large emigration of foreign-born workers to their home lands.

Increased understanding and co-operation between capital and labor will also undoubtedly assist prosperity.

So far as the general prediction that the United States will be very busy in helping to repair the frightful damages to the physical and economic structures of the old world, we presume Mr. Joyce is right. The way the United States can meet the hunger of Europe is not so clear—even if the requirement to do so with common staples should continue long, which is itself somewhat doubtful. It may tax our resources to give Europe a new start with animals and some other agricultural things, but it must be remembered that the war has taught Europe to eat less and to produce a greater portion of her requirements than she has done for half a century perhaps. Nor is it at all clear how our farm labor supply is to be adequately increased even to meet the food needs of our own increasing population. Returning soldiers who choose the rural districts are more likely to increase our number of employing farmers than of farm laborers, and there will be huge efforts to help them to get land with inadequate help to handle it—especially if there is to be the movement of half-baked Americans to the older countries, as so confidently expected. We apprehend that the close of the war will not settle our farm labor problem, but it surely will bring us a lot of joy in other ways.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Aphis on Corn.

To the Editor: I notice in the Rural of August 10 that F. W. of Oakland has the same trouble with aphis and ants on his corn that I have had here. I used the squash bug dope—whale oil, soap, kerosene, etc. I mixed it according to directions and sprayed the aphis with a quart hand sprayer. I mixed this dope for squash bugs and sprayed them, and so far as I could see, it did not seem to kill them, at least not in the five minutes I waited to see its effect, though I tried it on the aphis and it killed them.

The first I ever saw aphis was on some Egyptian corn quite late last fall. The heads were just filling out but those that had aphis on did not mature. This fall the same bug is on ear corn, spread, no doubt, by the ants. We have given up trying to kill out the little black ant for this valley seems over-run with them.—J. M. R., San Jose.

It is easy to kill aphis with any insecticide. It is only necessary to get it onto them and to do it early and often enough. Egyptian corn has been subject to head-lice in this state for many years. They are usually kept down by their natural enemies—ladybirds, etc.—which seem to be rather scarce this year. As for ants, they can probably only be controlled by systematic co-operative effort to apply modern ant-killing methods, of which full information can be had by application for the University publication on that subject.

Lake County Dried Pears.

To the Editor: I notice in the market reports on dried fruits that Lake county pears are always quoted much higher than any other. Would you please give reason for this?—P. M., Colfax.

Lake county dried pears are famous, just as Lake county canned string beans have been for years, chiefly because growers have made a strenuous and intelligent effort to produce a distinctively and uniformly good product. In the case of pears this result is promoted by the fact that dried pears in that county are a primary product. They do little with sales to canners and shippers and therefore dry the best pears they have and by holding for just the right ripeness after picking and by adequate sulphuring they produce a dried pear which looks like a slab of amber and tastes like ambrosia. If you should see their pears in contrast with the dried culls from other districts you would need no farther explanation.

Bluestone for Nematodes.

To the Editor: Last year I had four three-year-old apricot trees on which the leaves curled up and looked sick. I found what they told me was nematode disease on the roots. Last March I dug circular trenches around the trees 18 inches from the trunk and others back of those 18 inches apart until all the ground between the trees was included. Then I sprinkled 20 pounds of powdered bluestone in these trenches and filled them with water—refilling them twice more as the water soaked away. When the ground had dried sufficiently, I cultivated and did nothing more until the time for the next irrigation. After a few weeks I dug down and saw the affected roots were apparently healing over. They showed a bluish color from the treatment. This year the trees bore a good crop and look very healthy.—C. J. Ostwald, Bakersfield.

This account is interesting and others who have trees showing nematode injury, or what is often called "beaded root-knot," may like to try the treatment. It should, however, be noted that pure bluestone solution will kill roots under certain conditions and some care must be taken in such applications.

Flea Beetles and Mites.

To the Editor: What will help my bean plants? The leaves are covered with tiny black insects that jump like fleas, the leaves drop and the plants don't bear any beans. There is also another kind of insect on the bean leaves. These are a yellowish red, but they do not jump like the black ones. What will help the plants?—Reader, Coulterville.

Your first offender is the flea-beetle, which attacks many garden plants—sometimes eating holes in them, sometimes only corrugating the surface. The treatment for them is spraying with arsenate of lead. Generally this has to be begun as soon as the plants get out of the ground. Probably it is the second pest which is now doing most harm. It is the red spider or yellow mite—one or both of them. The treatment is thorough sulphuring. In a garden they can be kept down by frequent spraying with water, if you have water under pressure. You ought to have tackled these pests a month or two ago.

Red-humped Caterpillar on Walnut.

To the Editor: I am sending you caterpillars from my walnut trees. They have completely stripped the leaves from several of the largest branches and are still working. What is the name of these worms and what can be done to get rid of them?—C. V., Galt.

It is the "red-humped caterpillar" (Œdemasia concinna). It is a beast with a tremendous appetite which usually appears earlier in the season on fruit and other trees, but is liable to appear in good eating trim even as late as September. Fortunately it is not a great pest because our method of thorough cultivation destroys the pupæ, which are located near the ground surface. Therefore, one way to keep the pest down is to stir all the ground—close up to the trunks of the trees. The caterpillars can be killed by spraying the foliage with lead arsenate as soon as the first injury is seen. The insect cannot do much more harm this season.

Bean Rust.

To the Editor: My bean crop is beginning to get full of a yellow color on the leaves, and we know around here that when it gets that way it's ruined. I am sending leaves. Please tell me what to do and how—if sprayed with liquid or with dust of some kind.—T. R., El Monte.

It is bean rust and it is capable of being checked from invading clean leaves by spraying with Bordeaux mixture; but if many of the leaves are like those you send it is unlikely that you can catch up with the trouble. Fortunately this disease is not common in California and its game is to find a lot of bean plants which are unthrifty from some cause and then it goes after them the way the kaiser goes after Russians. That is probably the reason why your local judgment is that when the rust hits the beans they are ruined. They were probably already started on that road.

FIELD MEN WANTED

Seems a shame, doesn't it, that the Pacific Rural Press is not read by every farmer in our territory?

It would be if they knew its real value, and to introduce the paper to those who do not know about it we need a few more live-wire field representatives.

No objection to men along in years, and experience is not absolutely necessary. The chief requirements are an admiration for the paper, an earnestness of purpose, and a willingness to learn.

Straight salary with advancement; permanent work; no investment except that you must have an automobile.

If you are a convincing talker and are not afraid of hard work, write us for full particulars and tell us a little about yourself. We are just starting a big campaign, and this is the time to make big money. Let us hear from you at once.

Mustard in Salinas Valley.

To the Editor: Is it feasible to grow mustard in the Salinas Valley? Some are contemplating raising mustard and would like to know if it is suited to these conditions and what the market conditions are; in other words, they want to know if it is profitable to grow mustard in this valley.—Reader, Salinas.

We have no definite record of mustard in Salinas Valley at hand, but have no doubt of its cropping well on land which gives good beets or wheat or potatoes. Your conditions resemble those of the Lompoc Valley, where it is a considerable product. The price has advanced over peace values, but inasmuch as no special appeal has been made for mustard, the inference is that the supply is adequate and that it is safer to grow wheat or sugar.

White Fly on Garden Plants.

To the Editor: I am enclosing some insects which are destroying all my vegetables. I would like to know how to destroy them.—J. F., Sonoma.

You have the common white fly to deal with and the method is practically the same as used in fighting thrips and aphis, viz.: soap-tobacco spray—repeated until they are knocked out.

Thrips on Cantaloupes.

To the Editor: What is the matter with my musk melons, as shown by the leaves I send? The ends of the vines seem thrifty and they are full of bloom, but the leaves are all drying up. What is the remedy?—C. S., Vacaville.

The leaves are attacked by thrips, which make them look much as if infested with mites; but in the case of thrips the leaf surface shows multitudes of small black specks wherever the insects have been feeding. Just as soon as this infestation appears the plants should be sprayed with the soap-tobacco wash (described for aphis on page 723 of our issue of June 8). By deferring action as late as this you are taking up a stern-chase which no insect-fighter should ever wait for.

Almonds Gumming.

To the Editor: What causes almonds to exude gum, the kernal being shrunken or completely dried up?—J. H. S., Kelseyville.

There is a gumming of the hull caused by the attack of the peach moth. There is also a gumming causing the flooding of the kernel with gum and ruining its substance which is believed to be analogous to the split-pit of peaches and as in the latter case believed to be caused by some abnormal growing condition, for no specific parasitic agency has been demonstrated, as was stated on this page in our issue of August 17.

Fruit for Cows.

To the Editor: Will feeding a cow pears and apples be liable to dry her up or will it have any effect on her?—Subscriber, San Jose.

Fresh fruits are wholesome for cows and will produce no ill effects unless eaten in quantities sufficient to cause systematic derangement. To get the best results they should be fed in connection with dry feeds—grain or hay.

California Weather Record

The following rainfall and temperature record is furninished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 20, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.22	.42	.14	64	50
Red Bluff	.12	.12	...	90	58
Sacramento	...	...	...	90	54
San Francisco	...	...	.01	68	55
San Jose	...	...	.02	84	48
Fresno	...	...	...	92	56
San Luis Obispo	.01	.01	.03	78	50
Los Angeles	...	.11	...	78	58
San Diego	...	.03	...	72	60

Dairying Still the Farmer's Best Bet

Written for Pacific Rural Press by R. H. Whitten

KAISER BILL certainly has kicked up some fuss over there on the other side of the Pond, but many dairymen seem to feel that Feed Bill, Labor Bill and other Bills are causing almost as much trouble here at home.

Conditions at present are rather discouraging for the dairymen, but why think of the present only? Dairying is a real business and all of its problems should be considered in a business-like way. We should follow the suggestion of one of Chicago's most successful manufacturers, who said: "A successful business man is like a successful billiard player—he has to think two shots ahead." So let's study the situation at close range and see what the future has in store for us.

PROBLEM IS ONE OF SHIPS.

Never before have conditions been so complex. We have a surplus of dairy products here in America, yet in the allied countries the supply of milk is so short that in some sections none is issued to persons over six years old without a physician's prescription. The situation may be summed up in one word—ships. If we had plenty of ships to send to the allies, all of the dairy products they need, there would be a shortage in America today.

Up to last March we were shipping 24,000 tons of condensed milk monthly, this being equivalent to about 50,000 tons of liquid milk. But at that time the situation of the allies became critical and they asked for troops in preference to food. We certainly hustled the troops across, but to do it we have had to cut the shipments of condensed milk to 6000 tons per month, with corresponding cuts in butter and cheese.

However, this situation is only temporary. The submarines have practically been put out of business. Two-thirds of them are already at the bottom of the sea, and we are destroying them twice as fast as the Germans are building them. The U. S. Emergency Fleet Corporation launched 94 new ships, July 4th, and built 629 during the first five months of 1918—a grand record; yet they tell us that it will soon be eclipsed. Already dairy products are being shipped in larger quantities, and before many months the allies will be taking all that we can ship and will be crying for more.

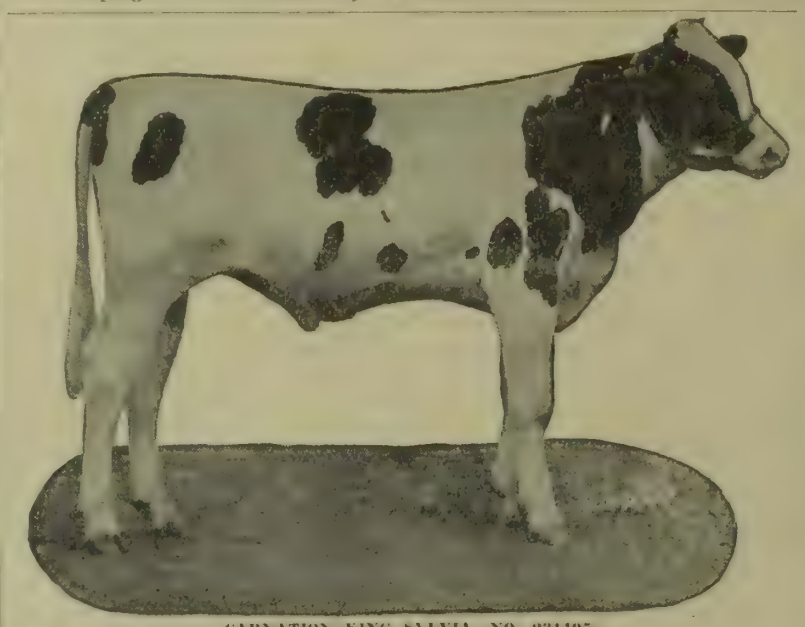
They will continue to cry for dairy products long after the war is over, too, for Europe already has a shortage of 30,000,000 dairy cows—almost one and a half times the total number in the United States—and this process of depletion will continue until we remove the germ from Germany. After the scrap is over the demand for dairy cattle will begin; in fact, France and Belgium already have commissions in this country looking for stock, and Holland has sent word that she wants 5000 cows just as soon as conditions make it possible for her to get them.

EDUCATIONAL CAMPAIGN WILL HELP.

Here at home the demand for dairy products was lessened for some time because of the mistaken idea that the Food Administration wanted us to eat less of these products in order to conserve them. But the Administration is now endeavoring to correct this erroneous impression, and is even conducting an educational campaign to encourage the liberal use of dairy products.

Furthermore, Dr. McCollum of John Hopkins University has put an end to all worrying over the problem of substitutes for butter by discovering that dairy products alone contain a vitamine which is absolutely necessary to the proper maintenance of human life, and that persons, when deprived of it, become weak, torpid and prone to disease. Consequently, not only does the dairy cow produce a cheap, palatable food, but she supplies one for which there is no substitute—a food which constitutes an indispensable part of our diet, and without which we cannot develop properly.

A campaign is now under way to place before the consuming public the value of milk and its importance in the physical welfare of growing children, as well as its value in the daily diet of adults. This must necessarily increase the consumption of milk and other dairy products, and with the demand bound to increase both abroad and at home, the question arises: "Are we prepared to meet the increased demands for dairy products? Have we enough cows? Will our present cows return a profit at the present high price of feed and labor?"



CARNATION KING SYLVIA, NO. 231405.

If you have any doubts about the future of the dairy industry, just follow the sales and notice the prices that are being paid by shrewd, far-seeing, successful business men who never invest a dollar unless they see several dollars coming back. E. A. Stuart, president of the Carnation Milk Stock Farms, paid $106,000 for this six-months-old bull calf in the auction ring. Holstein experts claim that he will pay for himself out of his first crop of calves.

DON'T GET PANICKY.

Perhaps your own answer to the last question is "No," but is that a sufficient reason why you should sell off your entire herd? Perhaps you could make more money this year if you sold your crops direct instead of feeding them to the cows, but how about the future?

In the midst of all the uncertainties of the present time one thing remains sure, and that is the fact that there will always be a good demand for dairy products. Other industries crop up now and then, and for a little while seem to overshadow the faithful cow, but sooner or later she emerges from under the cloud more illustrious than ever. She is the one best bet on the farm, and those who have pinned their faith to her and who, through thick and thin, have given her a fair chance to make good have not failed.

Aside, then, from the patriotic reasons why farmers should produce all the dairy products possible at this time, there is the all-sufficient reason that, in the long run, there is more money in cows than in crops, and the dairyman who sells good producing cows now is paving the way to great prosperity for those who decide to surmount the present difficulties and hang on.

MUST MEET CHANGED CONDITIONS.

But to "hang on" does not mean to stay in the old rut and make no changes. It does not mean to keep all of the cows and feed and handle them in the same old way. The cow that was fairly profitable two years ago may be losing you money today. Feeds that you could use profitably before the war may be too high priced today, or perhaps not obtainable at all. The men who worked for you so satisfactorily then may be at the front today, and you find it impossible to fill their places with experienced men.

Discouraging? Yes. But not a knockout blow by any means. It does not mean that you cannot make a satisfactory profit from dairying right now. It simply means that you must recognize the conditions that exist and adjust yourself to them.

DON'T KEEP BOARDERS.

First of all, weed out the slacker cows. On account of the shortage of help probably you are tempted to neglect your farm records, yet there never was a time when they were so necessary as right now. Don't guess at what your cows are doing. Keep books for them and know for a certainty just what each one is producing. If there is a testing association in your neighborhood, join it. If not, do the weighing and testing yourself. An outfit costs very little, the work is easily learned and the results will show you which cows are paying you a profit and which are expense items.

Beef prices are good and there never was a better time to cull the herd. Sell all light producers, all old cows, all that have defective udders, and all that will not breed regularly.

USE A HIGH RECORD BULL.

Then be sure that your bull is good enough for the job he holds, for if you depend upon the elimination of poor cows alone the next generation will be liable to contain as many inferior producers as the present one. The bull is half the herd, and as there is just as wide a variation in the value of bulls as there is in cows, you should be sure that your bull comes from a higher producing strain than your cows, or you will be breeding downward instead of upward.

CONSERVE THE CALF CROP.

Raise all good heifer calves. No farmer who kills a heifer calf with the idea that he is saving for himself or anyone else has looked very far into the future. The dairy industry is one that cannot be increased quickly, because it requires two years to raise a producing dairy cow and five years to bring her to her maximum production. In 1920 and 1921 the demand for young cows is going to be enormous, but those cows must come from this year's calf crop, and if heifer calves are vealed there is no power on earth that can make up the shortage. There will be a sure market. Prepare now to get your share of the business.

STUDY YOUR FEEDING PROBLEMS.

Perhaps you can substitute a liberal percentage of straw, stover and cheaper feeds for high priced hay. A silo will enable you to provide succulent feed for your cows at times of the year when no green feed is available, and at a minimum cost. If you chop your hay you will be able to increase its feeding value at least 25 per cent by eliminating the waste.

MILKING MACHINES GIVE SATISFACTION.

If you are having trouble with milkers, consider a milking machine seriously. It has passed the experimental stage and may now be regarded as a necessity. There are several makes on the market that are giving entire satisfaction, even with cows on official test.

We shall have more to say about mechanical milkers in later articles; also about silos, hay choppers and other labor-saving devices and methods. In fact, we are planning a series of practical, common-sense articles, based upon experience, and covering every phase of your work. Instead of merely urging you to do certain things and leaving it to you to devise your own ways and means, we are going to give you actual working plans, described so clearly that you can put them right into operation and carry them through to success. We shall show you new ways of cutting costs, saving time, increasing efficiency and enlarging profits.

The Table Grape Situation in California

Written for Pacific Rural Press by John J. Fox

CALIFORNIA, amongst her other virtues, is pre-eminently the home of the grape. The whole world looks to her for raisins, and, since the organization of this industry, its markets have extended beyond any former demand, which still exceeds the supply. The whole world knows and recognizes the excellence of California dry and light wines that have been perfected with the aid and application science has to offer. The whole United States depends upon California for an early and bountiful supply of table grapes—a supply to which there is no limit so long as the consumer is willing to pay a profit on the cost of production.

Just so long as the market offers a remunerative price to the grower, he will meet the demand with fruit that cannot be surpassed for flavor and quality—fruit well handled and carefully packed.

ATTRACTIVENESS OF GRAPE CULTURE.

To the vineyardist and to every person who labors in a vineyard there is a sentimental attraction in all phases of the work that is probably greater than in any other industry. For it is surely the oldest culture we know of, its history fading back into the mist and glamor of tradition many hundreds of years before the time of Christ. It is a calling that always presents a mental picture of sunny skies and smiling faces. Yet the man versed in viticulture approaches the subject with a reverence known in no other branch of commercial horticulture. He knows of its mysteries without being able to explain them all. He knows broadly of the vagaries that attach to different varieties and by experience has decided which variety is the most successful in the different localities. And by aid of this cumulative experience certain areas are given over to their respective varieties.

RESULTS OF EXPERIENCE.

Thus we find the Tokay a leader in the Lodi district for table grapes and the Emperor and Malaga farther south in the San Joaquin. Also the San Joaquin Valley has become the center and scene of the raisin industry. Here, in land so sandy that it is difficult to establish a stand of alfalfa, the Thompson's Seedless and Sultana thrive at their best and produce two and three tons of raisins to the acre in their third and fourth years of growth. The Muscat, on the contrary, does better on strong soil and must be headed quite close to the ground, while the Sultanina and Sultana are caned up on a wire or trellis.

Experience has taught us which varieties should be headed high and which headed low; what varieties require caning and tying and others that are cut entirely to the spur; localities that need an open head or a compact one; number of spurs to the vine and number of eyes to the spur. It has taught us that each year we have to deal with some problem and that obtaining a continuous good crop of clean, healthy fruit and a strong, healthy vine need never-ending vigilance and continuous care and individual judgment.

MARKETING.

In past years practically all second crop table grapes of a late season or any that were not packed for the market for any reason were shipped to the wineries. These grapes helped pay the cost of production and harvesting of the main crop. At present the condition of the industry reminds one of the old man who, when asked how he was, replied: "Well, I'm better than I were, but I baint so well as I were afore I were as bad as I am now."

Usually, so long as the price of grapes shipped East is remunerative to the grower, they continue in an unending flow to this distant market. When the demand declines, and drops below cost, this shipment to the wineries takes place. Two years ago some 40 per cent and last year 60 per cent of the crop in the Lodi district was thus disposed of. The increased amount last year was, however, largely owing to car shortage. This year growers are hoping for better service. Out of 40,000 acres in the above section, 18,000 acres are in table grapes, Tokays in the lead, and the balance of the acreage is in wine grapes. Most of these have been sold or contracted for subject to pending legislation and, as may be surmised, growers are apprehensive over the possibility of measures that may result in the loss of their crops. Small lots of wine grapes have been sold to independent buyers outright as high as $25 and $30 a ton. One man, who estimated his crop at six tons to the acre, sold his crop for $22.50 a ton. These were Tokays and this price was obtained on the vine.

Of course, if prohibition comes along it will not only mean tearing out the wine grape vineyards, but many of the table grapes will have to go, too. This will not prove so great an injury at Lodi, because, though the loss would be grievous, those who can pull through can plant something else and make good. But in the hill sections of Napa and Sonoma and other wine-grape sections it will be fatal for those who can plant nothing else profitably on their land. And table grapes are not profitable in these two counties, which are not suited to these. If wine grapes are all crushed this will be a record year, apparently, for price and crops throughout can be said to be good.

STANDARDIZATION.

Standardization has helped the shipping-grape business and has buttressed a market in Eastern cities that had been weakened by the early shipments of fruit sent out in former years.

As soon as grapes were large enough, no matter how green and immature, some growers, to catch the early market, used to ship them by the carload. Up to three years ago leading growers were complaining, and quite rightly, that their markets were being spoiled by these early shipments of grapes deficient in sugar and otherwise out of condition. And standardization was the outcome. The matter was threshed out at innumerable meetings and fruit growers' conventions and resulted in an organization that works a hardship on none and which has created a condition whereby our grapes are reliable, both in quality, pack and sugar content.

Many years ago I remember seeing grapes unpacked at the grocers' —grapes that came from Spain. They were Muscats and Malagas and were shipped practically green. They came in sugar barrels, packed in cork dust, and sold at about 10 cents a pound retail in London. Spanish grapes came to be regarded as German kultur is today — all right if you let them alone. The sawdust barrel was a good place to keep them out of sight. Again, like boche kultur. Our own table-grape business would doubtless have languished if we had not had standardization, though not to the extent that the Spanish trade did. Our inspections are carried out with vigilance and with the least possible inconvenience to the grower or packer. Some districts inspect the fruit right in the vineyard, others inspect before the fruit is packed, and others again after it is packed; but in any case the sugar content will be up to standard, the fruit free from mildew, and the pack reliable and correctly marked.

EXTENT OF THE INDUSTRY.

In 1912 California vineyards covered about 385,000 acres. Of this area 180,000 acres were producing wine grapes. The raisin grape vineyards amounted to some 130,000 acres and the table or shipping grapes to 75,000 acres, of which last 40 per cent is in the Sacramento Valley, 40 per cent in the San Joaquin, 6 per cent in Southern California, and 4 per cent in the coast ranges. I take these figures from a leaflet of Prof. Fred T. Bioletti.

This past dry year has been very hard on vines where no irrigation is practised, excepting on the best land and where first-rate cultural methods are followed. It so often happens that in a dry year sucking insects seem to be a little overabundant. The two conditions together make a good team—for the undoing of tree or vine. Vine leaf hoppers have been quite bad this year, making some vineyards look rusty and patchy by the first week in August.

On the other hand, mildew has been more or less partial according to locality, but the hopper in the north is ubiquitous. It is strange how we sort of forget about him every year till he shows up in sufficient numbers to mar the vines, and by that time it is difficult to do anything.

Sulphuring in the spring, when the shoots first put out, is, I think, more thoroughly carried out than any other operation and by methods vastly improved in the last two decades. I hope in some future articles to give results that have been obtained by vineyardists using late winter sprays of (1) bluestone, (2) Bordeaux and (3) copperas, the amounts used and when; also results obtained by the use of atomic sulphur when the weather has been too dull to make dry sulphuring of any use.

These magnificent clusters of Tokays show the great prolificacy of California's grape lands.

WEEDLESS ALFALFA VALUABLE.

Foxtail and weeds are kept out of alfalfa by R. J. Merrill & Son of Morganhill. They sow about half a sack of rye per acre before rains begin and springtooth it in. The grain smothers the weeds, makes good early feed, and the alfalfa stretches right up among it in a surprising way.

Study the Purebreds at the State Fair

Read this article whether you attend the State Fair or not. It will tell you why purebreds are the common-sense animals for business farmers—why YOU ought to have them

[Written for Pacific Rural Press by R. H. Whitten.]

HOW MUCH are you going to bring home from the State Fair? Probably you are figuring on how much you should take with you, but there is a still more important problem. The cost of the trip should not be considered an expense item, but rather an investment, and the interest that it can be made to pay is almost entirely up to you. You may return home without a red cent in your jeans, yet have your mind filled with facts which will be worth hundreds of dollars to you. It will all depend upon how you use your faculty of observation. Don't be like the young reporter who was engaged by the Cincinnati Enquirer to report a week's religious convention in Newport, Ky. The reports came in all right for two days, but on Wednesday nothing was heard. Thursday the editor received a note from the cub reporter that the religious convention had broken up in a fight and he couldn't get any news. The poor fellow couldn't realize that the report of a fight at a religious convention would be, from the newspaper's standpoint, the most interesting news he could get.

We hope that there will not be any fights at the State Fair, yet there are always plenty of lively discussions among breeders, and from these and various other sources much helpful information can be secured if you will keep your eyes and ears open.

You know Emerson said, "Every man is my master in at least one thing, and in that I hope to learn from him." At the Fair you will find the leaders in different lines—men who have made a success of livestock raising. In all probability they have solved the very problems that are causing you so much trouble. Get acquainted with them. You will find them most likeable fellows, and they will be glad to answer your questions and give you the benefit of their experience. You can put in many profitable hours sitting on a bale of alfalfa, listening to the breeders and herdsmen as they discuss problems and swap experiences.

STUDY THE PRIZE WINNERS.

Take with you mental pictures of the animals you have at home and compare them with the prize winners. See in what respect your own stock needs to be improved. Perhaps you have not been using purebred sires. If so, study the results from their use. Find out the ages and the weights or productions of different animals, compare them with animals of the same age in your herd, and see what scientific breeding will accomplish.

Farmers used to think that purebred animals excelled common stock only in show qualities, and that for utility purposes they had no additional value. But it has been proved that every show point has a vital connection with utility qualities, and after all is said about the uselessness of fancy points, the folly of fine pedigrees, and the absurdity of high-priced ancestors, the fact remains that the purebred animal is the common-sense animal for the business farmer.

PRACTICAL VALUE OF PUREBREDS.

Meat-making animals—beef cattle, hogs and sheep—have been selected and mated so as to increase the production of high-class cuts; the breeds of dairy cattle have been improved by selecting those producing the highest yields of milk and butterfat; and draft horse progress is estimated by the ability to pull heavy loads. Consequently, if a breeding animal is able to impress upon its offspring the ability to make more meat or milk, or to generate more power than the unimproved part of the ancestry could do, then that breeding animal has demonstrated his worth over the grade or scrub that cannot do this.

At the Missouri Experiment Station lambs sired by a registered mutton ram and out of Western range ewes weighed four pounds more each at three months of age than lambs out of the same kind of ewes by a scrub ram weighed at four months. The well-bred lambs were ready for market one month earlier, ate only about one-half as much feed, and sold for nearly $3 more per hundred than did the lambs by the inferior ram.

Two Utah ranchmen sold their beef cattle in the same market on the same day. Both used the same amount of Government forest range per head and paid the same grazing fee. One had used purebred bulls to produce his cattle, the other had not. The good cattle brought $40 more per head than the poor cattle.

A practical, systematic hog feeder, who handles over 1000 hogs yearly, formerly bought common stock to fatten. He was not satisfied with his profits, so changed to purebreds. He kept an accurate account of the cost of production and found that the purebreds averaged him from $4 to $6 extra profit per hog.

At the Iowa Experiment Station scrub cows were bred to a registered bull and the resulting heifers were bred to another registered bull of the same breed. The average yearly results were as follows:

	Milk.	Butterfat.
Dams	3,255 lbs.	161 lbs.
Daughters	6,311 lbs	264 lbs
Grand-daughters	11,295 lbs	431 lbs.

The per cent increase in production of the first and second generation grades over the scrubs was:

	Milk.	Butterfat.
First generation	94	62
Second generation	245	168

PUREBREDS TRANSMIT WITH CERTAINTY.

Why is it that a purebred is valuable for breeding purposes while a scrub is not? Because the first has his good points bred in him and can be depended upon to transmit them to his offspring, while if the second has any good points he got them by chance and there can be no certainty about the quality of his offspring.

But perhaps you are already using purebred sires on grade herds. If so, why not take the next step and get purebred females? There is one serious objection to a grade herd, even when headed by a registered sire. It is that no matter how fine the offspring may be, or how nearly they may approach purebreds in size, type, markings and production, they never can be registered and sold for breeders at high prices.

BIG PROFIT IN REGISTERED HERDS.

Consider this matter seriously as you look over the fine stock offered for sale at the Fair, for the difference between a grade and a purebred herd marks the difference between good success and "great" success. You can make good money with grades, but why stop there? Why not make double the money from the same number of animals, with no more work? You can do it with purebreds.

The Government and the State Agricultural Colleges are impressing upon farmers the importance of breeding up. County advisers are conducting their better sire campaigns, and are urging farmers to give more attention to livestock. The different breed associations are conducting extensive advertising campaigns. The Government, States, county authorities and banks are helping to organize calf and pig clubs among school children. And the result is a big demand for purebred stock, not only for males but also for females, as many farmers are now buying purebred females after seeing what can be gained by using a purebred sire on grade stock, and realizing how much more profit can be made by having an exclusive purebred herd.

Money can hardly be invested where it will bring greater returns than in registered stock. And there is no danger of the bottom ever falling out of the purebred industry either, for Government records reveal the astounding fact that less than 2 per cent of the farm animals of the United States are registered. The demand for purebred stock is increasing faster than the supply, and it will be years before this demand is satisfied. Even then the purebred business will be a most profitable one, for the poorer animals can be marketed at more profit than grades, and there will always be a good demand for tops from other breeders who find it necessary to introduce new blood into their herds to avoid inbreeding.

START WITH HIGH-CLASS STOCK.

It is highly important to start with high-class stock, and if your capital is limited you should get a few very choice animals rather than a larger number of ordinary quality. The better the stock you get in the beginning, the greater your profits will be, the quicker they will come, and the more rapidly they will increase from year to year.

As a rule, those who claim to (Continued on page 179.)

YOU CAN'T AFFORD TO MISS THE STATE FAIR.

THE STATE FAIR this year will reflect public opinion on the engrossing subject of winning the war. The livestock department will exemplify breeding to increase our meat and milk foodstuffs. Soil products will follow much the same lines. The National Food Administration will visualize its teachings in practical conservation. The tractor and implement exhibit will demonstrate the nation's effort to plant and harvest increased acreage with reduced manpower. The model encampment of 300 sailors from Mare Island, the navy's exhibit and the huts of the Y. M. C. A. and Y. W. C. A. will present actual war conditions, while aviators from Mather Field will add to the realism. A "Better Babies" demonstration will feature advanced social work.

Entertainment and practical benefit will be combined to a degree that will make the Fair of inestimable benefit to almost every man, woman and child in our State. Come expecting the best time of your life. You won't be disappointed. A right royal welcome awaits you.

CHAS. W. PAINE, Secretary.

Count Glory, the noted Shorthorn bull. Money invested in a sire of this kind represents an investment that will pay handsome dividends.

More Grain, Fewer Men, in Bulk Handling

Written for Pacific Rural Press by R. E. Hodges

I DREAM of the near future. The fields of California are dotted with bins for temporary storage of life-giving grain. Railway stations and steamboat landings are marked by towering batteries of silo-like tubes. Tidewater has multiplied batteries of similar tubes. In the fields of early autumn, combined harvesters, tractor pulled, are stopping occasionally to let cataracts of golden grain plunge into tight wagons. On many fields near the local elevators there are no field storage bins, but the wagons have been collected into trains to be hauled by smaller tractors to the shipping points. Where field bins are, the loaded wagons are quickly dumped and bucket elevators run by small motors or engines put the grain into storage until after harvest, when there is more time and help for hauling. At the elevators the wagons are dumped in two or three minutes without shoveling. Cataracts of the same grain are plunging from the tubes into freight cars and barges. It is borne away to the tidewater elevators and transferred to them, again without hand shoveling. American ships pull up on the opposite side of the elevators and the cataracts flow again.

But not all of the harvest goes to tidewater. All of the wheat goes to local mills which have enlarged and to new ones that have sprung up. More of the barley than ever before is put into farmstead storage bins and run at leisure through grinders or rollers to feed a splendidly enlarged dairy, and hog, and beef, and hen industry. Much local labor is employed at the mills. Wheat by-products are fed within the State and all of the milled barley is here made by the livestock into food, or into fertilizer to produce more food.

Coming back to 1918, the Government wants more wheat to be produced next year with less manpower. If that can be done for wheat, it can also be done for barley in California. It means some changes; but the obstacles are more in a few people's eyes than in the grain business. We say this advisedly. The Pacific Coast, Australia, and the Argentine are the only sections in the world that use sacks extensively for grain; and had not the war interfered, these sections would now be well along in the change to bulk handling.

California mills already handle more wheat than California raises. They have long since exhausted last season's crop and have been running for months on Australian wheat. Moreover, they are already equipped to handle most of our crop by bulk if it should be shipped that way.

We had the distress last week of seeing seven men at the Sperry Flour Mill unload a grain-tight car of sacked wheat at a cost of $3.50 per hour. Two men emptied sacks and one stacked the empties. The hopper into which they were dumping was not working at half capacity. Grain was spilled all around. If the car had been loaded with bulk grain, it would have been unloaded by two or three men with a power shovel much faster and with less spillage. Their wages would have been $2 an hour less for twice the work accomplished.

MILLS HANDLE BULK GRAIN.

On the wharf side of the same mill we saw a bargeload of bulk grain being unloaded at full capacity of sixty tons per hour, grain being scraped to the foot of the "marine leg" of the elevator by two men with power shovels pulled by a donkey engine on the wharf. Chief Millwright J. T. Herbert said they had found it cost not over two cents per ton to unload grain from the barge, elevate, and convey it across the street into steel and concrete bins over 50 feet tall.

There are terminal elevators at Vallejo to unload Australian wheat 175 tons per hour. The storage consists of 60 bins 15 feet inside diameter, about 84 feet tall and holding 1,000,000 bushels at once. Bins holding 400,000 bushels were used for last year's crop. Terminal facilities for handling bulk grain offer no difficulty except multiplication of similar elevators.

SHIPS CARRY BULK GRAIN.

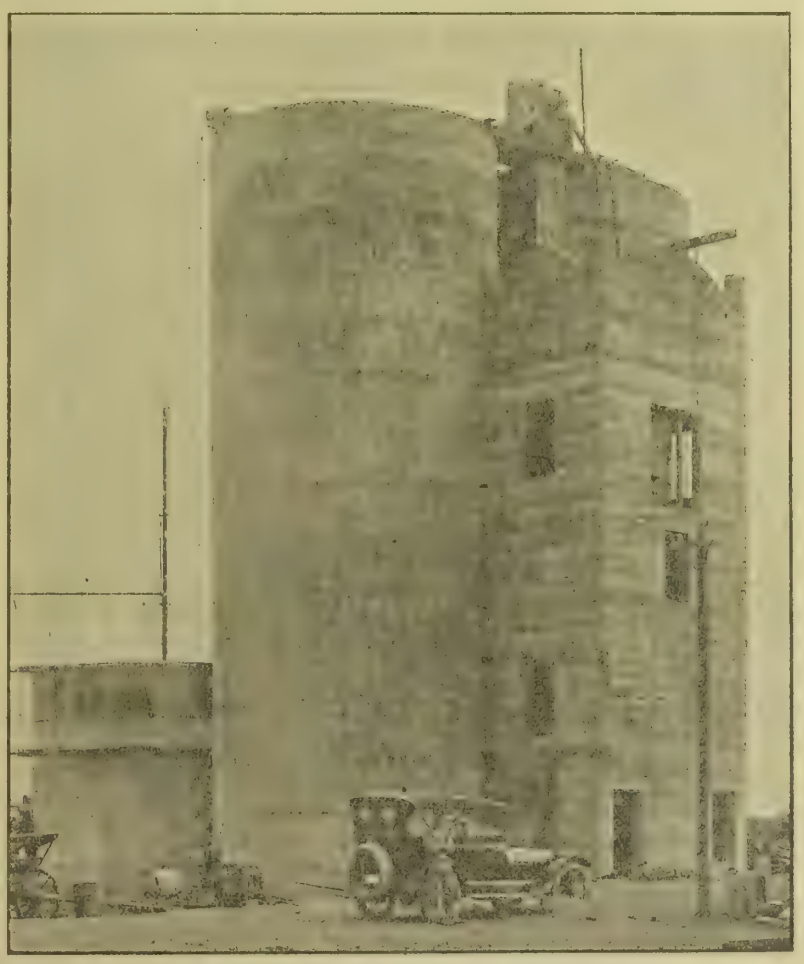
Marine shipping of grain in bulk is successfully carried out wherever tidewater elevators are in use. The Australian grain comes mostly in sacks for lack of terminal elevators there, but bulk shipments have been made and more will come in bulk when facilities at shipping points permit. It is mostly a matter of more partitions in the ships than some of them now have. There is no marine difficulty in the handling of bulk grain, according to J. E. Godley, the Vallejo manager.

RAILWAYS CARRY BULK GRAIN.

Grain in our Eastern States is handled exclusively in bulk in box cars, most of which are equipped and marked for the purpose. Those same cars are in use on Pacific Coast railroads. Railway facilities offer every advantage to the bulk handling of grain.

INTERIOR ELEVATORS IN CALIFORNIA.

Now, is it possible to build grain elevators at railroad points in the interior? Andrew Kaiser of Glenn county is filling the third and fourth bins of a 125,000-bushel elevator while the fifth and sixth ones are being completed. A number of grain growers in the same county have formed a co-operative elevator company and are storing their grain in wooden and corrugated iron field bins with small elevating machinery. Moreing Bros. of Sacramento county built grain bins in their sacked-grain warehouse under Mr. Herbert's direction and discharge directly onto barges on the Sacramento river. These were in use last year. The Chowchilla, Athlone, Merced, and other elevators in the San Joaquin Valley have been in operation one season or more before 1918. The one on the Ramina Ranch at Tehachapi has been in use several years. Interior elevators and field bins offer no difficulty to discourage the bulk handling of grain.



PARTLY COMPLETED BULK GRAIN ELEVATOR.

Six concrete grain bins like the two in the foreground have been completed this season by Andrew Kaiser of Glenn county to hold 125,000 bushels. The square annex contains practically all the machinery for elevating, cleaning, and weighing the grain from Mr. Kaiser's 9000 acres. Grain need never be touched with a shovel where hopper-bottoms are steep enough. The system saves 18 men's labor on this one crop. The elevator cost $18,000 and will pay for itself this first season by greater economies in handling, elimination of sacks, and less wasting of grain.

BULK HARVESTING SAVES LABOR.

Can the harvesters handle bulk grain economically? The writer last week rode around a field a mile long on three different combined harvesters belonging to Mr. Kaiser. Bins had been built on top of them. Bucket elevators had been set to catch the grain where it commonly goes into the sack hoppers and elevate it into the bins. One man watched the machine, one man tended the header, one man operated the tractor. Hopper-bottomed grain wagons drove up to the machines when their bins were full and the header-tender opened a chute which permitted the grain to slide down into a wagon in about three and a half minutes. Six horses hauled two wagons, each of 40 or 50 sacks capacity. A truck hauled 120 to 140 sacks per load. One of the drivers is 68 years old. The field was five miles from the elevator. Instead of using field bins, ten wagons were used besides the truck to haul the grain to the elevator as it was threshed. These were not kept busy by the three harvesters except where grain was especially heavy.

At the elevator a slide in the bottom of a wagon was pulled out and the grain ran into an underground hopper. When two wagonloads had been emptied an aged man pulled an electric switch and the grain was elevated to a cleaner on the fourth floor of the elevator annex to the bins. It ran by gravity into a weighing bin, whence it was elevated to the tops of the 50-foot tubes. Two men were saved on each harvester and a whale of a lot of hard lifting and slow handling of sacks was avoided. No man touched the grain at any time except to spread it out in the bins and wagons and to clean the last of it out of them, for their hopper bottoms are not quite steep enough. Mr. Kaiser saves the labor of 18 men. There is no field difficulty in the way of bulk handling of grain.

In all the steps of bulk handling, less manpower is used, less grain is wasted, less risk is run from weather, fire, mice, etc., and the cost and time of harvesting the entire crop is greatly reduced.

ECONOMIES PAY FOR ELEVATORS.

The only really pertinent question is this: Do the economies resulting from bulk handling at a time of stress such as the present amount to more than the cost in labor, freight hauling, and materials required to build the necessary elevators and equip them with what little machinery they require? The answer seems to be ready—both the first and the last field elevators completed in California will have paid for themselves by the economies in handling their first crops. The cost of terminal elevators will be quickly repaid by similar economies, besides saving of time in loading and unloading ships, releasing ships from the long haul bringing bags from Calcutta, when they could as well be bringing wheat from Australia in less time per trip, releasing freight cars from the dis-

(Continued on page 182.)

Price Fixing of Agricultural Products

Written for Pacific Rural Press by Thomas Forsyth Hunt

IT IS, of course, a matter of common knowledge that prices have risen. Perhaps, however, it is not equally well known that prices of nearly all important articles of commerce have risen in nearly all parts of the world. There are exceptions, as for example, coffee in Brazil, wheat in Australia, and horses in the United States.

So far as the United States is concerned, three statements may be made safely:

1. Commodity prices are approximately double what they were on July 14, 1914;

2. Most of this rise has occurred in the last two years;

3. Commodity prices have risen faster than wages.

During a period of inflation, commodity prices always rise faster than wages. Hence all persons who produce commodities with the same efficiency as heretofore obtain increased profits. They are neither to be blamed or praised for it. They simply can not help it.

The exchange value of different commodities remain about the same. It simply takes more dollars to effect the transaction. As an example, take the five great farm crops of the United States, which, stated in order of acreage, are corn, wheat, hay, oats and cotton. These five crops are the foundation on which the agriculture of our country is constructed. Two of them, corn and cotton, are not raised to any such extent either by our allies or our enemies. They enable us to live without wheat, pork products or even cane sugar. So thoroughly have the baker and the housewife been taught to use cotton seed and corn oils there is now difficulty in getting them to consume the surplus lard which our packing houses have accumulated. It will be just as easy, if ever it becomes necessary, to teach the housewife to use corn syrup in place of granulated sugar. It is because of corn and cotton that we shall win the war. Using the five years ending with the last April of peace as a basis, on April 1st this year, wheat had increased 128 per cent, corn 147 per cent, oats 120 per cent, hay 44 per cent, and cotton 157 per cent. The variation in exchange value might have been equally great had there been no war. However, certain groups of products have risen faster than other groups. Although there are some exceptions, primary farm products have approximately doubled in value since the outbreak of the war, while secondary, or animal products, have only risen about two-thirds in price.

Obviously what the producer of secondary products needs is a greater price for his product rather than a less cost of production, since he can not hope to reduce the cost sufficiently to offset the present lack of exchange value in his products. This increase in price will come about in due time, but this is not much consolation to the man who may be losing money while he waits.

It is the purpose of this paper to discuss three items: (1) What do rising prices signify? (2) If the price of a product, say wheat, is controlled, who suffers most, the producer or the consumer? and (3) If one agricultural product is controlled, is it in the interest of the industry or the nation to control other agricultural products?

THE EFFECT OF BUFFERS.

This discussion relates to the significance and not to the causes of rising prices. Nevertheless, it may be helpful to point out one rather important aspect of war-time purchases. In peace time there are buffers between the producer and the consumer. There are the wholesaler and the retailer. The wholesaler tries to buy from the producer at a price which he believes will permit him to sell to the retailer at a profit. The retailer tries to buy from the wholesaler at a price which he believes will permit him to sell to the consumer. In war time, however, there comes into the market a wholesale buyer who is not going to re-sell and who, therefore, will not be put out of business if he buys too high. Thus, for example, a year ago last April, at the most critical moment in the financial history of the war, our Government loaned the Allied Powers money with the understanding that the money should be spent in this country. The Allied Powers were in a panic over the need for wheat. They could pay any price necessary to secure it, because they were not going to sell it but were going to use it to feed their soldiers. What more natural than that they should pay whatever was necessary to secure it? Our American millers could not by themselves have run away with the market, because they had to sell their flour to the retailer, who in turn must sell it to the consumer. It will thus be seen that war removes some of the restraining influences to the rise of prices. It is equally true in the building of cantonments, the construction of ships, and the manufacture of munitions. The Government must buy materials for these things in a wholesale way at any cost. There is no retail customer to haggle over prices. This is a reason, perhaps ample reason, for a proper co-ordination and supervision of purchases by the Governments of the Allied Powers.

IF PRICE OF A PRODUCT IS CONTROLLED WHO SUFFERS MOST, PRODUCER OR CONSUMER?

Let us suppose that the price of wheat has been fixed by the legislative enactment or human fiat below what economic law would have fixed it? How will it work out in practice?

Cost accounting surveys have been made in many portions of the United States upon diverse farming industries. The fact determined by these inquiries is that the labor income is three to five times as great among one-fifth of the farmers of any given region as it is for the average of all the farmers of that region.

If a single industry, like wheat raising, is studied, it will be found that in some portions of the United States, no matter what the price of wheat, its cultivation will be profitable because of special adaptation of soil and climate. Such areas tend to the more exclusive production of this particular crop. No matter, therefore, what the price of wheat is, some farmers find its cultivation profitable, some just break even, while others lose money. The number of farmers which falls within each group varies with the price, but each group continues to exist, because before all farmers are forced out of business the price rises, while before the price rises to a point which makes unadapted land profitable the price falls again. The area of wheat thus expands and contracts as the price rises and falls, because of the status of the marginal man. If the area sown to wheat contracts sufficiently rapidly with the fall in price, the average cost of production is not necessarily any greater per bushel. If an increase in price causes a great extension of area, the average profit may not be any greater because of the use of the marginal land, although the man who has land well adapted to wheat will make unusual profits. If, however, increased production is caused by favorable climatic conditions, and hence unusual yield per acre, the situation is very different, such is the complexity of the problem.

What would be the tendency if the price of wheat were fixed below the proper economic price, assuming economic laws prevail for competitive crops? Where land is well adapted to wheat, and where for that reason it tends, as in certain parts of the Great Plains area, to be raised to the exclusion of other crops, it will continue to be grown not only because it is a profitable crop but because it is more profitable than other crops.

Wherever wheat cultivation is practiced largely because of the general effect on the farm scheme, as in the North Atlantic and Ohio Valley States, it is easy to change to the more profitable competitive crops. For example, in certain sections of the region mentioned, the rotation consists of corn, oats, and wheat one year, and timothy and clover two years, making one-fifth the cultivated area in wheat each year. If, however, corn or oats or both become a relatively better risk only patriotism will keep the farmer from following a rotation consisting of corn two years, oats one year, and hay two years. If, on the other hand, the farmer's patriotism is stimulated by a higher price on wheat, his rotation may become corn, oats, and hay each one year and wheat two years. In one case he omits wheat altogether, in the other he doubles his acreage. In either case he is not financially affected because of his ability to hedge.

But what happens to the consumer? Is he affected so long as the price of wheat is controlled? Should he worry? No, so long as there is plenty of wheat; but as soon as there is not enough wheat to go around he must buy substitutes at an increased price. The increased price is, in the long run, the measure of what he would have to pay to cause the production of a sufficient supply of wheat. I say "in the long run," because usual conditions can hardly provide for the wheat that has been sent to the bottom of the sea.

CONTROL OF OTHER AGRICULTURAL PRODUCTS

Why not, then, control the price of substitutes? If one agricultural product is controlled, is it in the interest of the industry or the nation that other agricultural products be controlled? I am not asking whether it is in the interest of certain individuals or certain groups of individuals, but is it in the interest of agriculture as a whole? How would it affect the national welfare? Would it help win the war?

Approximately one-eighth of the area of the United States is in cultivated crops. Approximately one-eighth of the cultivated area is in wheat. Let us suppose, for the sake of argument, that all the wheat in the United States is being raised for patriotic reasons without any profit. What would it signify? Assuming that the normal income from wheat is one-eighth of the total income (the gross income is considerably less than one-eighth), then the loss to the American farmer could not be more than one-eighth of the total income, a loss that the farmers could well stand and which they would willingly bear in order to win this war. But suppose the prices of the other seven-eighths of the products which the farmer produces were controlled, then what would happen? It is easy to foresee what the tendency would be.

If the farmer was a tenant, he would soon cast about for some occupation at which he could make a living, such as working in the shipyards or in the munition factories, or being employed as a fireman or brakeman on a railroad. The man who owns his farm could still make a living by turning off his hired help and reducing his activities to those which he himself could perform. His children as they grew up would get employment in the city as stenographers or as motormen or conductors on street railways. Because of his investment in his land, the farmer could still manage to live, providing his farm was free from debt. If, however, he happened to carry a considerable mortgage, the bank would finally get him unless death claimed him first. There are whole States in the Eastern United States where the farmers have had this history because of purely economic competition with the newly developing areas further west. It has taken place during the past generation under the eyes of all the people who have lived east of the Alleghany mountains.

It did not greatly disturb the denizens of the city because the opening of virgin areas and the development of rapid transportation assured an abundance of food. Sup-

(Continued on page 185.)

Reduce "Overhead" by Machine to Win War

Written for Pacific Rural Press by R. E. Hodges

AS A BOY just leaving home, I received a bit of excellent advice from a successful business man. He said: "Young man, choose your life-work along a productive line. Do not get into the 'overhead.' For instance, a good salesman produces business—a bookkeeper employed by the same people is an overhead expense. His salary is paid out of the extra profits from the salesman's work. He grinds out his life, afraid to ask for a raise. The good salesman can talk like the boss of the business. Every good business man is everlastingly figuring to reduce the expense of the overhead and increase the expense of the productive end. Money that goes into the overhead is gone forever. Every coin that goes wisely into the productive end comes rolling merrily back with some little brothers that you are glad to adopt."

Now, Mr. Farm Operator, if you are a hard worker and a hard-upper, and if you have a prosperous neighbor, other things having been about equal, look at his operations and your own. See how much unnecessary overhead you are carrying that he is not. See how much of the necessary overhead you can reduce. This is peculiarly your duty in this time of world hunger and man shortage.

SAVE OVERHEAD ACRES.

When haying time used to come along, we filled the barns with a lot of sweating and hilarity. Then in the winter we pulled that hay out and pitched it to the horses. The corn we had plowed through weary days and each fall husked with frosty fingers, a lot of it went into the horses. Every morning, before daylight, we saw to it that the horses got this feed, that they were curried, harnessed, hitched up, and their stables cleaned out after they were gone. We were spending overhead, unproductive time on overhead horses to work and harvest a good many overhead acres to feed the overhead horses. Such a waste was bad then; it is worse now. The U. S. Department of Agriculture says that one-fifth of the crop acreage of the United States is devoted to the production of horse feed. A good bit of that might well be producing human feed by use of electric and gas power. Every month of the past few years has seen improvements made in tractors and engines which have brought them to a point where it is hardly necessary to ask whether they will work or will stand the strain they are built for, but simply to ask if they are of the best design and size for the conditions of one's own farm and work. There is no question that they may be used to reduce both man and horse labor.

UNNECESSARY OVERHEAD UNPATRIOTIC.

A farmer was feeding his hogs in a way that would cripple our armies if all farmers did likewise. The hogs were scattered in pens covering perhaps two acres, at least an eighth of a mile from the other farm buildings. Each pen had a loose trough in it. Our friend found a kerosene can with a wooden handle nailed across the top, pumped it about full of water, climbed over a fence, dipped out of a box three or four kinds of mill feeds one at a time, then mixed them into the water, climbed four fences with this slop, and got awful peevish because he had to kick the old sow brutally to make her let the pigs get some of it. He repeated the detailed waste of time for each pen, climbing all the fences necessary with each load. Now, why didn't he have a bucket with a handle that would permit him to mix that feed easier? Or why didn't he mix it all at once in a barrel on wheels (he said that each pen got the same mixture but a different quantity)? Why not mix it in a revolving barrel with projections in it, a little motor to run it, a faucet over it, and a handy platform from which skim milk could be easily dumped in? Why didn't he have all the troughs close to the fences? Why didn't he have all lots ending on a single alley? Why didn't he make a swinging panel that would permit him to pour the slop in the troughs, not on the heads of pigs? Why didn't he have the pigs nearer the other farm buildings? Why didn't he pump water by engine or motor into a tank, and pipe it to the feed mixer? He could have fed those pigs better in one-fifth of the time and could then have spent an hour a day more irrigating his beans, which would yield a bag or two more per acre if he had put water on them at the right time instead of later when he did. Uncle Sam needs those extra beans and they would be clear profit to my friend. A little simple planning and a few dollars invested in power would quickly pay for themselves by permitting this man to omit the unnecessary overhead and spend that time productively. On nearly every farm a lot of unnecessary steps are taken, unnecessary jobs are done, a lot of work is made twice as hard or takes twice as long as necessary. Such waste of energy is as unpatriotic as the waste of food, for it prevents that much production of food. A little planning could group many of the routine jobs about an engine or electric motor. A little tool shop could save many a trip to town while men and machinery waste time waiting. To avoid unnecessary investment in power machinery, many farms could use portable engines or motors and even portable pumps.

REDUCING NECESSARY OVERHEAD

Gasoline, kerosene, and distillate are about ten times as powerful as dynamite, and dynamite is at least ten times as powerful as manpower or horsepower. We have plenty of the fuel oils, but we are powerfully shy of men. Then let us make the most of our advantage by using fuel oils at home to release manpower to punch the kaiser. But if we want that punch to be more powerful than the kaiser's dynamite and other devilish explosives, we will have to give every Allied soldier a full tummy. With our best men stepping forward for the punch, there is only one way for us to fill their tummies—that is by using gasoline, distillate, kerosene and electricity to do the work they did before, and more. Every application of mechanical power as a substitute for man and horse power aids in bringing the war to a speedier end and in sparing our boys at the front.

On most every farm there are a lot of jobs now done by men that in the name of freedom should be done by power machinery.

MECHANICAL POWER AND PATRIOTISM.

Such man-labor as is possible to economically replace with tractors, engines, motors, automobiles, and motor trucks has passed from the sphere of productive labor to unnecessary overhead; and it is unpatriotic to use it. Such food crops as may be saved for human use by using machinery of all kinds to replace work animals are that much contributed to saving the world from savagery. Such crops as may be increased by machinery or used to better advantage after preparation by machinery for feeding are that much contributed to a needy, danger-menaced world. When our boys come home and ask us if we wasted acres, manpower, or opportunities for greater production while they were risking their lives and giving their flesh and blood, may we say that we lost no opportunity to perform maximum service in the homeland.

HOME-MADE WAGON JACK.

To the Editor: Please publish directions for constructing a wooden wagon-jack.—J. N. H., Ft. Seward.

A wooden wagon jack, according to Gion Gibson of Colusa county, must have either a common crooked iron pump handle for a lever, or a wooden lover with curved strap irons at one end, short enough so that when it is set and the wheel is lifted, the handle may swing enough past the vertical support so the weight of the main beam and wagon may rest directly on the vertical and not tend to fall until the handle is brought back again. The main beam to be shoved under the wagon is a 3x4 eight or nine feet long. An eyebolt through its end furnishes connection with the end holes in the pump handle to work on a bolt. The pump handle is used upside down. The vertical support is a 2x4 with strap irons projecting from the upper end. It is just long enough to stand under the rear axle. A bolt through holes in the strap irons and the other hole in the pump handle gives a bearing. With pump handle and main beam in line, shove the latter under the wagon until the eyebolt catches under the axle or provide a hollow on it to prevent the axle from slipping. Stand the vertical support sloping to the ground directly under it and push down on the lever.

A new piston is declared to be the first repair expense in eleven years on an Alpha engine operated by Mr. Sangers of Stanislaus county.

For this job of multiplied operations the farmer is saving much but still wasting one man, as he will learn when the man on the disk goes to war. A fine, well-finished seed bed is being made at one operation quickly after the plowing.

Factors in the Fall Seeding of Alfalfa

[Written for Pacific Rural Press by J. M. Bomberger, Modesto.]

Since the acreage of alfalfa has been considerably decreased during the past two or three years to make room for beans and grain; and since the shortage of alfalfa is now being felt generally and is being reflected in the high prices for alfalfa and dairy products, many farmers are interested in learning the quickest possibe way of securing a productive field of alfalfa. For those who have suitable conditions, fall seeding will accomplish the desired result at the earliest date.

Alfalfa seeded in the fall under suitable conditions usually produces much heavier crops during the first growing season than spring seeded alfalfa and sometimes, under very favorable conditions, fall seeded alfalfa will be so well established by the following spring that it will produce almost as well as two-year-old fields.

SUITABLE CONDITIONS.

When moisture conditions are favorable, between September 1 and October 15, most any kind of land may safely be seeded to alfalfa, as it will then have sufficient time to establish itself before winter weather begins. After October 15, fall seeding is doubtful on any but sandy or sandy loam soils where water does not stand on the surface during the winter months.

On very sandy soils and especially on blow sand, fall or winter seeding is usually more successful than spring seeding; first, because there is usually less blowing of sand during the fall and winter and secondly, because there is sufficient time later for re-seeding if the occasion demands it. Very sandy soil may be sown to alfalfa anytime during the winter. On his own ranch, the writer has always considered fall seeding advisable where the land is infested with water grass, as by so doing the alfalfa plants have an opportunity of becoming well established before the water grass starts growth in the spring.

Better results will almost always result from fall seeding on land that contains some alkali, as the young plants become better established while the weather is cool and while the alkali in the soil is diluted with moisture, at which time only a minimum amount of damage is done the young plants.

UNSUITABLE CONDITIONS.

Generally speaking, all soils that are not well surface-drained, being of a heavy, impervious texture and being quite flat, so that there may be water ponds on the surface during wet, cold winter months, had best not be seeded to alfalfa in the late fall at least. Neither is fall seeding advisable when the land is badly infested with winter growing weed seeds; where there is no fall irrigation and rains come too late nor where there is insufficient time to properly prepare the land for fall seeding.

THE FROST FACTOR.

It is often stated that young alfalfa plants freeze more readily before the third and fourth leaves appear than later. This is only true under certain conditions. On porous soils, alfalfa seeded as late as December will not be killed by freezing, even if the frosts are frequent before the third and fourth leaves appear, but if the surface inch of soil is completely saturated with water, so that the stem of the young alfalfa plantlet is surrounded by water, and the water freezes solidly, expanding in every direction as water does when it is freezing, the expanding, freezing water mechanically crushes the tender stem of the alfalfa plant and causes it to die. It is this mechanical action rather than the low temperature which actually damages the plant. When the stem of the plant is a little thicker so that it can make a very slight allowance for the strangling effect of the expanding ice, we do not find frost such a serious consideration.

The writer is firmly convinced that the danger of frost damage to fall planted alfalfa is more a question of proper drainage than a question of temperature.

ALFALFA

What makes the landscape look so fair;
What blossoms bright perfume the air;
What plant repays the farmer's toil,
And will enrich the worn-out soil?
Alfalfa

What is the crop that always pays,
And will mature in forty days,
Resisting drouth, the frost, and heat;
Whose roots reach down one hundred feet?
Alfalfa.

What grows in loam, and clay, and sand;
What lifts the mortage off the land;
What crop is cut three times a year,
And no foul weeds in it appear?
Alfalfa.

What makes theswine so healthy feel,
And never raise a hungry squeal;
The wholesome food that never falls
To put three curls into their tails?
Alfalfa.

What makes all other stock loow nice,
And bring the highest market price;
What fills the milk pails, feeds the calf,
And makes the old cow almost laugh?
Alfalfa.

—Better Fruit.

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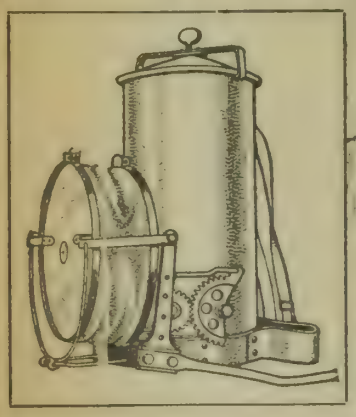

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CHOPPED STRAW AND HAY REDUCED COST.

[Written for Pacific Rural Press.]

The Black Hawk Stock Farm of Diablo recently bought 100 tons of very choice third-cutting alfalfa at Dixon for $20 a ton baled f. o. b. cars. Last year they had 900 tons of hay, but the crop on their own ranch is less than half of that this year, all of their own raising being grain hay. It is easy to see why the Black Hawk people are chopping their hay to avoid any loss when it costs $20 plus the freight and hauling.

But chopping is not the only economy, as told us by Manager E. Lovell. Last year they baled 1200 bales of barley straw and fed it to their beef cattle, of which they have about 250 head, including a few registered Durhams. This year the straw from a 1000-sack barley crop will be used the same way.

Last winter the cattle and stock horses were carried over and the cattle fattened a little on a mixture of chopped straw and chopped alfalfa hay and half mixed in the mangers with more or less bran, according to the degree of increased weight desired, and moistened enough so the bran would be pasty with molasses water. Half a bucket of molasses would be mixed with a little salt in a barrel of water on wheels so it could be sprinkled over the chop in the mangers and mixed up. This was fed twice a day and the stock had free access to straw in racks in covered sheds. Work horses required additional feed. The salt kept the animals drinking well and regulated their bowels against the tendency of barley straw to bind them up.

STUDY THE PUREBREDS AT THE STATE FAIR.

(Continued from page 174.)

have been stung in buying registered stock are the ones who tried to get something for nothing. Their desire to get stock for less than its real worth was so great that they fell easy victims to unscrupulous breeders who offer special inducements to buy at what they call "greatly reduced prices."

Don't make this fatal mistake. In talking with the different breeders, if it is evident that one is breeding up to a standard, consider his stock seriously. But if he seems to be breeding down to a price, drop him as you would a hot poker, bearing in mind that the sweetness of low price never makes up for the bitterness of poor quality.

And remember Mr. Dooley's advice: "Whinivver annybody offers to give ye somethin' f'r nuthin', or somethin' f'r less than it's worth, don't take any chances. Yell f'r a policeman."

Take home a few purebred animals, or at least a registered sire, if possible. But if you can't do it, then at least take home a load of helpful facts and ideas—how the successful farmers breed, feed, house and care for their stock. Carry a notebook with you and jot down all sorts of things. Every hour of the day you will be able to imprison some fleeting germ of a plan, idea or bit of information that will prove helpful to you. Make notes freely and you will be surprised how the most trivial remark or occurrence may be forged into a strong link in the chain of your success.

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TRACTORS TRACTORS

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Sonoma County Notes.

That $70 a ton f. o. b. that Sonoma County is getting for her shipping pears has been taken advantage of by a Chinese fruit buyer. He has paid James Keegan of Forestville $2,000 for a little over three acres of Bartlett pears on the trees. This bespeaks an extra fine crop of marketable fruit.

Sonoma County is progressive and up to date in orchard operations. Fifty-two new power spraying machines were bought last year, in addition to those provided by Horticultural Commissioner Bremner. It is becoming more and more recognized that an individually owned spray outfit is one of the first requisites of a well-managed orchard of any kind.

The new Farm Bureau in this county is in a very flourishing condition, as it should be. George E. Merrill, the County Agent, estimates the number of farmers in the county at 5,500, and there are 1,500 paid members in the Bureau and seventeen Farm Centers. The County Horticultural Commission and the County Farm Bureau occupy the same office in the Court House, which helps both offices in team work.

The Farm Bureau is busy with a sheep-keeping campaign now, particularly amongst small farmers.

Several hundred sheep have already been placed in small lots. A recent campaign for extending hog production resulted in placing 1,500 more hogs on farms.

Fred Grohe, the nurseryman, has brought out some new pink petunias. I saw some over 4 inches in diameter (superb issimas). He has sold the seed at $40 an ounce.

Miller & Gobbi, the nurserymen at Healdsburg, were very busy packing apples, so we did not go out to their nursery. They specialize on prunes and report having an increased demand for prune trees on the peach root. Sonoma county was lucky in getting rather more rain than some other sections, but this does not altogether account for the general good growth and condition of both fruit and foliage. The trees are singularly free from mites this year.

The apple pack is normal at Sebastopol and Forestville, which districts had a fine berry season. The entire crop was harvested in good condition at a renumerative price.

Lake County Notes.

This charming and romantic little county will be more than ever patronized when the State Highway (survey just completed) has been put through. This county's dried pears are in the market in a class by themselves. Last year the crop amounted to 8,450 green tons of Bartletts, of which 4,425 tons were dried. Only 425 tons were shipped green; 885 dry tons were shipped out.

This year's crop will amount to quite as much and perhaps more, as the young orchards are beginning to loom up. The crop will be 100 per cent.

The condition of the fruit is A1—scab being almost a curiosity. Growers are taking better care of their orchards year by year and we think they are to be congratulated on their Horticultural Commissioner, who is a pear man from the ground up, with a keen interest in the welfare of the whole county's fruit interest.

The effect of drought is not marked, except on gravelly land and where insufficient cultivation was given or where in some young orchards, grain had been grown too close to the trees. Young new-planted trees up here should have a couple of irrigations—say 10 gallons to a tree in basins the frst year—especially on adobe land—to establish them and settle the earth round them. Better cultivation is being practiced in Lake county year by year and returns warrant it.

Lake county is now in the midst of the pear harvest and drying is general.

The young prune and almond orchards in Los Molinas (Tehama county) are flourishing and this promises to become quite a center for prunes and alfalfa and possibly walnuts. Of the latter the Concord variety is the favorite. The supply and distribution of water here should build up an important fruit and feed industry and the holdings should not be made too small.

This is a promising section now under steady development.

San Joaquin County Notes.

Accompanied by Horticultural Commissioner Harry H. Ladd, we visited some orchards north of Stockton on August 10th.

The 500 acres of black walnuts in the Anderson orchard from seeds planted two years ago is so thrifty and strong that a number of the trees were budded this year. A good crop of beans was harvested from the land last year and there is a good looking stand of beans there again now. Ought to be good for 20 sacks to the acre.

In the Holden Drug Company's 20-acre orchard, which is 12 years old, there is a fine crop of nuts and the trees have made excellent growth except in one patch of about four acres still left in alfalfa. Here the trees show they are being robbed and the alfalfa will consequently be plowed out, as there is a lot of dead wood and poor growth in the trees. An orchard of this kind pays for the best cultivation it is possible to bestow. After an orchard has attained bearing age it seems inadvisable to intercrop with alfalfa. Not only because of its robbing the trees of moisture but it precludes the possibility of closely watching trees (or spraying them if need be) during the growing season, and it adds to the cost of harvesting a fruit crop.

Andrew Blossom in the Waterloo section near Calaveras River has 8 acres of walnuts 9 years old grafted high on California Black. Here again there is alfalfa between the trees, which look well so far. Mr. Blossom picked about a ton of walnuts from these trees last year, and there is a good crop and

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Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

growth on them now. He has a 12-acre cherry orchard adjoining, also 9 years old, that are as fine trees as one could wish—Bings, Black Tarts and Royal Anns. They are well trained, large, healthy trees, on real cherry soil and show no signs of the past two dry seasons.

We noticed a worked-over 40-acre almond orchard that was badly infested with red spider so that it looked more like early October instead of early August, except that the trees were bearing a good crop of nuts. This orchard was dusted three times with dry sulphur. A good spraying of lime-sulphur in January would have been better and then a spray of atomic sulphur the end of May.

Burton A. Towne of Woodbridge, who was the first grower in his district to use vetches in his vineyard as a cover crop, has probably the best stand of Tokays we have seen—80 acres of them on sediment loam soil. The vines are tied up to 8-foot stakes and carry an average of 65 per cent of a crop. In the first four rows last year the vines yielded from 400 to 600 crates to the acre. Grape picking will commence in earnest about the 26th. We found Mr. Towne in his packing house superintending the handling and shipping of peaches. He had a staff of women (local) picking the fruit and sending it in and found them diligent and satisfactory. The young orchard of 80 acres of plums, prunes and peaches is also on sediment loam—real peach or cherry land—most of it, and Mr. Towne told us that in future he should plant his trees on the peach stock instead of the Myrobolan.

NEW METHOD WITH BROWN APRICOT SCALE.

L. Woodard of Campbell, near San Jose, claims to have killed brown apricot scale by the use of dry sulphur.

He showed us a 6-year-old Satsuma plum tree with a little crop of good fruit on it and clean healthy foliage. Everything showed the outlines of a heavy infestation of brown apricot scale, where it had sloughed off.

We were told that the tree was apparently nearly dead from the infestation and the leaves small and smutty when Mr. Woodard had finished sulphuring his vines the latter part of April. Passing the tree he stopped and gave it a thorough good blowing of dry sulphur and has done nothing to the tree since then.

Well, seeing is believing. The tree is clean. We saw it. Now it is for others to try out and see whether the same effect can be accomplished at any stage of the scales' career. We shall be interested in hearing further of experiments along this line, especially where accurate data of dates, atmospheric conditions and amounts used are concerned.

The Tracy Irrigation District has been trying out their ditches and found most of them O. K. They are pumping river water to a maximum height of 90 feet. The acreage thus put under irrigation will be planted principally to grain, sugar, sorghums, beans and sugar beets. Water will make more successful the planting of windbreaks.

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Authoritative tests have proved that as high as 50 per cent increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

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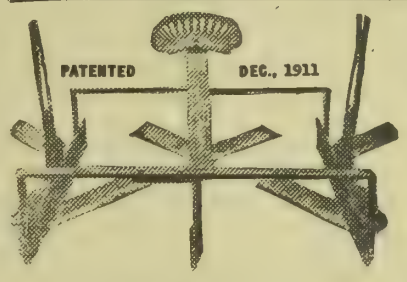

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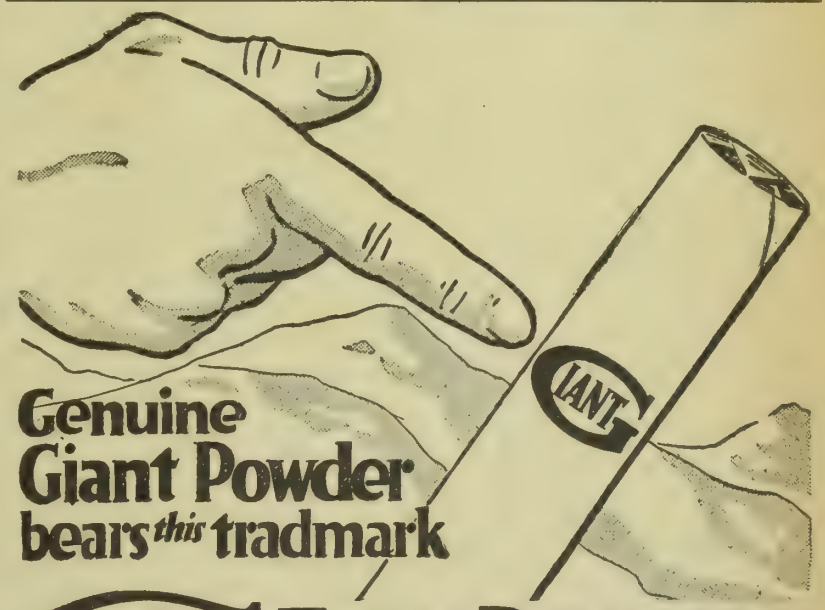

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HORTICULTURAL EXHIBIT AT STATE FAIR.

The first State Fair exhibit ever staged by the State Horticultural Commission will be the one at Sacramento, August 31st to September 8th—a splendid example of what such an exhibit should be. The Commission will have ample space in the new Agricultural and Horticultural Pavilion. C. A. Wilkin is in charge.

Foremost in interest, probably, will be the rodent exhibit showing specimens of ground squirrels, gophers, moles, etc., and a collection of their natural enemies, alive. Such enemies include owls, gophersnakes, etc. The preparation and mixing of poison barley will be a feature. Charts will show the losses of various states by rodents.

Of nearly equal interest are the boxes and crates of fruit actually condemned by horticultural inspectors in many parts of the State for not conforming to the Standardization Law. Enough of these have been put into cold storage to replenish the exhibit throughout the Fair. They may shake one's faith in human nature, but the signs of progress will also be there in the form of standard-packed fruits for comparison. Charts will show average market prices during the year before standardization became statewide and the prices of 1917 and 1918.

The State Insectary will have lady birds working on live aphis, and beetles working on caterpillars, along with specimens of many other insects which help protect our orchards and field crops from injurious insect pests and suggestions as to how farmers may use the Insectary. The Horticultural Quarantine Division will show specimens of some of the dangerous foreign insects it has intercepted by searching incoming shipments and baggage, and will try to show forcefully the dangers to our fruit, cotton, and alfalfa industries which are ever threatening.

Numerous county exhibits are being prepared, largely under leadership of horticultural commissioners and farm advisers, to show the fruit resources of the greatest fruit State in the Union.

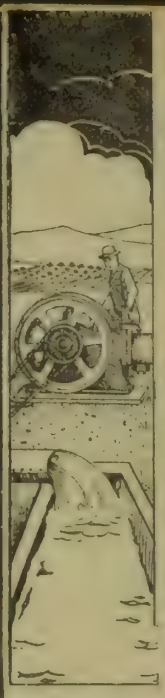
Thus all Divisions of the State Commission of Horticulture will be represented, the Executive Division, the Quarantine Division, the Standardization and Inspection Division, the Insectary and the Rodent Control Divisions.

MORE GRAIN. FEWER MEN. IN BULK HANDLING.

(Continued from page 175.)

tribution of the twenty million bags which would have been required for the 1917 barley crop alone, and something like that for the 1918 crop requiring a rail haul of 100,000 to 120,000 car-miles besides the hauling of bags for wheat and other grains, which would have required 20,000 to 25,000 additional car-miles. Put these costs into terminal elevators and they would soon be built.

The demand for seed of vegetables whose tops are to be cooked like spinach is greater than it used to be, according to a well-known seedsman.



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RED SPIDER AND YELLOW MITE.

Both these pests have been a factor in reducing the vigor in prunes, almonds, plums and other deciduous trees this year, even nursery trees being not altogether exempt.

But the nurseryman gets to work and sprays or dusts them out of existence before their ravages have gone far, and we orchardists will have to follow suit a little more closely and give them a dusting as soon as they appear. Often the first hot days in May their work is apparent.

A dust, composed of half sulphur and half hydrated lime, is about the best remedy if you can reach all the foliage, though a good deal of milled sulphur or atomic sulphur is used in Tehama county—the latter from 16 to 20 pounds to the tank.

Bean thrips also work on prunes and pears and other deciduous fruit, but the discoloration of the foliage differs from the ashy grey that is the result of red spider and other mites' work.

Some years ago, the late Mr. Henderson had such a bad infestation of bean thrips in his pear orchard in Lake county that he was alarmed for the crop. He used atomic sulphur and blackleaf, I believe, and cleaned up the trees before serious damage was done.

The care of the foliage, its defense from the insidious attacks of these little pests, must in the future become a regular part of the business, especially in the warmer sections, with special regard to the almond tree.

NOTES ON PRUNES.

[Written for Pacific Rural Press by Samuel Haigh, San Jose.]

Our sugar prunes are very large and a heavy crop, although last year they bore so heavily that many of the limbs broke down, although they were propped and tied up. They were irrigated once; in April only, as also were the French prunes. About six weeks ago we picked off all the scabby prunes, which gave the others more room. Yet on some branches they hang like grapes. So far there are no split prunes.

The French prunes with exactly the same treatment are very small and dropped badly ever since 1st of July. These trees are also dropping their leaves and have made very little new wood, while the Sugar prunes have made a growth of 8 to 10 inches.

Several plum trees that were grafted over to Sugar prunes are in a yard that is used as a runway for poultry and has not been irrigated at all, yet the prunes are unusually large and clean.

Both the Imperial and the Sugar prune appear to stand the dry years better than the French prune. In fact, when irrigated up to July last year the fruit on these varieties lacked sweetness, while the French prune was intensely sweet.

SATSUMA NEEDS A POLLINATOR.

[Written for Pacific Rural Press by Dr. W. L. Howard]

In the issue of the Pacific Rural Press of August 8, 1918, page 123, a correspondent complains of having Satsuma plums that bloom profusely but bear no fruit. This variety is one of the distinctly self-sterile varieties and cannot be expected to bear profitable crops without interplanting with some congenial variety to pollinate it. We have been experimenting with the pollination of plum varieties at the University Farm at Davis and elsewhere in the State for the past five years. Our Professor A. H. Hendrickson has been conducting this work. By consulting his records I find that the Burbank has been consistently the best pollinator for the Satsuma year after year. While the Wickson, Kelsey and even the Combination will occasionally cause the setting of fair crops of fruit, the Burbank is far more reliable. One tree of the Burbank to every four or five of the Satsuma should be sufficient to supply plenty of pollen if bees are working in the orchard. University Farm, Davis.

PEACH PEELING PATENT.

California is divided against itself by its courts in the case of the Dunkley peach peeling patents. Not so long ago the Dunkley interests won their suit in Northern California to prevent use of the idea they had patented. This consists principally in the spraying of water to remove the skins after peaches are dipped in hot lye water. The Supreme Court upheld their victory at that time, but now a court in Southern California rules against them on almost every point after a much more complete trial in which it is said over fifty witnesses were brought from the East. They will appeal to the Supreme Court and if they win there will impose some thousands or even millions of dollars of royalties on the companies which use their patent. The C. F. C. A. has a special license by which it uses the patents regardless of the suits.

An Open Letter——
HENEY for Governor

MR. C. R. DETRICK, Campaign Manager.

For twenty years I have been in touch with the problems of the farmers and fruit growers of California. In the present war emergency we need more than ever an Executive in full sympathy with the farmers' problems of production, of distribution, and of irrigation.

I am closely in touch with many of these problems, as President of the Contra Costa Farm Bureau; of the Contra Costa Fruit Growers' Association; of the California Grape Growers' Association, and the California Pear Growers' Association; as a member of the California Development Board, and an officer of the State Viticultural Commission, and of the Prune and Apricot Association.

Knowing the splendid record of **FRANCIS J. HENEY** for twenty years, I feel that every farmer and fruit grower, registered either as Democratic or Progressive, should vote for him on August 27.

Heney has the confidence of Ex-President Theodore Roosevelt, of President Woodrow Wilson, and of the farmers of California. If he is elected Governor the producer will be protected in every legitimate need and we will have a Governor who will not fear to do what is right, regardless of political intrigue or the influence of those who seek to exploit both producer and consumer.

Frank J. Sweet

Martinez, Aug. 18, 1918.

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Beeman Garden Tractor

And Walking Engine

AT THE STATE FAIR, SACRAMENTO

The BEEMAN is the Tractor that most Economically does the work of one horse

$285.00 F. O. B. Factory

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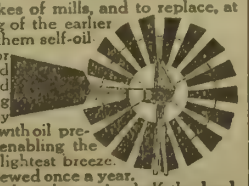
has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load



We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

Write AERMOTOR CO., 2500 Twelfth St., Chicago

Bean Crops and Prospects

[Written for Pacific Rural Press.]

Overproduction of beans this year is not to be feared, notwithstanding the larger acreage planted in California than last year's record acreage and production per acre. President Geo. A. Turner of the California Bean Growers' Association finds by reports from hundreds of members that while the acreage in California is greater than last year, dry weather is making almost a failure of certain crops. Districts planted to pinks seem worst affected, and the acreage reduction also is greatest on this variety. Large whites show average condition in San Joaquin, Yuba, and Colusa counties, but under normal in Sacramento, Yolo, and Stanislaus. Red Kidneys and Red Mexicans, which are grown largely in Stanislaus, are reported about 75 per cent of normal. Blackeyes and Teparies, which are better adapted to dry conditions, show nearly normal condition. The vast expanses of bean fields in Sutter Basin and on the Natomas reclamation above Sacramento made almost a perfect stand and are in fine, thrifty condition matting the rows. Red spider has been reported less than usual and has become nowhere serious. A prominent bean dealer believes that all losses due to dry weather will be offset by the increased acreage so the crop will equal that of 1917. Last year's crop of large and small whites is already cleaned up and only pinks remain in the State in considerable quantity. There was an especially heavy crop of them last year. No demand for these is expected until the new crop comes in. Under Food Administration regulations, new crop dried beans may not be bought or sold until they are actually mature. It is too early to forecast prices, but the Food Administration is alive to the need of giving bean producers a fair return.

Mr. Turner has reports from Michigan, Oregon, and other competitive sections showing a reduction there by frost, pests and other adverse conditions.

The California Bean Growers' Association is the largest bean association in the world, and it expects to market many million dollars' worth of beans this year. It includes owners and managers of practically all of the big bean ranches in central and northern California and hundreds of smaller growers located from Salinas northward. Its offices are in Stockton.

Why I Want to Go to the State Fair

(Continued from first page.)

races. There are always several barns full of the heavy ones and a raft of the racers. But the ponies will take the kiddies' eyes. The horse show tent is being moved onto the five-acre alfalfa corner back of the horse barns.

Probably wife will spend some of her time among the manufactures exhibits, getting notions how to spend our money. But may she stay away from that automobile tent! It is always full of beautiful machines and all kinds of luxurious contrivances. It will pay better to spend the money for a good motor truck, for that will save time and horse flesh, which are both the same as money now. Trucks will have a special tent, and, judging by their exhibit at the Davis tractor demonstration, there will be plenty to choose from.

The old machinery building will be used for vocational and school exhibits that will interest the family, and maybe the family will spend most of their time among the poultry. When they get tired, the women's building is handy for them, and when we get hungry the big new cafeteria will give us a better feed than we ever had on the grounds before. Come on—let's go!

Thousands of people came to the State Fair last year in automobiles and parked them under the eyes of regular guards. Auto travel will be greater this year, both to relieve pocketbooks and to avoid overtaxing the railroads.

LEVELING FOR FALL ALFALFA.

Gion Gibson of Wililams has leveled 75 acres which he will plant to alfalfa after irrigation this fall early enough so the alfalfa will have several leaves and will resist the frost. The square check leveling has cost around $40 per acre, while contour leveling across the road for rice cost about $5 per acre. For this reason, contour leveling will be done for the 300 acres Mr. Gibson expects to plant to alfalfa later.

Potatoes are interplanted with carrots, parsnips, lettuce, and other vegetables in some war gardens. Rows are wider apart where the vegetables need more sun.

THE NEW

CLEVELAND TRACTOR

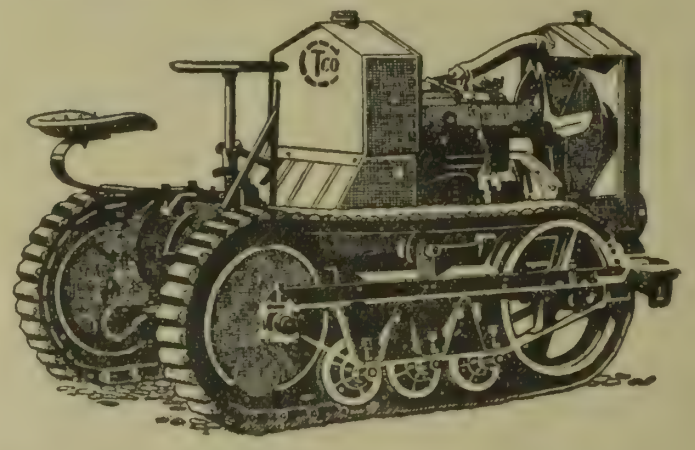
WILL BE ON EXHIBITION

California State Fair at Sacramento

Aug. 31st to Sept. 8th, incl.

This NEW MODEL has overcome all California conditions.

It is the BEST VALUE in the tractor world today. It will work under a greater variety of conditions and at a less cost than any other.



There will be a shortage of good tractors this fall. Do not wait until you need a Cleveland or you will be disappointed

PLACE YOUR ORDER AT ONCE

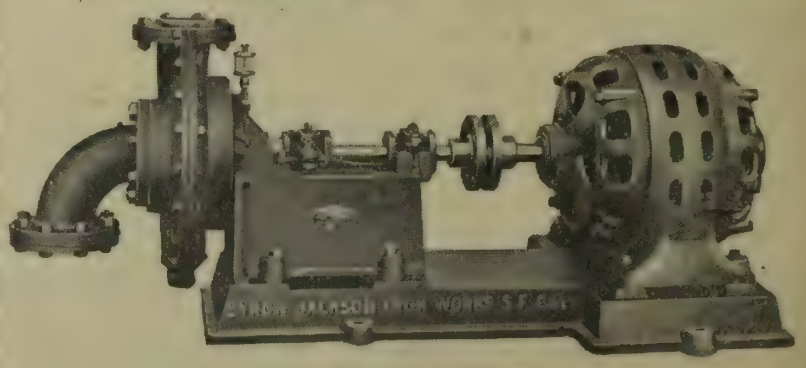
DEALERS:

W. E. Barker, Fortuna.
Jesse I. Jewell, 308 Mendocino Avenue, Santa Rosa.
Van Nader & Slater, 215 East Weber Avenue, Stockton.
Central Tractor & Implement Company, 10th and M Sts., Modesto.
Solano Auto Sales Company, Vacaville.
Latham, Davis & Company, 270 West Santa Clara Street, San Jose.
C. W. Hicks & Son, Chico.
Pyramid Motors Company, 812 L Street, Sacramento.
May Tractor Company, 2072 Center Street, Berkeley.
Modoc Auto Company, Alturas.
F. H. Stow Tractor Company, Northern California Distributor, 2072-4-6 Center Street, Berkeley.

UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



Write us your conditions.
New Catalog No. 60-A for the asking.

BYRON JACKSON IRON WORKS, Inc.

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GROZ-IT

HIGHLY
Concentrated - Pulverized

Manure

A mixture of cattle and sheep manure from animals fed on cotton seed meal and cake and alfalfa (highly nitrogenous foods) aged for several years under climate conditions that remove moisture but prevent leaching and fermenting.

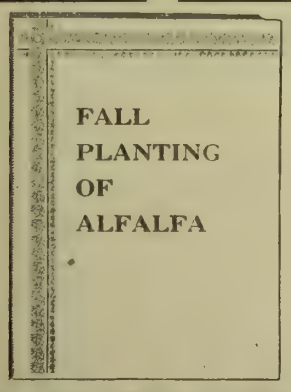
No odor.
No flies or insects.
No weed seed or foreign matter.
Many times plant food values of ordinary manure.
Guaranteed contents:
Nitrogen, 1.5 to 2%.
Phos. Acid, P^2O^5, 1.25 to 2%.
Potash K^2O water soluble, 4 to 5%.
We are shipping GROZ-IT in immense quantities to Southern and Eastern states, where present freight rates make it $10 per ton more than cost to you.
Place your order now to insure delivery.
Sold in bags or bulk.
Write for circular and prices.

Also ordinary Manure in Carloads

Horse-Sheep-Cattle and Rotted Manures

Pacific Manure & Fertilizer Co.
429 Davis St., San Francisco

THIS TELLS HOW



This booklet gives the fall planter of alfalfa all of the practical information on land leveling, checking, ditching, seeding, etc.
Written by an authority with experience for your conditions. Sent free.
WRITE FOR IT NOW.

BOMBERGER SEED CO.
(Desk A)
725 TENTH ST., MODESTO, CAL.

Fertilize all Crops
with
Nitrate of Soda

Small quantity per acre will increase your production and income.
Write or call for particulars.

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HENRY BOOKSIN, District Manager
518-519 Bank of San Jose Building
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Blake, McFall Co., Portland, Ore.

FRUIT-GRAIN-HOG RANCH.

A mammoth combination of fruits, grain, and fine hogs is working on the Jas. Mills Orchard Co.'s ranch at Hamilton City as well as possible with many of their men going to war. Over 600 acres of young orchards include oranges and lemons, as well as most commercial deciduous fruits and olives. Almonds, plums, prunes, peaches, apricots, pears, etc., are being budded this summer to the number of 250,000 trees for the nurseries on the ranch. Over 2,500 acres of grain were put in last season with tractors, and great subsoilers are tearing up unfarmed pastures for more grain. They had 2,200 hogs this spring, and will have sold 24 carloads of pork before October 15th. Their Durocs are on another ranch. Their Berkshires include the highest priced Berkshire gilt sold at the Western Berkshire Congress last spring and a sow on which they won reserve grand championship at the State Fair in 1916. Their herd boar Ames Rival 70th is a smooth big animal with a perfect back, great hams, and standing high up on all his toes. About 24 sows have been selected for prolificacy and type out of a bunch of more than 150 for the breeding herd along with about 20 of the best young sows. The rest are to be crossed with a Poland-China boar for pork. The average of 30 Berkshire litters last year was over nine pigs. Two of the Mills Berkshires sold at the Congress averaged 377 pounds at nine months old. About 25 head are to be shown at the State Fair.

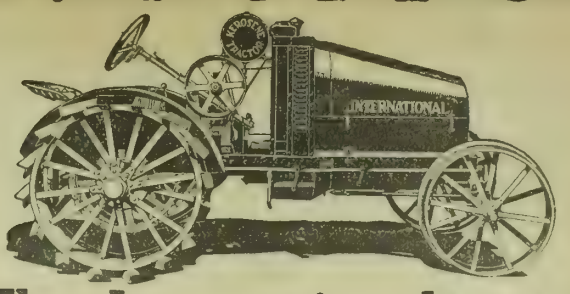
PRICE FIXING OF AGRICULTURAL PRODUCTS.

(Continued from page 176.)

pose this same test were applied to the country as a whole. Would the food come from Canada, Mexico, Central America, or Australia, or is the plan of controlling the price of all food products impossible?

It is, of course, well known that the control of the price tends to make the article so controlled scarce. It does not necessarily follow, however, that the scarcity of the particular article so controlled is due to the control. The control may have been due to its scarcity. It is a curious psychology that causes people to demand the control of a scarce article. The way to make a given article more abundant is to spend less work on the less essential articles. War makes new demands. The only way to meet these demands is to place more emphasis upon them and less upon old requirements. There are two general courses open to us. On the one hand to pay more for the essentials of war; on the other hand to pay less for the relatively non-essentials, or to prohibit altogether the production of the less essentials until the absolute essentials are supplied. Doubtless as the war progresses all of these factors will be employed to secure the desired end.

Old trees grafted over bear very large fruit for two or three years. We have an idea that it might be a good plan to cut back one-third of the limbs each year, because, on trees that we cut back a few limbs and grafted them over to better varieties, we find the fruit very much larger than that on the tree from which the grafts were taken. On the principle that you cannot spoil a bad egg, we intend to experiment on some trees that do not pay for the labor expended upon them.



The International 8-16
A Handy Tractor

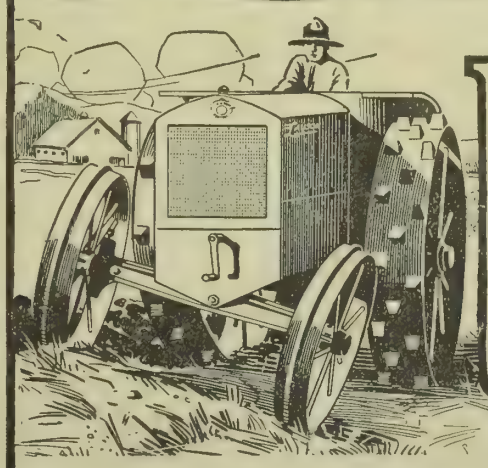
A FEW minutes in the seat of an **International 8-16** gives you a new idea of the ease and comfort of doing farm work with a kerosene tractor. All the controls are right at hand — spark and throttle controls just under the steering wheel; clutch and brake operated by foot pedals; speed changing levers just where your hand falls on them — everything as handy as on an automobile.

International 8-16 has one reverse and three forward speeds: 1¾ and 2½ miles per hour for plowing, disking and other field work, and 4 miles per hour for road work and when traveling from one job to another.

You will like this tractor when you see it. When you run it you will like it better. When you find out how light your bills are for kerosene and for general upkeep you will like it best of all. Go to the dealer soon and see it or write us for information because it looks as though the demand for **International 8-16** tractors is going to be much heavier than we expected and we shall have to fill orders in their turn.

International Harvester Company of America
(Incorporated)
Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

The LAUSON 15-25
DUST PROOF-ALL GEARS ENCLOSED



Specifications
Rating—Draw-bar H. P. 15 Belt H. P. 25.
Engine — Lauson - Beaver, 4½ bore, 6 in. stroke.
Normal speed—950 R. P. M.
Belt Pulley 18 in. by 8 in. 457 R. P. M.
Ignition—Dixie Magneto.
Carburetor and fuel system —Kingston Gravity feed.
Cooling system — Perfex Radiator.
Speed, M. P. H. 1¾; plowing 2½; high 2½.
Wheelbase—86 inch.
Total weight, less fuel water, oil and lugs, 6000.

At Salina

In the National Tractor Demonstration, where 47 makes of tractors competed for national recognition, the LAUSON 15-25 pulled four plows —one more than its rated capacity—and made the first turn of any tractor pulling more than three plows, in Tuesday's plowing demonstration.

The LAUSON went through every morning and afternoon demonstration without the need of stopping for adjustment or repair of either tractor or plows.

Farmers who never before thought they could afford a tractor are now doing all their field and belt work with LAUSON Power.

New literature tells all about these remarkable construction and performance features. Send for it. You can arrange for a LAUSON demonstration on your farm through our nearest distributor or dealer.

Builders of Lauson Frost King Engines
For 23 years Lauson Frost King engines have been the standard of farm engine excellence—built in 2½ to 50 H. P. sizes.

THE JOHN LAUSON MFG. CO., 1029 Monroe St., New Holstein, Wis.

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Specialists in Specimen Stock for Landscape Work.
Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.
WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Measuring Hay in the Stack.

To the Editor: Please send me a rule for measuring a stack of hay by the overthrow method. The stack is 20 feet wide, 36 feet overthrow, and 128 feet long.—M. E. S., Marysville.

Get the cubic contents and divide by 450, more or less, according to the time the hay has settled, the kind of hay it is, the extent to which it was dried in curing, the amount of moist weather since stacking, the moisture in the ground, etc. The exact rule for getting the cubic contents of a stack like you have is too involved for practical use where so many varying factors are involved, and you are safe in taking a round number not quite what the stack would contain if its overthrow were an exact semicircle. The way we would work it out, your problem for an "average" stack of grain hay about this time of year would be thus: If it were a semi-circular overthrow, its cubic contents would be 20x20x .7854x128, which equals 40,212 cubic feet. Dividing 40,000 cubic feet by 500 would give 80 tons. The stack is a little too flat to contain 40,000 cubic feet, but the hay may not take quite 500 cubic feet per ton, and these factors will probably offset each other.

Why Early Seeding Is Best.

Highest yields of grain nearly always follow earliest, even dry seeding, especially on summer fallow, says Prof. B. A. Madsen of Davis. Barley or wheat mature at a time in spring without regard to the time they were planted, even if that is three months earlier or later. Early seeding enables the grain to develop a great root system and a large strong plant usually with a proportionate amount of grain. It is a growing practice to work down a fine seed bed and put the grain in dry. The first rains will wash soil particles close around the seed and hold moisture to germinate it. Later rains will pack the entire seed bed suitably. But spring seeding on spring plowing has no such advantage. The loose dirt if not deeply packed by rollers and other implements will lose moisture into its air spaces and if seed germinates it has a hard time avoiding dryness. The principal objection to early seeding on heavy soil is the chance that it may lodge. But fields seeded on the farm six weeks before a rain have been among the best ever raised. It is always likely that the loss will be less from lodging than it would be from late seeding.

Selects Blackeyes for Seed.

Special seed bean selection costs very little, but makes the seed sell at a cent a pound premium in the experience of R. H. Frazer with blackeyes in Stanislaus county, besides making a bigger crop per acre. He commenced selecting seed three years ago by picking plants in the field which bore a large number of the biggest pods and matured them early. The first selection made seed enough for eight or ten rows in the garden each about 100 feet long. The best pods raised in the garden from this seed were saved for the garden the following year, while the rest were planted in a field plot. Last season 40 sacks of the finest kind of extra large plump blackeyes were sold to neighbors at a premium for seed.

San Joaquin Delta.

Summer crops in the San Joaquin Delta will exceed all records this season, according to Farm Adviser Ralph D. Robertson. These include potatoes, corn, sorghum, grains, onions, and beans. Some 25,000 acres are growing potatoes. About 25,000 will yield heavy crops of corn next year where corn has not been planted before. Bouldin Island, with 6240 acres, is being reclaimed and will be farmed next year by George Shima. He will have a splendid opportunity to grow disease-free potatoes for seed if he does not introduce disease on this new land. Nearly 1000 acres of sugar beets are growing in the islands adjacent to Stockton, but the hemp acreage is not so large as last year, due to the pressing need for food crops.

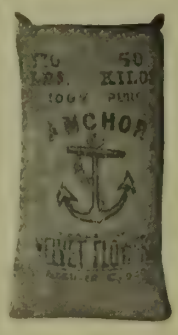
Irrigation Means Great Crops.

What efficient irrigation means is illustrated by the Natomario Rancho, owned by W. F. Sandercock in Sacramento county. From 22 acres he baled this year 107 tons, 280 pounds of oat hay, after which he flooded the land and got a nice stand of beans. From another 40 acres, the harvest was 225 tons 630 pounds. The same land last year produced a crop of hay and then 22 sacks of beans per acre. The first two cuttings of alfalfa this year yielded 74 tons 425 pounds from 13 acres.

Broccoli on Potato Ground.

After potatoes are dug, Geo. Enos of Alameda county prepares the ground with his John Deere potato digger, which works it up smoothly and also brings any remaining potatoes to the top. Then he plants broccoli for a fall-winter crop.

SULPHUR



Fleur de Soufre, Anchor Brand; Velvet Flowers of Sulphur and Eagle Brand.

Packed in barrels and double sacks; are the fluffiest and purest Sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, leaving no ash.

Try our new brand of sublimed 100 per cent pure Ventilated Sulphur for making Paste — Atomic Sulphur.

For Lime Sulphur Solution, use our "S" Brand Refined Flour Sulphur, which we will furnish at a price so cheap that you cannot afford to purchase ready-made solutions.

We are equipped to make immediate shipment. Send for illustrated booklet; also price list and samples.

SAN FRANCISCO SULPHUR CO.

624 California St., San Francisco, Cal.

Crowning Equipment of the modern farm ↙the water tank

A Pacific Redwood Water Tank

will bring more comfort than any other thing installed on a farm.

With a constant supply of water in the house, in the barn, and in the stock troughs, time and labor are saved.

Redwood Tanks installed in 1868 are holding water in 1918---a long life of good service.

PACIFIC redwood tanks take the drudge out of drudgery, for both man and woman on the farm.

Our engineers will prepare plans for your requirements. Tell us of your needs, present water supply, distances, etc.

WRITE for information.

PACIFIC TANK & PIPE CO.

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15 Pine Street, San Francisco

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Pacific Tank and Pipe Co.
Address nearest office.

Gentlemen:
Please send promptly your catalogue of Water Tanks.

I need a tank to hold ---------- gallons.

It should be mounted on a tower ---------- feet high.

The water to be delivered from ----------

Pipe { Length ----------
Size ----------

Name ----------

Address ----------

Sugar for Beekeeping

To the Editor: I wish to learn what provision has been made to permit the use of sugar for beefeed during the coming winter. Last fall it was understood that sugar could not be had for this purpose and I did not feed my bees. If they had been properly fed it is quite possible that I would have gathered 1,400 pounds of extracted honey instead of about 400 pounds, which I estimate will be the total harvest for this season. This loss of production could have been avoided by the use of comparatively a small amount of sugar. In many parts of California the honey-producing blossoms develop early, and in abundance for a short time only, while later in the season the supply is greatly reduced. Except by the application of constant attention, warranted only in the operation of a commercial apiary, it is not practical to endeavor to estimate the quantity of honey that should be left for wintering and at the same time obtain the maximum yield because it is difficult to determine when the late and scattered supply of nectar will cease; to keep the bees at work and avoid various difficulties their surplus stores must be taken as the supers are filled.—Reader, Fruitvale.

[Answer by Prof. G. A. Coleman.]

By a recent ruling of the Food need the sugar for feeding their bees to carry them through a season where there is no flow from the native honey plants to get what they actually require. Beekeepers should not abuse this willingness of the Food Administration to furnish sugar by removing all of the surplus honey and selling it at a high price with the intention of substituting sugar at a much lower price for feeding their bees, as this would be plain profiteering.

In order to provide a supply of honey, which is the natural and best food for the bees, the bee-Administration, sugar for feeding bees is placed in "Group B" and classed with essential uses, entitling beekeepers to 100 per cent of their requirements. Beekeepers needing sugar should write direct to the State Food Administrator.

It is the intention of this ruling to enable beekeepers who actually keeper should supply an abundance of supers to take care of the entire season's crop. He can easily manipulate these supers to catch the flow from different honey plants and select at the close of the season the light honey for extracting and reserve the darker grades, either in the comb or after extracting, for feeding his bees, and so, by a little extra work, patriotically assist in the conservation of the sugar supply.

University of California, Berkeley.

SUBSOILING UNGRAINABLE LAND.

"I want to show you a field of about 300 acres we are subsoiling," said James Mills Jr. recently, on the Mills Orchard Co. ranch in Glenn County. "The land is like granite. Three men have given up trying to raise grain on it and it hasn't been farmed in the past 20 years."

A Caterpillar 75 was pulling a Killefer five standard subsoiler from which two standards had been removed. It was difficult to get them into the ground, but the whole acreage was being torn up in a way that would hold the winter rains and permit root penetration by grain plants to get the fertility previously locked up there.

"You have lots of faith in subsoiling, to go at it so thoroughly on so large a scale," we suggested.

"Well, we subsoiled four years ago about 500 acres that had been too wet to plow in winter and too hard to work in summer. Last year from winter sown grain on that land we took 13 sacks per acre. This year we took 15½ sacks per acre. Higher land subsoiled four years ago yielded 20 sacks per acre last year where it had been fallowed. We will subsoil a total of 500 acres this year."

The South San Joaquin Irrigation District has put 14,000 acres more under irrigation this season than ever before

ALFALFA SEED

Get Our Prices and Samples

Chilian, Peruvian and Hairy Peruvian

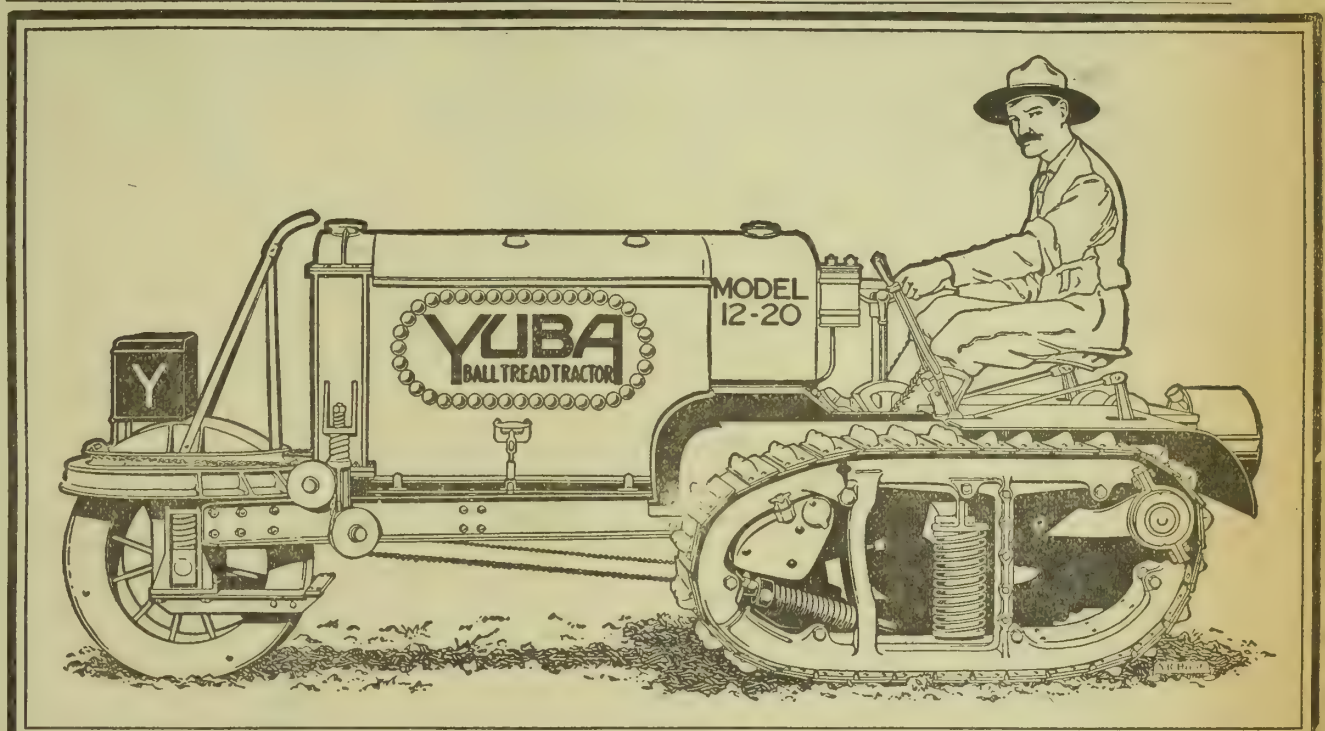
Selected and Recleaned

All Questions Cheerfully Answered

MORRIS & SNOW SEED CO.

Under Rosslyn Hotel

439 S. MAIN ST. LOS ANGELES, CAL.



IMMEDIATE DELIVERY

YUBA Ball Tread Tractors, Model 12-20, are now being delivered.

To relieve the shortage of labor—to hasten the planting—to insure the work done now, order a Yuba 12-20 for immediate delivery.

The price is $2750.00 cash (f. o. b. Benicia, California)—the number ready for shipment is limited—wire your order and put one to work.

PEACE—the only way to get it is to fight for it. We're doing our all—three shifts—every hour of the 24—turning out tractors for you.

Get one, put it to work—it will keep going day and night and rarely need repair.

Quick action in securing one of the Yuba Tractors means sure crops for you—and food for our soldiers.

YUBA MANUFACTURING COMPANY

DEPARTMENT P. R. P.-1

433 CALIFORNIA STREET

SAN FRANCISCO

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

TRACTORS AND IMPLEMENTS AT STATE FAIR

You need a tractor; which one will be best for you? How will you find out? You will go to the State Fair and see there practically all of the leading models, so close together that when a salesman mentions a feature you had not thought of while looking at other machines, you can go back to the one that has impressed you most and see if it has this feature. Don't decide which you want until you have heard what every salesman has to say about his machine. Talk about tractor short courses! Almost every tractor has some points in which it excels all others. The ingenuity of mechanics has devised more good features for tractors than you ever dreamed of; and no half dozen tractors has all of the good features. Let each salesman or demonstrator tell you about his machines, while you make notes of their high points; for you can't keep them all in your head. The demonstrators don't expect you to buy without investigating the other tractors. That is why they are all grouped together in two big tents, one of 28,000 square feet. You don't have to travel to San Francisco, Stockton, Sacramento, Marysville, Chico, Modesto, Fresno, Hanford, and Los Angeles to see all of these makes if you look for them at the State Fair.

INVESTIGATE TRACTOR IMPLEMENTS

But be careful also about the implements you select to use behind the tractor. Many a failure has been made by selection of implements not designed to be pulled by tractors. Horse-drawn machinery is not likely to last long with a tractor. Nor would it last long if hitched behind as many horses as a tractor replaces. The machinery exhibit in the tractor tents will show you the difference. The salesmen will tell you where weak points have been made strong to do the faster, deeper, harder work that farm implements can and should do behind tractors. You may be surprised at the complexity of plowing problems and the ways manufacturers have devised of overcoming them. A disk cultivator is not just a disk cultivator in these times; it is a machine in which you may get many advantages over the old types. Men have watched the furrows turn for years without dreaming of the possibilities that will be disclosed reasonably by the attendants at the State Fair machinery exhibits. Don't fail to make them talk for you. Make them earn their salaries.

Have you heard of tractors or tractor machinery that might make a 40 per cent increase in your crops with the same man-labor? Look for them at the State Fair. We give a list as nearly complete as possible at the date of writing with statement of square feet of space occupied.

Avery, 2,000 square feet, ten tractors and a grain separator, exhibited by F. H. Poss Co.
Bates Steel Mule, 300 square feet, one model exhibited by the California Tractor Co.
Bean, 800 square feet, three tractors, three spray pumps, and several centrifugal pumps.
Beeman Garden Tractor, 200 square feet, one tractor and implements.
Best, 1,500 square feet, for 75, 40 and 25 h. p. tractors.
Case, 6,000 square feet, for fifteen tractors, five threshers, a silo filler, and other machinery.
Cleveland, 4,000 square feet, for ten tractors, exhibited by the F. H. Stow Tractor Co.
Holt Caterpillar, 2,500 square feet, two tractors of 75 and 45 h. p., plows and harrows.
International Harvester Co., 1,000 square feet, three tractors, two disk harrows, etc.
Lauson, 540 square feet, two tractors, exhibited by De Laval Dairy Supply Co.
Moline, 1,500 square feet, for two tractors and numerous implements, drills and binders.

BIGGEST TRACTOR AND FARM MACHINERY DEMONSTRATION

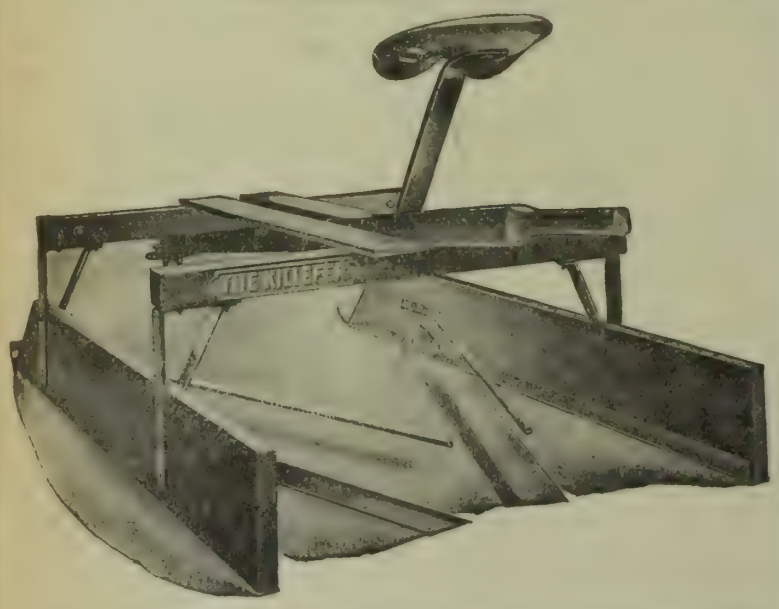
The biggest tractor and implement exhibit and demonstration ever held is promised for Los Angeles, September 17 to 21, inclusive, by the Traction Engine and Implement Dealers' Association of Southern California. Over 50 types and makes of tractors will be given daily "workouts" that will surprise even those best posted on recent tractor developments. In addition to the tractor concerns who have entered, over 50 leading dealers and distributors of farm machinery and equipment have applied for space, and a total of 60 acres will have to be devoted to exhibits alone. One of the most interesting features of the daily program of events will be that of the National Automotive School. Its students will demonstrate methods of repairing tractors, and two lectures daily will be given by members of the faculty for prospective tractor buyers and for those who already have machines.

KILLEFER QUALITY

BEAN CUTTER

KILLEFER EFFICIENCY

SEE CATALOG No. 281



There will be a big demand for Bean Cutters this year and when the time comes they will be needed quickly. Do not delay putting in your order for what you need right away.

We build two weights of sled cutter, the one shown above being our regular wood frame cutter. For heavy ground, where a strong cutter is required, we make a steel arch frame at an additional cost of five dollars. Give your order to your dealer and insist upon having the Killefer kind.

BEAN CUTTER BLADES

You will need extra blades and we can furnish 5/16 x 6 inch x 6 foot blades at $12.00 per pair f. o. b. Los Angeles.

DEALERS WRITE FOR DISCOUNT.

F. O. B. Los Angeles

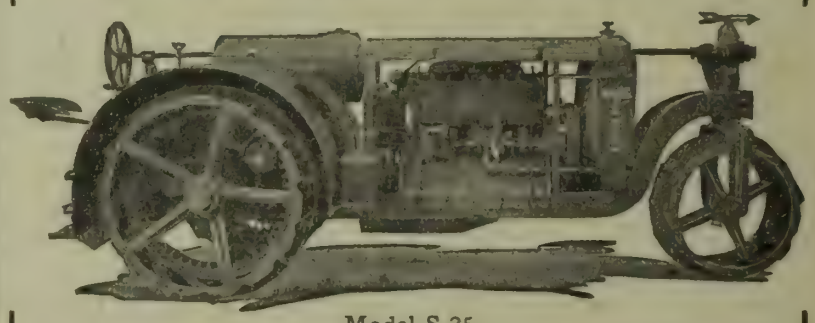
The Killefer Manufacturing Co.

2209-21 Santa Fe Ave. Box 156 Arcade P. O. Los Angeles, Cal.

Samson

GMC TRACTORS SIEVE-GRIP GMC TRACTORS

Tractor



Model S-25

THE GMC SAMSON SIEVE-GRIP TRACTOR is pleasing thousands of owners. It will please you. For nearly two decades it has been subjected to acid tests and has met them all successfully. Designed for service, simply, correctly and honestly constructed, it has more than made good the claims of its manufacturers. As a result, the demand for **GMC SAMSON SIEVE-GRIP TRACTORS** is constantly increasing.

Why experiment when you can secure a tractor, time-tested, that has demonstrated its ability to meet any and all tractor requirements on the farm, from plowing and cultivating to the hundred and one odd jobs?

The **GMC SAMSON SIEVE-GRIP TRACTOR,** during its many years of service, has firmly established a record for strength, durability and economy, combined with great simplicity of construction and operation.

It performs the work of ten horses and does it better, more economically and quicker, in fair weather or foul, day in and day out.

We are sure the **GMC SAMSON SIEVE-GRIP TRACTOR** will please you. Ask the man who owns one or write for our booklet, "Better Farming."

Samson Sieve-Grip Tractor Co.

DIVISION OF

GENERAL MOTORS CORPORATION

STOCKTON, CAL.

Monarch, 1,000 square feet, for three models, exhibited by the Sacramento Valley Tractor Co., who will also show three Denby motor trucks and two Smith Form-a-Truck attachments.
Nilson-Rumely Oil Pull, 1,000 square feet, for two or three models, including 12-20, 20-40, and 14-28; a two-cylinder bean thresher will also be shown.
Russell, 1,200 square feet, for a Russell tractor, Russell rice thresher, and Russell bean thresher, exhibited by the A. H. Averill Machinery Co.
Samson, 500 square feet, two G. M. C. Sieve-Grip tractors, one will be opened in such a way as to permit examination of its construction.
Sandusky, 800 square feet, two models, shown by the Dauch Manufacturing Co.
Trundaar, 500 square feet, one tractor, by Hamilton & Nickell.
Wallis, 1,500 square feet, several tractors, exhibited by Geo. C. Collins.

LAYNE & BOWLER PUMPS

For Producing from 180 to 4500 gallons of water per minute.

—Famous Turbine Centrifugal type.
—Simplified construction.
—Low, Medium and Heavy Duty types.
—Working parts safely housed.
—Highly efficient oiling system.
Over 6000 successful installations.
ASK FOR CATALOG No. 25.

Layne & Bowler Corp.
900 Santa Fe Ave., Los Angeles

NORWALK TIRES

—they roll longer

Ask for Literature and Price List.

Factory Distributors
Lichtenberger-Ferguson Co.
Pico and Hope Sts.
Los Angeles
San Francisco Fresno

Waterloo Boy, 1,000 square feet, one tractor, plows and harrows, exhibited by John Deere Plow Co.
Yuba, 2,500 square feet, for three tractors and three disk plows.
Baker, Hamilton & Pacific, 1,800 square feet, exhibiting about twenty implements, including ten models of P. & O. engine plows, and disk harrows, Imperial disk harrows, Western pulverizers, and Leam's spring-tooth harrows.
Schmeiser Mfg Co., 900 square feet, for two land levelers.
John Deere Plow Co., plows and harrows.
Pacific Inmplement Co., 800 square feet, for Sanders' disk plows, Farmers' Favorite seed drills with tractor hitch and power lift, harrows, etc.
Schmeiser Mfg Co., two or three different sized land levelers for tractors. Reed almond huller, and perhaps a steel checker.
Douglas Boswell, 1,500 square feet, three tractors, plows, harrows, implements.
Butler Veitch Co., 1,500 square feet, several motor trucks and trailers.
De Laval Dairy Supply Co., dairy machinery, silage equipment, pumps, alfalfa cutters and engines.
Oliver Chilled Plow Works, 800 square feet, for plows.
H. C. Shaw Co., 600 square feet, for implements.
W. G. Hansen Machine Works, 250 square feet, tractor and truck parts.
Plow Farming Co., 1,000 square feet, three tractors, plows, disk harrows.
Valvoline Oil Co., 100 square feet.
Standard Oil Co., 500 square feet.

FORDSON TRACTORS HERE.

Fordson tractors are coming to California in large numbers, a central agency for the Pacific Coast having been established with Wm. Hughson & Co. of San Francisco, and a large number of sub-agencies being already located about the State. Several carloads are expected soon and there will be an exhibit at the State Fair. No Fordson tractor will be sold without the plows specially designed for it by Henry Ford and Son and built by the Oliver Chilled Plow Works. Many thousands of these outfits have been sold in the East and in England since the war began, and much interest in California has been awakened. The first one to arrive here was a present from Henry Ford to Luther Burbank of Santa Rosa, a few months ago. The outfits cost less than $1,000.

BETTER CARE SAVES REPAIRS.

"Even though a tractor is made of steel you will occasionally have to buy parts. Very likely your parts bill will be a few cents an acre, but you can well afford to pay a dollar an acre and still make a large saving," says F. H. Stow, tractor man. "The parts bill will not be half so heavy however, if the tractor is not overloaded, if suitable implements are used with it, and if the ditch is made so the draft comes in the center of the tractor. Also, a farmer should spend in the care of his tractor at least a portion of the time he formerly spent in the care of horses. See that all nuts and bolts are tight; that everything is in alignment, the crank case washed every four or five days, and all parts where dirt may accumulate should be cleaned at about the same intervals."

PUMPS NEEDED FOR COVER-CROPS.

Orchard cover-crops are handicapped where irrigation is not available to give them an early start in the fall. If they do not get well started before cold weather, spring plowing-time finds them still undeveloped. If allowed to grow until they do develop, too much moisture is used, the ground is not worked fine enough to save what is left, and the trees suffer. Get a pump even if you have only enough water for the early starting of cover-crops. They will do to your land some things that even the best and most expensive commercial fertilizers cannot.

"Our Killefer tractor cultivator has done us more good than any similar implement on the ranch," said James Mills, Jr., of the Mills Orchard Co., in Glenn county, recently.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler of the "Giant" Type WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

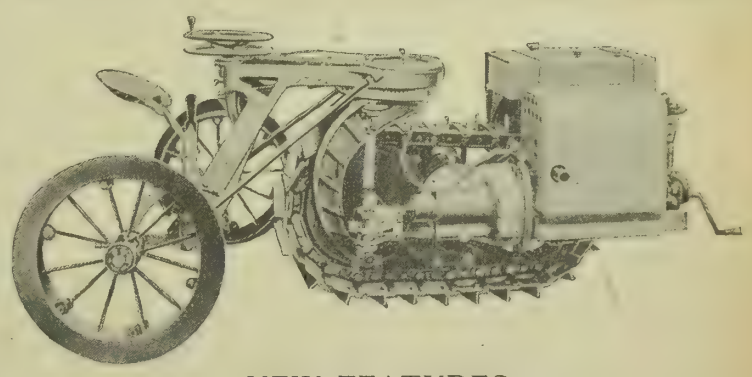
WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth-moving machines.

Schmeiser Manufacturing Co.
12 Mechanic Street DAVIS, CAL.

Manufacturers of
Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.



NEW FEATURES
1919 BEAN TRACKPULL TRACTOR

Important improvements embodied in the 1919 "Bean" increase its efficiency by adding from two to ten times the wear-resisting strength of the parts affected. The 1919 Bean Track-PULL Tractor is the same design as the 1918 model, save for these valuable new features.

These improvements, added to the long proved design of the "Bean" make it a marvel of reliability and efficiency.

1919 VALUABLE IMPROVEMENTS

1. Motor—Improved oiling system. Improved carburetor control.
2. Track Rollers—Provided with hardened steel thrust bearings.
3. Drive Sprocket—Solid steel ring, machine cut, hardened and heat treated, assures long service.
4. Bearings—Provided with improved dust protected greasing facilities.
5. Rear Wheels—Provided with dust cap, wear resisting bushings and improved greasing facilities.

These, and many other features, are fully described in our new tractor catalog. Send for a copy before selecting your tractor.

See the 1919 model "Bean" at the Sacramento State Fair, August 31st to September 8th.

BEAN SPRAY PUMP CO. DEPT. K SAN JOSE, CAL.

General Agricultural Review

FAIR DATES.

State Fair—Sacramento, August 31 to September 8.
Exposition—Oakland, September 9 to October 6.
Glenn county—Orland, September 15 to 21.
Kings county—Hanford, September 23 to 28.
Fresno county—Fresno, October 1 to 5.
Southern California Fair—Riverside, October 8 to 13.
Liberty Fair—Los Angeles, October 12 to 26.
Livestock Show—San Francisco, November 2 to 10.
Indio—Indio Fair, auspices Board of Trade, November 15-16.

Field Crops.

Grasshoppers have become rather serious near the hills in several of the northern mountain counties.

Long-staple Egyptian cotton grown in Tulare county seems to be making a good crop and is reported to have been contracted to the Government at 80c per pound.

Wild ducks are worrying Sacramento Valley rice growers, who want the hunting season to open earlier than usual. The Fish and Game Commission says that would result in hunters tramping the rice down.

Alameda county tomato growers object to the grading of tomatoes for size, on the ground that it is too much work. They forget that perhaps city people would pay more for tomatoes of uniform size in each package.

There are some 3000 acres of land devoted to hops in Sonoma county, located for the most part on Russian river, Mark West and Santa Rosa creeks. All this land is good for vegetables, truck or orchard and is of high productivity.

Deciduous Fruits and Nuts.

A new red raspberry, known as the Alton Improved, is being introduced in Southern California from Utah.

The California Peach Growers' Association at Turlock will be ready to receive fruit by September 1.

The Fresno district is sending East a heavy supply of Malaga grapes, which are sold there at excellent prices.

The celebrated Vrooman Franquette walnut orchard has a bumper crop of fruit. This seems to be a walnut year.

Chico has a fine full crop of prunes on the irrigated land. Where irrigation is not practiced, however, the drop was heavy and the prunes will not size up.

Pear picking about Lakeport is in full swing this week, and some of the farmers are quietly cussing and kicking themselves for signing up with buyers for $25 to $35 per ton.

Conditions in the fig orchards of Merced county look promising for a heavy crop. The Capri wasps required for the fertilization of the Calimyrna figs are available in plentiful quantity this season.

Some almonds grown on the Harry Dopkins ranch, near Dunnigan, are reported to be of a new quality, soft shelled and almost twice as large as the ordinary almond. They will become a part of the Yolo county exhibit at the California State Fair.

Mr. Miller of Lakeport, who has what his neighbors think the finest field of hops in two counties, found 40 acres of his hops laid flat on the ground in about five minutes by a whirlwind; but he soon had them propped up again and so there will be no loss.

Sheridan Baker of Santa Rosa has an avenue of walnuts with Eurekas and Franquettes grafted on the same trees. The Eureka looks the more thrifty and protects itself better, as the foliage is more dense, but both halves of each tree are carrying a good crop of nuts.

It is important that the early drop of immature prunes, deficient in sugar and "quality," be kept separate from the main crop, dried separately and marked when they are sent in to the warehouse. It is felt that the grower owes this to the industry he is helping to build up.

The J. D. Maddox prune orchard north of Santa Rosa is estimated to have nearly five tons of dried prunes to the acre. Some of these heavily bearing orchards will probably have a thoroughly good cultivation after the crop is off. It may help invigorate the trees and help fill buds before the dormant period.

Grapes.

It is stated that of the 20,000 acres of wine-grape land in Sonoma county, 75 per cent is unsuited to the cultivation of any other crop.

H. J. Baade, Farm Adviser of Napa county, is advocating the grafting over of some of the younger vineyards to the Zante currant by way of experiment and as an alternative in case of prohibition. Mr. Baade says they form a good union on the Rupestris St. George root—the one most largely used in Napa county.

Citrus and Semi-Tropical.

Large quantities of chicken manure are shipped from Petaluma to Los Angeles for the use of the orange growers.

Miscellaneous.

There was a light frost about Lakeport on the morning of the 16th.

July loans to farmers of the United States through the Federal Farm Loan Bank were $7,853,901, making the total outstanding loans $117,249,044.

The State Council of Defense has engaged Albert Lindley of Stockton to devote all of his time toward greater crop production in California next year. His office is at the Ferry building in San Francisco.

Estimates are being secured at the instance of the Sonoma County Farm Bureau for installing a portable crusher at a limestone deposit east of Petaluma. The limestone is to be used unburnt as a top dressing on the land.

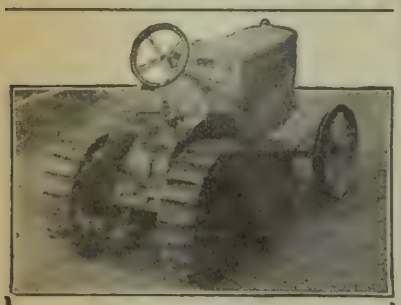
Who Does Your Pumping?

If it is a windmill, what do you do when there is no wind?
If your hired man, what do you do when he is sick?
If yourself, what do you do when you have to make a trip to town?
Your thirsty cattle must have water just the same.

The FULLER & JOHNSON Farm Pump Engine

answers the question correctly. It will pump the water *any time, all the time.* It doesn't need wind, it doesn't get sick. It don't have to wait until you return. It is always on the job. It is so simple anyone can run it and is perfectly safe to handle.
Comes to you ready to run, no brakes, belts, or platforms needed. Don't wait until something happens. Get one NOW. *The price is very low and it costs very little to run one.*
Find out about it by writing for our Catalog No. 17. Will be GLAD TO SEND YOU A COPY.

PACIFIC PUMP & SUPPLY CO.
853 Folsom St. San Francisco, Cal.



Bates Steel Mule Model D

Entered in Tractor Demonstration Sept. 17 to 21

Stephenson and Whittier Boulevard, Los Angeles, Cal.

F. T. Briles, S. Cal. Distributor

214-216 No. Los Angeles St., LOS ANGELES, CAL.
Branch House—110 Main St., Porterville, Cal.

The One BIG Tractor Demonstration

Begins September 17
Over 150,000 Visitors Expected

The Third Annual Tractor Demonstration will be the biggest and most elaborate exhibition of Farm Machinery and Tractors ever held in America. Over one million dollars worth of Farm Machinery, Implements and Accessories will be on display in tents covering over sixty acres. Fifty or more sizes and types of tractors will be in operation, providing the best possible opportunity to inspect and judge tractor work on the farm.

The Dates—September 17, 18, 19, 20, 21

The Place—Whittier Boulevard
Half-mile East of Los Angeles City Limits

DON'T MISS IT! NO ADMISSION!
FREE AUTO PARKING GROUNDS

Traction Engine and Implement Dealers' Association OF SOUTHERN CALIFORNIA
228 H. W. HELLMAN BLDG. .·. LOS ANGELES

California State Fair

AT SACRAMENTO
AUGUST 31st To SEPTEMBER 8th, inclusive

Make the War Time Fair the Biggest Ever

UNITED STATES GOVERNMENT FOOD TRAINING CAMP.

Show what you have done. Learn what others have done. We need more Soil Products, Better Livestock. Exhibit your best to help solve the nation's food problem.

THE KEY NOTES OF THE 1918 CALIFORNIA STATE FAIR

PATRIOTISM - PROFIT - PLEASURE

Great Display of Vocational Work by School Pupils. Over 500 prizes, divided between city and rural schools for domestic arts and science, manual training and home gardens. Greatest incentive ever offered to California boys and girls.

BETTER BABY CONFERENCE—LECTURES AND DEMONSTRATIONS EACH DAY.
LARGEST LIVESTOCK SHOW IN THE WEST.
Over $40,000 offered in premiums.
EDUCATION AND AMUSEMENT COMBINED.

Bigger and Better Poultry Show
Special Pet Stock Show

Displays of horticulture, agriculture, viticulture, forestry, dairy products, dairy, farm and road machinery, tractors, etc. Daily program of high class amusements. Night Horse Show. Harness and Running Races. A tent city of carnival attractions.

New Agricultural and Horticultural Building. Great Annual Band Contest open to the entire State.

BE SURE AND VISIT THE STATE FAIR AND MATHER AVIATION FIELD.

Send for Premium List.

Geo. C. Roeding, President Chas. W. Paine, Secretary
SACRAMENTO, CALIFORNIA.

DON'T FORGET THE LIBERTY FAIR.

Endorsed by the Government and backed by the approval of the President, the directors of the California Liberty Fair, to be held at Los Angeles, October 12 to 26, intend to make of it something different from anything heretofore attempted outside of a great world exposition. There will also be features that have not been possible even in world fairs, as the fact that the nation is at war will be brought home to visitors in a manner that will emphasize the true conditions across the water, and at the same time show the part California is taking to help make the world safe for democracy.

The Government is to send a great exhibit direct from Washington, demonstrating methods of food production and conservation.

The resources of the State will be brought out in a way that will impress upon visitors the wonderful possibilities of our soil and climate

The livestock show will be so extensive that it will almost constitute a course in animal husbandry.

No matter what you may be interested in, you will find here what it would take months of travel and thousands of dollars to see in any other manner.

Come, see, and you will be well repaid.

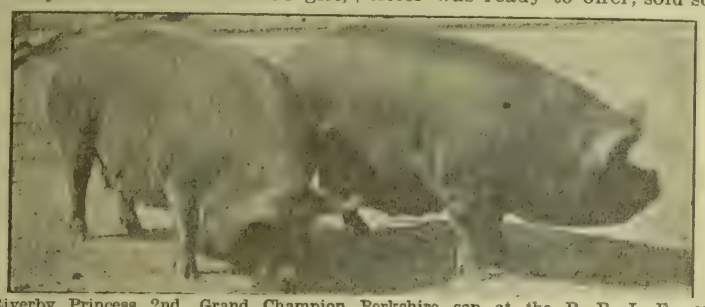
C. R. THOMAS, Manager Livestock Department.

BERKSHIRES PROVE THEIR MERITS.

Less than three years ago a newcomer in the Paso Robles district sent away for a bred Berkshire gilt, paying what seemed to the old settlers an enormous sum. There were the usual comments—questions as to the man's sanity, prophecies that he would soon go broke, and so forth.

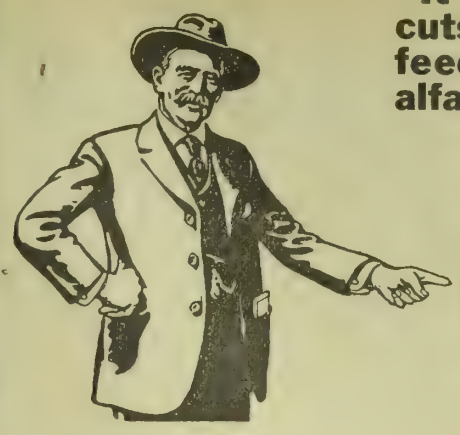
But this did not discourage Mr. Newcomer. He waited until the first litter was ready to offer, sold some of the pigs for enough to pay for the sow, and had the sow and two gilts left. In a few months he bought a Berkshire boar, which won over all other breeds at the Community Fair. Then the neighbors began to sit up and take notice. One by one they fell in line and purchased registered Berkshires for themselves. Finally the man who laughed the loudest when Mr. Newcomer made his first purchase, bought this same animal at one-third more than the original purchase price.

Now practically every farmer in the community has been converted to the practical, money-making value of purebred Berkshires, and owns a few choice animals.



Riverby Princess 2nd, Grand Champion Berkshire son at the P. P. I. E., and her sister, Riverby Princess 3rd. The former owned by Frank A. Brush, Santa Rosa; the latter owned by Sandercock Land Co., Sacramento.

J. H. Hackett of Ceres will show 8 head of Jerseys, including most classes.



"It fills my silo, cuts all my dry feed and makes alfalfa meal."

ACME Feed Cutter

IT'S STEEL FRAME and 3-bearing cutter shaft mean durability, reduced vibration and economy of power.

The shearing stroke of its SPIRAL KNIVES produces a clean cut silage of even lengths that packs properly.

A SIZE FOR EVERY DAIRY.

GET YOUR ORDER IN SOON. Our stock is now complete in all sizes, but the demand is heavy. Prompt action on your part will insure delivery of the size you want when you want it.

CATALOG MAILED PROMPTLY.

IDEAL GREEN FEED SILOS
Leak Proof Permanent

De Laval Dairy Supply Co.
61 Beale Street San Francisco

THE DE LAVAL EXHIBIT
at the
STATE FAIR
Our full line of Modern Dairy Equipment will be exhibited and we cordially invite you to make the DE LAVAL BOOTH your headquarters on the Fair Grounds.

Lauson Tractors

Inspect this 15-25 General Farm Tractor in the Tractor Exhibit

DE LAVAL DAIRY SUPPLY CO.
Pacific Coast Distributors

No Discs To Wash; Knee-Low Supply Tank

Skims Clean At Any Speed

The Sharples Separator Co. West Chester Pa.

3C-13

SHARPLES

FOR MILKING MACHINES

Clear and Clean as Water

B-K keeps tubes and cups sweet and clean. Penetrates milk solids—kills the bacteria. Is clean—harmless—cannot taint milk. B-K makes rubber parts last longer—cannot harm metal. Used and recommended by Milking Machine Manufacturers for years. Cheapest in actual use—sold under guarantee. Get B-K today—end sour milk troubles. Send us your order and your dealer's name. Send for dairy bulletins and "trial offer."

General Laboratories—Madison, Wis.
3437 So. Dickinson St.

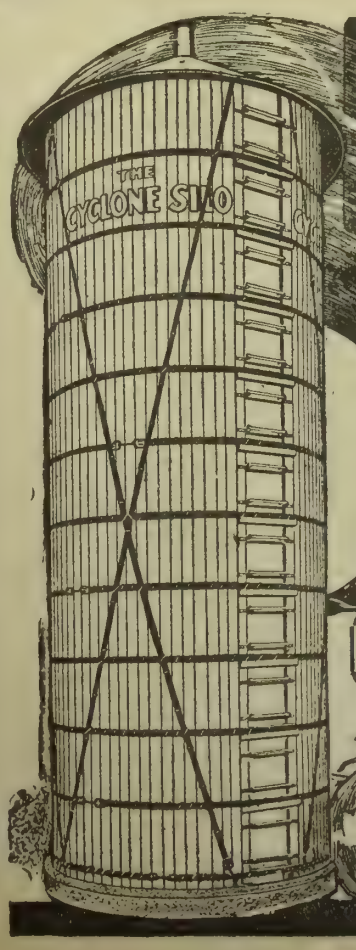
RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

BREEDING DATE BOOK — HERE

We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it.

California Breeders Sales & PedigreeCo.,
C. L. Hughes, Sales Manager,
SACRAMENTO, CAL.

Save Money and Feed With a CYCLONE SILO
Get Our Feed Book-It's Free



Built To Stay in Shape

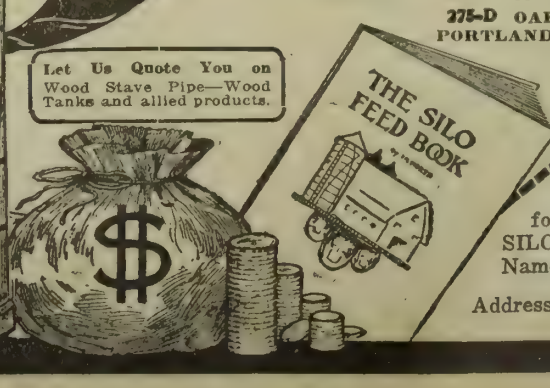
Investigate silos and silo uses thoroughly—then you will realize that you cannot afford to feed stock without a silo. We have supplied wood tanks and wood stave pipe in all parts of the world for 25 years and NOW WE HAVE COMPLETED OUR SILO—it's the silo you will want for your farm—we call it

The CYCLONE Silo

because it is that kind of a silo. Can't blow down—can't warp or change its shape. Investigate it.

NATIONAL TANK & PIPE CO.
275-D OAK STREET, PORTLAND, OREGON.

Let Us Quote You on Wood Stave Pipe—Wood Tanks and allied products.



COUPON

P.R.P.
NATIONAL TANK & PIPE CO.,
275-D Oak Street,
Portland, Oregon.
Dear Sir: Please send me your Silo Feed Book and information about the CYCLONE SILO.
Name .....
Address .....

PLAN TO ATTEND THE CALIFORNIA INTERNATIONAL.

IT AFFORDS me much pleasure to extend an invitation to the readers of the Pacific Rural Press to visit and exhibit at the California Livestock Show, to be held in San Francisco, November 2 to 10.

Nowhere can the stockman, breeder or agriculturist take his family and spend a week more profitably than by attending an up-to-date show, where the finest examples of improved livestock can be found. Comparisons can be made between the various animals and methods, thus affording an educational advantage that it is not possible to gain elsewhere.

The world faces a livestock famine of such magnitude that none of us can comprehend it. Day by day it becomes more evident that it is our duty to double our energies and bridge the tremendous gap by producing more and better livestock.

For this purpose the California International Livestock Show Corporation was organized. Join us and assist in the good work. Let us all pull together for our country and for humanity's sake in this hour of need.

JOSEPH E. PAINTER, Manager.

MILK PRODUCERS' ASSOCIATION GROWING.

When electric cars were being introduced, a crowd gathered in a certain town to see the first car start out. In the crowd was a skeptical old dame who kept constantly crying out, "They can't start it! They can't start it!" But pretty soon the car did start, and it quickly developed considerable speed. Then she changed her tune and cried still louder, "They can't stop it! . They can't stop it!"

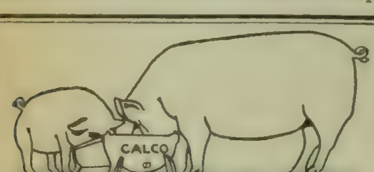
Months ago, when the Milk Producers' Association was in the embryo, many people said that it was a visionary scheme and couldn't be put across. But anyone who will consider the motives back of the movement, together with the results already accomplished, must admit that it is moving successward with an irresistible force that cannot be stopped.

Think of it! In the Imperial Valley 95 per cent of the dairymen have joined the movement. Over in the San Joaquin Valley Association, comprising the counties of Tulare, Kings, Fresno, Merced and Madera, the membership reaches only 40 per cent at the present time, but plans which will soon be put into operation are expected to more than double the membership. The Central California Association, which includes Stanislaus, San Joaquin, Alameda, Contra Costa and other counties, includes 85 per cent of the dairymen. The same applies to the Northern California Association, which includes Sacramento county and the thirteen counties north of it. And the Associated Dairymen of San Francisco, including the bay counties, caps the climax with a 100 per cent membership.

And yet the work has only begun. At present the movement is being launched in Marin and Sonoma counties, in the section on the west side of the San Joaquin Valley, and in the South Bay counties. This organization work will keep up until every dairying section of the State is included.

Mention has already been made of the new $150,000 plant for Sacramento. A similar plant is to be erected in the Imperial Valley, and at Modesto the Modesto Creamery will be enlarged at an expense of over $100,000, so as to manufacture sugar of milk, dried milk, casein and other dairy products in addition to butter.

J. M. Henderson, Jr., of Sacramento is still giving the movement his personal attention, visiting different sections of the State and addressing gatherings wherever organization work is being done. Prejudice and opposition melt away before his strong fire of convincing reasons why the association should be supported, and when dairymen understand the real motives back of the movement and see the benefits that they will derive from it, they decide to support it almost to a man.



use calco troughs - *and increase hog profits*

It's not the cost of the equipment that counts—it's the profit you make from the equipment.

Calco Hog Troughs will reduce dirt and filth—prevent disease—help you make more money from hogs.

Yet Calco Troughs—of Armco and Cast Iron—cost less than the cheapest wooden disease traps.

Diameter.	Depth.	Length.	Prices.
10¼″	5 5/16″	40″	$3.70
10¼″	5 5/16″	60″	4.50
14″	7 3/16″	24″	4.55
14″	7 3/16″	120″	9.60

Other sizes from 24 to 120 inches priced from $2.95 up.

Order a Calco Trough today. You will order more when you use it.

CIRCULAR ON REQUEST.

See Calco Products at State Fair and Land Show

Calco farm and irrigation products will be exhibited at both shows. Look for exhibits.

California Corrugated Culvert Company

Los Angeles, 417 Leroy St. West Berkeley, 406 Parker St.

Hinman Milkers

Banish Dairymen's Labor Troubles

READ THIS

CRESENT CREAMERY COMPANY
MILK, CREAM, BUTTER AND ICE CREAM.
241-249 Winston St.,
Los Angeles, California.
June 26, 1918.

Mr. Charles F. Daniells,
Hughson, Cal.

Dear Sir:

We have been using Hinman Milking Machines since June 28, 1915, with excellent results on our herd of 250 milking cows.

The cows stand more contentedly for the machines than for hand milkers and are not injured in any way by machine milking if competent operators are in charge.

Low bacteria counts are readily obtainable if all rubbers and parts are thoroughly washed and sterilized daily.

The Hinman Milking Machine is permanently established with us.

Yours very truly,
CHENEY W. CARVER,
Supt. Dairy Dept.

See the Hinman work at the State Fair Aug. 31 to Sept. 8

The Hinman is used as extensively by owners of the most valuable purebred cows, as well as in ordinary grade dairy herds. In California such well-known breeders as McAlister & Sons, Chino, and Toyon Farms Association, Los Altos, have solved their labor troubles with the Hinman. It will solve yours also.

SEE ME AT THE FAIR OR WRITE FOR FULL PARTICULARS.

CHAS. F. DANIELLS
Pacific Coast Distributor
HUGHSON - - - - - CALIFORNIA

Cotton Seed Cake or Meal. Grain of all Kinds.

When wanting Cotton Seed Cake or Meal—Write or Wire us.
When wanting to sell Wheat, Barley or other Grain—Write or Wire us. Always in the market.

PACIFIC GRAIN & COTTON SEED PRODUCTS CO.
511 I. W. Hellman Bldg., Los Angeles, Cal.
(Members Los Angeles Grain Exchange.)

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING COMPANY LOS ANGELES

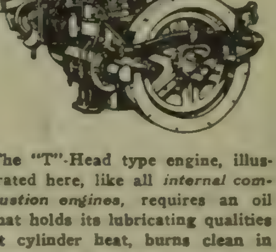
Experts Say
"ZEROLENE IS BETTER"

—because it holds better compression, gives better protection to the moving parts and deposits less carbon.

Zerolene is the correct oil for *all types* of automobile engines—the correct oil for your automobile.

Get our Lubrication Chart showing the correct consistency for your car.

STANDARD OIL COMPANY
(California)



The "T"-Head type engine, illustrated here, like all *internal combustion engines*, requires an oil that holds its lubricating qualities at cylinder heat, burns clean in the cylinders and goes out with exhaust. Zerolene fills these requirements perfectly, *because it is correctly refined from selected California asphalt-base crude.*

ZEROLENE
The Standard Oil for Motor Cars

CALIFORNIA BLOODED STOCK FOR SOUTH AMERICA.

The two-months-old Holstein bull calf shown herewith will make the trip to Peru, South America, this week. He was bred on the Palo Alto Stock Farm and sold by M. H. Tichenor to Rafael Larco, and is one of the highest priced youngsters ever sold on the Coast. He is by King Segis Pontiac Korndyke, the young herd sire of the Palo Alto Stock Farm, who has already 20 A. R. O. daughters to his credit. His dam, Laurameka, is the former State record four-year-old. She is now on test and has made 33.90 lbs. butter in 7 days, 140 lbs. butter in 30 days, 275 lbs. butter and 6400 lbs. milk in 60 days.

Mr. Larco has been a very large breeder of beef cattle and recently decided to start a dairy herd. After a trip of investigation through this country, he decided on the Holstein breed. The performance of the daughters of the Palo Alto Stock Farm herd sire and the records established by the cows of the herd decided Mr. Larco's choice of the future sire for his foundation. He secured a number of females from the Palo Alto herd; also, through Mr. Tichenor, two registered Percheron fillies and a stallion.

Besides these he bought three head of purebred Shorthorns from Ormondale Farms and three head of Herefords from D. O. Lively Stock Farm. Mr. Larco has heretofore secured his breeding stock in the East, but has now found that he can get as good or better blood in the West and can get good shipping facilities.

California is surely destined to become the livestock center for the countries bordering on the Pacific. Something of what this will mean to the State is indicated by the fact that Mr. Larco's entire purchases in California, including livestock, tractors, combined harvesters and other farm machinery, will, according to W. R. Grace & Co., make up a good part of a shipload.

YORKSHIRES GREAT FOR BACON.

The large Yorkshire hog is especially valued for bacon production, where a long side abounding in lean meat and a light shoulder and neck are especially desirable.

Although the large Yorkshire grows rapidly and develops bone and muscle more readily than it develops fat, it is capable of giving as good results from food consumed as any other breed. It will reach desirable market weight for the bacon trade as quickly as any other breed, and for quality of bacon it can hardly be surpassed.

Large Yorkshire sows are very prolific, and are excellent nurses. The boars are exceptionally prepotent, and stamp their character and color on their progeny to a marked degree.

ANOTHER HANFORD POLAND-CHINA SALE.

The best recommendation for the stock offered at the sales of the Kings County Poland-China Breeders' Association is the fact that a large percentage of the purchasers at each sale are farmers who have bought before and are so well pleased that they come back for more.

Kings county is the fountain-head of the state for Poland-Chinas, and at these semi-annual sales some of the very best animals from the leading herds are offered.

The next sale will be held October 9, when 80 head of registered sows and boars will be offered. Send to F. D. Ross, Hanford, for a catalogue, and plan to attend. Remember, a pig will not only pay but help to keep the Huns away.

BERKSHIRE SALE AT STATE FAIR

The Western Berkshire Congress will hold a donation sale at the State Fair. Each breeder has been asked to donate two sow pigs of any age. They will be exhibited and judged first; then the grand champion will be auctioned off and the proceeds turned over to the Red Cross. The returns from the balance of the stock will be used by the Congress to provide funds for promotion work, prizes at shows, etc. James Mills of Hamilton City will act as auctioneer.

The University of Nevada will exhibit Corriedales at the State Fair from their very good herd.

FEED IT TO YOUR CATTLE, HOGS AND CHICKENS

Copro

PRICE LIST

20 Tons	10 Tons	5 Tons	Less Quantity
Per ton $45	$45	$45.50	$46

F. O. B. Mill (or F. O. B. S. P. Cars in 20 Ton Lots)

A Pure, Palatable Food Product, Rich in Digestible Protein

Write for Free Sample and our Booklet "SUCCESSFUL FEEDING"

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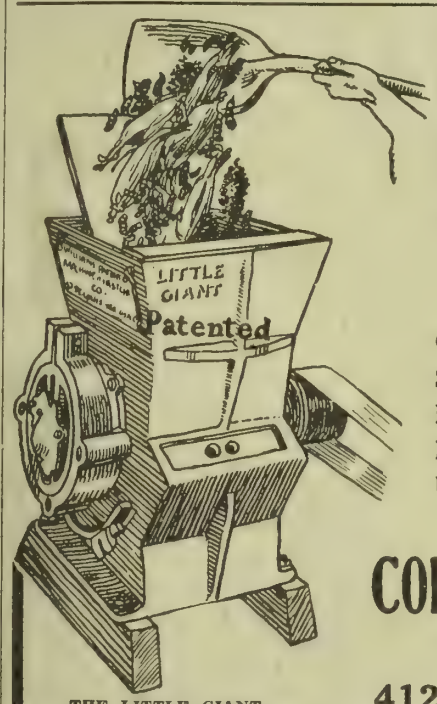
COPRO
For Dairy Cows, Hogs and Poultry



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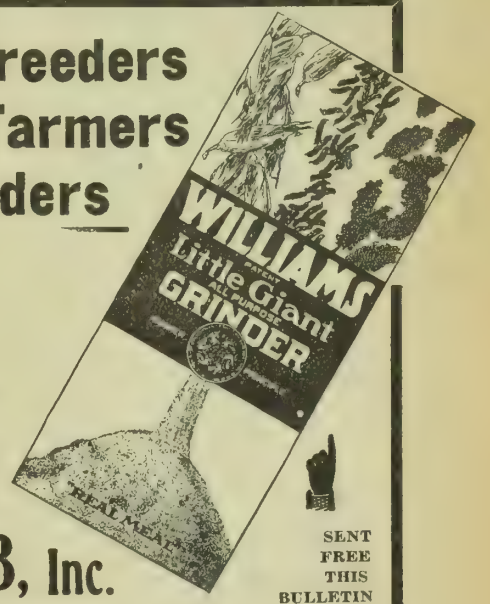
Live Stock Breeders
Dairy Men—Farmers
Poultry Breeders

Be Patriotic

Grind All Your Feed
Save Your Money
Make Your Stock Better
Best Of All — Help
Uncle Sam Conserve Food



SENT FREE THIS BULLETIN

COLLINS & WEBB, Inc.
MACHINERY DEALERS
412 East Third Street, Los Angeles, Cal.

ECONOMY STOCK POWDER

Conditioner Worm Expeller Disease Preventive

For: Horses, Hogs, Cattle, Sheep

Not a Stock Food, but a Medicine. Not a Panacea, but a Remedy. Not a Medicated Salts, but purely a Medicine composed of the very best and choicest of Herbs, Roots, and Sodas. Not a Cure-All, but a genuine conditioner containing TEN different ingredients, scientifically compounded. No Oil Meal, No Bran, No Salt, No Poisonous or Harmful Drugs or Stimulants, such as Arsenic or Black Antimony, that will create a false appetite.

Time will prove whether an article is good or bad. Economy Stock Powder has stood the test of time. It is no longer an experiment, but a Compound of proven merit. Over 200,000 Farmers and Stockmen are feeding Economy regularly. A trial will convince you.

ECONOMY GERMICIDE DIP
Disinfectant—Germicide—Antiseptic
Will absolutely rid your hogs of parasites, lice, mange, scurf, and improve the coat of hair. Will not injure the eyes of the animals.

SAVE YOUR HOGS

FILL OUT THE COUPON AND MAIL WITHOUT DELAY.

The Economy Hog and Cattle Powder Co.
Hearst Building
San Francisco, Cal.
Home Office and Factory: Shenandoah, Ia.
Eastern Office: Fort Wayne, Indiana

Economy Hog and Cattle Powder Co.
HEARST BLDG., SAN FRANCISCO, CAL.
Send me your booklet, "Economy-Ize Your Farm," also a free sample of Economy Stock Powder to try out on my stock.

Name .....R. F. D.....
P. O. .....State.....
I have.....hogs.....sheep.....cattle.....horses

Mrs. Best's Letter.

FALL FASHIONS REVIEWED.

My Dear Friends: More and more each week the stores are showing the new Fall goods and garments. Jersey cloth seems very much used for street dresses, sometimes in two contrasting shades, but more often in one color with embroidery, heavy braiding or fringe for decoration. These dresses are simplicity itself in design, slim, youthful lines with narrow shoulder, close-fitting sleeves, and featuring unusual neck lines.

Another popular garment for street wear is the satin frock. This with a fur collar, scarf of plush or velvet makes a costume you could wear anywhere, especially as the darker shades are the most popular.

HOMESPUNS IN GOOD STYLE.

The homespuns and two tone tailor suitings will be good style for the Fall and there is almost no wear out to a homespun, so it is a good investment. In semi-sport suits there is shown a new knit cloth in solid colors and heather colors that is very attractive. Semi-military in cut, with belted coat and patch pockets on the skirt, it gives promise of being worn well through the winter.

NEW STYLES IN SUITS.

The newest model suits are developed in soft suede and duvetynes in plain tailored styles and also in more dressy fur trimmed models. One of the exclusive shops is showing a new line of velveteen suits, which they advertise as being very up-to-date.

Coats are very high this year—much higher than last—and any of us who have left-over garments we can make answer are fortunate. They seem luxurious in style, full roomy models, beautifully lined in soft velours or similar fabrics and all of them with large collars. In the handsomer coats, these collars are of fur and in many cases button snugly around the throat in new designs.

CORDUROYS SERVICEABLE AND POPULAR.

Corduroy seems to be very popular for lounging robes for women—it is shown in several styles, either lined or unlined and in soft color tones of rose, blue and yellow. The prices range from about $4.00 for plain models up to $15.00 for those with contrasting collar and cuffs and silk linings.

CHIC MILLINERY.

Fall millinery is being exhibited in many of the windows and a great many of the hats both large and small are trimmed in ostrich of one kind or another. Feather bands both wide and narrow, usually of the color of the hat are employed. That is good news, for most of us have some ostrich tucked away and we shall be glad to resurrect it. Trimmings are very simple, sometimes a large hat will have no decoration but worsted embroidery and a touch of grosgrain ribbon. And again the only trimming may be a smart military pom-pom of uncurled ostrich.

One sees more mourning millinery on the street than formerly but a less sombre tone is noticed in many of the good models.

ROSABELLA BEST.

THE HOME CIRCLE

FOLLOW DIRECTIONS.

War demands alertness, a ready response to leaders, prompt action. Food problems are constantly changing and call for the immediate response of all America. Conservation is democratic, all may share, all may help. Three times a day every American can say when he sits down to the table: "This is my chance to serve. Directions are given me by the Food Administration that I should follow and follow at once, like a good soldier. If I fail, whether selfishly or ignorantly, I desert the colors of the nations fighting for democracy—I stab in the back the men we have sent to France."

WAR-TIME GINGER BREAD.

(Original—Good).

One egg, ½ cup cooking molasses, ½ cup corn syrup (white), 4 tablespoons melted shortening, ½ teaspoon cinnamon, 1 teaspoon ginger, 1 teaspoon soda, ¼ teaspoon salt, 1 cup "Gyp" corn flour, 1 cup barley flour, 1 cup fresh figs (chopped), and 1 cup boiling water. Beat egg, add molasses, syrup, and shortening. Beat together. Add spice, soda and salt to the flour, sift, mix, then add figs and a cup of boiling water. Bake in well greased pan or gem pans. Figs may be omitted.—Mrs. J. W. M., Earlimart.

MACARONI PRODUCTS.

On account of a surplus of macaroni products—spaghetti, macaroni and noodles in packages, the housewife is given permission to use these products as though they did not contain wheat flour. This special order will continue until the supply is exhausted and is issued to prevent the manufactured macaroni products from spoiling.

CULINARY NOTES.

Try steaming green vegetables instead of boiling them.

Soak wilted vegetables in cold water until they are crip and fresh.

Cook beets, carrots and parsnips before peeling. The skin comes off after cooking in a very economical and easy way.

Potatoes, too, may well be cooked in their jackets.

CLEANING GREASY BOTTLES.

Editor Home Circle: In answer to Mrs. E. L. R., Oroville, who wishes a cleanser for oil bottles, will say that kerosene is the best substance to cut grease and plenty of warm soap suds will remove the kerosene.—C. M. T., Lancaster.

Glass bottles used for oil containers can be cleaned with sawdust and water.—P. L., Denair.

NOTICE TO WOMEN.

Almost 70 per cent of all the sugar consumed in this country is used in the households. So it is up to the women to make the sugar go around.

Western Electric
POWER and LIGHT

Let the Western Electric man show you the kind of plant you need

THERE is as much difference in electric light plants as there is in automobiles or gas engines. No one type is equally suited to all farms, and your power and light requirements may be different from your neighbors'.

Like every farmer, you want electric power and light, but you don't want an outfit either too large or too small for your needs. Start right! Get all the facts! *Let the Western Electric man show you the kind of plant you need!*

Our business is bigger than the mere selling of any particular electric plant. We sell electricity for the farm. There are all sizes and types of Western Electric outfits. We are not forced by policy to sell one type for every purpose. We can sell you an outfit with or without a gas engine.

If you have a gas engine, it may be a needless expense to buy another engine as a part of an outfit. On the other hand, if you want an outfit with built-in engine, the Western Electric man will tell you about a new outfit of this type ready for delivery this Fall. In any case, it is just a matter of fitting our equipments to your needs.

More than forty years of electrical manufacturing experience is back of all these Western Electric Power and Light Outfits.

Make your entire equipment "Western Electric." You can get Western Electric Motors, Water Systems, Milking Machines, etc., to save labor on the farm; as well as Irons, Vacuum Cleaners, Washing Machines and other electrical helps to save time and labor in the home.

There is a Western Electric man near you. Mail the coupon for Booklet No. PRR-7, *and we will tell him to get in touch with you.*

WESTERN ELECTRIC COMPANY
INCORPORATED

680 Folsom St., San Francisco, Cal.
301 East Eighth St., Los Angeles, Cal.

WESTERN ELECTRIC CO., Inc.

I want to know more about your electric plants, so please send your book No. PRR-7, "Power and Light."

Name _____

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Write Today

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BARKER BROS.

Just Issued

Big, Free

Catalog

of Furniture and Home Furnishings

112 pages describing, pricing and picturing from actual photographs hundreds of pieces of good, handsome, well-built furniture and hundreds of home furnishing articles, stoves, rugs, curtains and other dependable, guaranteed goods. Things you need and use every day. Write at once for your FREE copy. ADDRESS MAIL ORDER DIVISION NO. 23.

Barker Bros
ESTABLISHED-1880

The House of Complete and Competent Home Furnishing Service

724-738 SOUTH BROADWAY, LOS ANGELES.

Convert *your old-fashioned* bathrooms

into modern bathrooms to which you can conduct your guests with a feeling of pride.

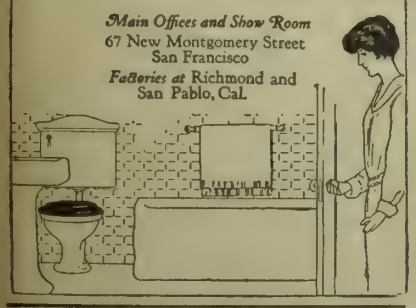
The combination of beauty and simplicity contained in Pacific Plumbing Fixtures make them the vogue. Their added convenience, and the amount of unnecessary work they save, will more than compensate for their moderate cost.

Write for a copy of the Book of Bathrooms. It's a 56-page book, brim full of helpful ideas on bathroom arrangement.

PACIFIC
PLUMBING FIXTURES

For sale by all plumbers

Main Offices and Show Room
67 New Montgomery Street
San Francisco
Factories at Richmond and San Pablo, Cal.



Miss Harker's School for Girls
PALO ALTO - CALIF.

High School, Lower School. Accredited best colleges East and West. Strong French, music and home economics courses. Comfortable buildings. Favorable climate and large grounds permit outdoor life all year. Physical culture. All sports. Resident nurse. 17th year opens September 16th. For illustrated booklet, write

Miss Catherine Harker,
Principal
PALO ALTO :: CALIFORNIA

Good Health.

[By H. E. Pastor, M. D.]

Are Cucumbers Poisonous?

Occasionally this question is asked. We are not aware that cucumbers contain any distinctively poisonous substance. It is true that cholera morbus sometimes follows their ingestion, but we believe this trouble is due to the indigestibility of this vegetable relish rather than to any noxious principle contained. If well masticated and the digestive organs are in normal condition, and especially if the sliced vegetable is previously soaked in a salt solution for an hour or so, cucumbers are not likely to be harmful.

The Best Beverage for Soldiers.

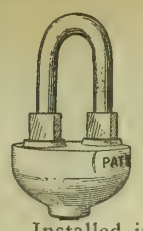
We have said many times in these columns that cow's milk, when fresh and pure, is one of the best forms of food available to hungry humans, whether in swaddling clothes or soldiers' uniforms. Of course, it may well be fed to the latter more sparingly, but with no less care as to sources of supply and sanitary handling. It is gratifying to learn that the U. S. Department of Agriculture is supplying milk-market specialists to aid local health authorities in insuring wholesome supplies for men in army cantonments. If these officials work in co-operation with the dairy farmer, the result will be equally beneficial to our soldiers and the dairy industry.

Nasal Catarrh—What It Is.

The ordinary cold is a transient invader, but catarrh is an uninvited guest that has come to stay. It entrenches itself deeply in the mucous membrane and surrounding tissues, and it taxes the ingenuity of the most resourceful physician to dislodge it; and during its stay, always more or less prolonged, it saps the strength and slowly undermines the constitution of its host. A change of residence to some more elevated location, where the air is purer and the atmosphere drier, will sometimes work an almost miraculous change and is more effective than volumes of learned advice or barrels of molodorous medicine. This is not intended as a reflection on professional treatment, which should always be sought in refractory ailments of any kind.

Catarrh a Refractory Ailment.

Innumerable remedies and modes of treating are offered for this very prevalent disease, and innumerable failures to effect relief, to say nothing of cure, are recorded. Whenever a disease has a wide variety of popular remedies for its relief, you may depend upon it that it is very refractory to treat. Catarrh falls in this class of ailments. It is usually the sequel of a long train of hygienic neglect and the average sufferer seeks some sovereign remedy that will cure his trouble over night. Having been brought on through a long period of hygienic neglect, it generally calls for a long period of personal care and intelligent treatment. The different forms of catarrh cures on the market are, as a rule, merely palliatives or makeshifts, and if any relief is derived from their use it is of a very temporary kind.



FUEL RELIEF PERMITTING THRIFT

It has always remained for the simple little things to solve the big problems. It's the "Now, why didn't I think of that myself" sort of thing that is always doing the wonderful that seemed so impossible.

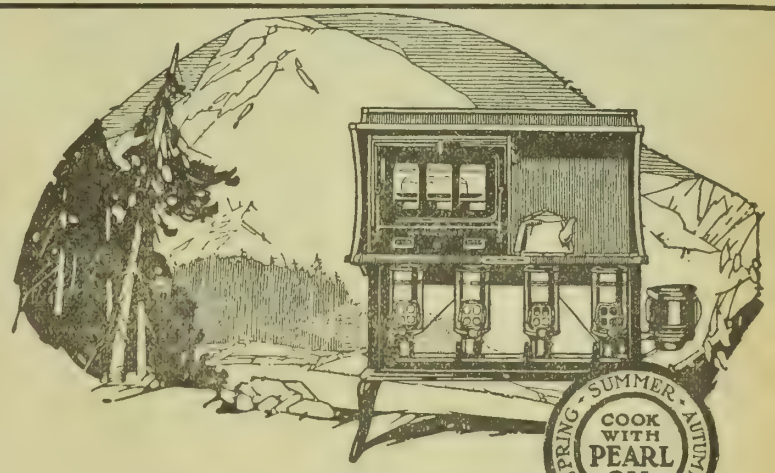
That is how "the simplest thing in the world" was discovered—the Premier Burner—and now after all these years of effort and "false alarms" in home gas makers, it has remained for this simplest of them all to solve the problem.

Installed in the stove without the aid of a plumber or any changes being made, operated on gravity feed and producing a clean gas that results in a bright, clear flame carrying the highest degree of heat units—all from just common kerosene oil and a simple little $5 burner—is it any wonder that people marvel, that users are our best advertisers and that it has been necessary to increase our output many times?

Those interested in real fuel thrift—more heat for less money—avoiding a difficult situation and accepting one of clean abundance furnished by kerosene and a **Premier Burner,** write for Free Circular "C." Burner for cook stove or heater by parcel post prepaid to any address upon receipt of $5. Full instructions and a wide-open guarantee with every burner.

PREMIER BURNER CO.

Home Office and Factory, 246 South Spring St., Los Angeles, Cal.



All the Year Round

A New Perfection Oil Cook Stove in your kitchen means better and more economical cooking all the year round.

More convenient than coal or wood. Lights at the touch of a match and heats in a jiffy.

No smoke or odor; no dust or dirt. Economical.

And all the convenience of gas.

In 1, 2, 3 and 4 burner sizes, with or without ovens or cabinets. Ask your dealer today.

A New Perfection Oil Cook Stove means kitchen comfort and convenience. Ask your friend who has one. Used in 3,000,000 homes. Inexpensive, easy to operate. See them at your dealer's today.

STANDARD OIL COMPANY
(California)

NEW PERFECTION OIL COOK STOVE

Food will Win the War Save it

Spark Automatic Cooler
No Ice
No Expense

Write to Department J for free booklet on "Cooler Facts"

MANUFACTURED BY
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According to public health reports, 49 per cent of the pupils in rural schools have defective teeth and only 16 per cent have had dental attention.

The **STEPHENSON**
Patent Cooler
No Ice Required

Perfect Ventilation
Absolutely Sanitary

Awarded first prize wherever exhibited. If not for sale at your dealer's, write for particulars and prices.

L. Anderson Co., Mfrs.
MARTINEZ, CAL.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

JUMP IN AND TRY IT.

Those who never had the privilege of keeping poultry, have never really tested their natural aptitude for such work. To them I would say, buy a few chickens and try it out. You mothers who have sent sons to defend their country get a few chickens to occupy your hands and minds; then write the boys about all the fun and pleasure, to say nothing of profit you are getting out of these chickens. Some of these self-same boys are writing home about how the army is building them up. Why should not the parents start out to build up physically, mentally and financially with a good flock of chickens? There is no reason why the boys should have all the fun. I propose that we old boys and girls have a little of it.

Hatching time is on this Coast at its best from September 10 to October 13. These two months are ideal for hatching and raising chicks. The warm sunshiny days and mild nights are just what chicks need. But I would not hatch later unless very well prepared.

Broilers will be very high about January 1, and the supply will not begin to keep up with the demand, so that anyone who can possibly take care of a few chicks will be working in their own interest.

HELPING THE MOLT.

Those who want to make most out of their hens the coming winter must take extra care during the trying time of the molt. Carelessness then keeps hens idle longer than they should be. Indeed, if hens are well fed they rarely stop laying for the molt until the finishing touches are to be made; then nature demands a rest. The treatment given the hens during the molt determines the length of the rest, so that this is a question every poultryman can control for himself. Plenty of mineral in every conceivable form is all that is necessary for a quick, healthy molt that will enable hens to shell out eggs all winter. When the molt is finished and the hens are resting give them a little powdered sulphate of iron about three times a week in a small quantity of moist mash, about a tablespoonful to a dozen hens is enough mash for them to clean up quickly and leave none over.

IDEAL WINTER FEED.

This tones them up and it can be given for a month to very good advantage; after that give only occasionally. Some people use mustard, but it is too laxative, often causing diarrhea in hens, that continues until exhaustion takes place, so unless one has the green mustard I prefer to let it alone. For winter use, green mustard is the one ideal green feed for laying hens, it fills the egg basket all winter long, provided that you feed enough grain with it. Green mustard is a stimulant to the nerves of the digestive tract, while at the same time warming and soothing. In the dry powdered condition it acts as a laxative, a purgative, or a diuretic, according to quantity given. We all know that such substances as saffron, valerian, mustard, dandelion and senna, and others we could mention, are yellow or orange color, and in powdered form, enter into the composition of purgative medicines, while they can be eaten with impunity in the green condition. There is nothing better than dandelion greens or mustard salad in quantity, but when we come to use the concentrated powder, a very little serves us.

PREPARE AT ONCE FOR FALL HATCHING.

Fall and winter were formerly seasons of loss to the average person who kept poultry, but thanks to the few intrepid souls who dare, the poultryman of the present day looks towards winter as his harvest season. And from all indications, this winter will be the best harvest of all for those who dared, last spring and early summer to hatch all the chicks they possibly could; and for those who did not, but are intending to hatch this fall, it is not too late to be in at the spread.

Feed is certainly high, if it was not, people would not be willing to pay fifty cents a dozen for eggs in August. Feed is high, but it is not likely to go much if any higher, while eggs and poultry are sure to go higher, for meat of all kinds is high and getting higher because of its increasing scarcity.

OATS FOR EGG PRODUCTION.

To the Editor: Are oats, fed once a day the year around, good for laying hens? We have raised several hundred pounds of oats and would like to feed it instead of corn.—Mrs. P. V. D., Live Oak.

Oats are excellent for egg production. Nothing that is grown excels them, but as California oats have a strong fibre it is a good idea to soak them in water a few hours.

Poultry Breeders' Directory

BABY CHICKS FOR SEPTEMBER—R. I Reds, Barred Rocks, Black Minorcas, White Brown Leghorns. Small or large lots by parcel post or express; safe arrival guaranteed. Fall chicks grow quickly, easily raised, and pay well for meat and eggs. Quality and price will both suit you. Send for free circular. Mission Hatchery, Campbell.

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. September chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

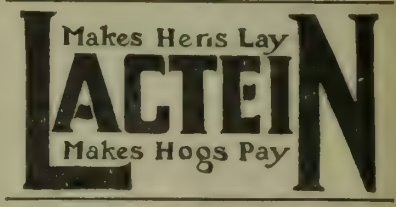
BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2. B. 144D, Pomona, Cal.

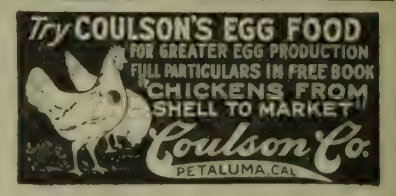
CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W Park St., Stockton, Cal. Stamps.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

BABY CHICKS and hatching eggs from our selected purebred S. C. White Leghorn hens. Tupman Poultry Farm, Ceres, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.





Today's Dream—
Tomorrow's Reality

Electricity offers to the farmer of the present the means of eliminating the monotonous grind from the day's routine.

G-E Motors Save Labor

You can free yourself from the physical exhaustion resulting from farm drudgery if you use G-E motor-driven machinery to milk your cows, separate cream, churn butter, cut feed and ensilage, saw wood, thresh grain, pump water and perform the many other tasks which make up the necessary activities of the working day. The cost for power is less than the wages of one farm hand. Ask your lighting company or our nearest office for full particulars.

General Electric Company

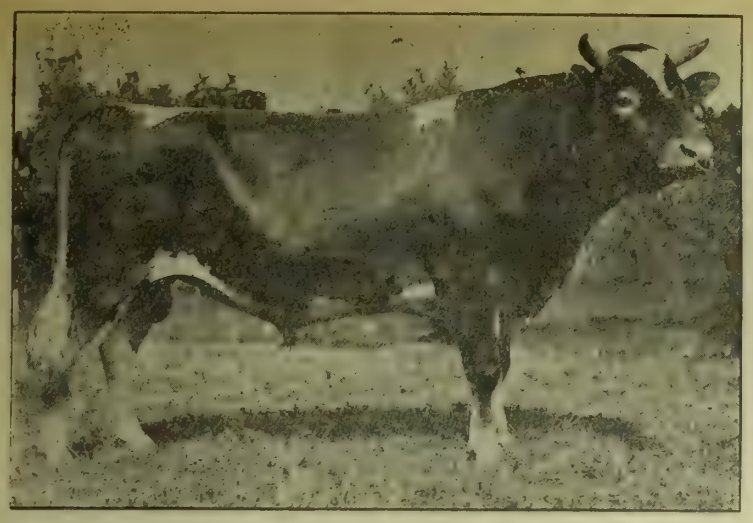
Los Angeles Office: Corporation Bldg.

San Francisco Office: Rialto Bldg.

6771

Government Instructs S. F. Poultry Show Managers

The U. S. Government has addressed a letter of instruction to poultry show managers relative to "Poultry Displays in War Time"; and, as particularly desired by the Government, the San Francisco Poultry Association will, at its annual show, to be held in conjunction with the San Francisco Livestock Show in San Francisco, November 2-10, bring the Fancier (or Standard) breeder and the Commercial (or Utility) breeder together. To this end, George H. Croley, show secretary of the Poultry Division, has formulated a system that will admit of the joint entry of purebred fowls in the Standard class and the Utility class, and at the same time avoid any chance of confusion on the part of the public in distinguishing the winners in each class—standard or Utility. Heretofore there has been much dissatisfaction on the part of exhibitors when attempts have been made to hold a "double entry" show. In reference to the acceptance of fowls that are not of Standard breeds, the instructions from the Department of Agriculture state: "There should be no display of fowls that have not distinctive character, but occasionally a person has non-Standard poultry which in appearance or performance is better than the ordinary, and such exhibits may well be solicited. This is not only the appropriate way to recognize the person who has done something well—if not on usual lines—but it is from this class of exhibits that the new things in the poultry world come." In other words, the exhibits, if not of Standard breeds, must be fowls with breeding sufficiently established to reasonably insure the transmission of their desirable qualities to their progeny. Ordinary scrub fowls and first crosses will not do so, therefore these will not be accepted. This joint entry plan will in a great measure provide a protection for the inexperienced buyer, who too often pays a very large sum for birds that have won Standard prizes, thinking that such winning is an assurance that the fowls are equally as good in Utility qualities.



Pencoyd's Golden May Secret 39626, the $10,000 Guernsey bull recently purchased by Walter H. Dupee of Edgemoor Farm, Santee.

RECORD-PRICE GUERNSEY FOR DUPEE HERD.

Walter H. Dupee, owner of Edgemoor Farm of Santee, San Diego county, has purchased from W. G. Jamison & Sons of Appleton, Wis., the three-year-old Guernsey bull, Pencoyd's Golden May Secret 39626, for $10,100, this being the record price for the breed.

Four years ago Mr. Dupee purchased the great sire, Itchen's May King, at what was the record price at the time. Recently he has felt the need of a new sire to use on the daughters of this bull and others that have been used in the Edgemoor herd. He was anxious to find one of the most fashionable blood lines, combined with the heaviest production, and he finally found what he wanted in Pencoyd's Golden May Secret. This bull was sired by Langwater Pencoyd 21830, and is out of Nellie Jay 4th 38233, who holds third place in Class A with a record of 20,709.9 pounds of milk and 1019.25 pounds of butterfat. Her milk record has been exceeded only by the famed Murne Cowan.

Through Mr. Dupee's purchase the Guernsey business in this State is substantially enriched.

GUERIN BUYS NEW HERD BULL.

Remember the name—King Sadie Vale Idyl Segis—for this bull is destined to play an important part in the future of the Holstein industry in this State. He was recently purchased from McAllister & Sons of Chino by R. F. Guerin of the Sunnyside Holstein Farm at Visalia.

When Mr. Guerin held his dispersal sale he reserved a large number of daughters of Sir Veeman Korndyke Pontiac. They are an exceptionally fine lot of individuals, and it was difficult for Mr. Guerin to find a good enough bull to use on them. However, he finally found just what he wanted in this new sire, as he is one of the best bred bulls in the West, being sired by King Korndyke Sadie Vale 27th, whose five-months-old daughter sold at Sacramento last winter for $1400. His mother is a daughter of King of the Pontiacs and has a seven-day butter record of 35.57 pounds.

CREAM CUP HERD

M. M. HOLDRIDGE

Route "A." P. O. Box 437. **San Jose, Cal.**

WINIFRED HOTALING 2D No. 133785

Butter, 7 days	33.82 lbs.
Butter, 30 days	131.94 lbs.
Milk, 30 days	3054 lbs.
Butter, 1 year (in string)	874 lbs.

Grandsons of this wonderful cow for sale at farmers' prices. Fine, large, serviceable bulls at $200 to $300 and down to bull calves at $75, according to ages.

These youngsters are mostly white, large boned and fine type, just what you need to improve the blood of your herd. We sell females also.

Visitors welcome. Better to call and make personal selection than to write for pedigrees.

Supreme Glista Pietje

HIGHEST PERCENTAGE BUTTERFAT OF ANY SIRE IN THE WEST.

SUPREME GLISTA PIETJE.

His dam is a 32.39-lb. cow. Her full sister has a record of 35 lbs. and both are daughters of a 31.60-lb. cow.

Nine nearest female relatives have records which average 4½ per cent fat.

Seventy-five per cent of daughters of the dam's sire are 30-lb. cows. This is a high percentage. He is a young bull and developing in great prominence.

Will sell his sons at reasonable figures and on easy terms.

All light color.

WRITE US.

BONITA STOCK FARM

SACRAMENTO CALIFORNIA

KING SEGIS ALCARTRA PRILLY

Number 192705

Our Junior Herd Sire

Taken at 20 months old—Junior and Grand Champion at California State Fair, 1917. See his get at State Fair, Sacramento, this year.

Sire—KING SEGIS PONTIAC ALCARTRA—the $50,000 Bull.
Dam—PRILLY PRINCESS JULIA DeKOL.
Record—30.44 lbs. butter, 7 days at 4 years. "World's Record."
She is dam of Segis Julia Princess—136.899; butter 7 days, 35.68.
Prilly Princess Colantha Lyons, 7 days, 31.66 lbs.
Also Sir Prilly Segis, sire of 14 two-year-old first calf heifer in one season from 20 lbs. to 27 lbs. butter 7 days—average above 22 lbs.

Record Made in Our Herd Season of 1917-1918:

	—Age—		Butter 7		
	Years	Months	Days	Pounds	Milk
Countess Katie Hengerveld at	4	0	7	31.15	645
Woodbine Rosa Pearl	5	1	7	30.40	742
Adrondac Wietske Dairy Maid	5	9	7	30.41	624
Jesse Fobes Burke	7	2	7	31.67	620
Sarah Topsey De Kol	5	4	7	32.40	701
Raphaella DeKol Pontiac	6	11	7	33.80	671
Mercedes Inka Hengerveld	7	1	7	34.02	696
Boweda	7	5	7	37.60	538

Season Two-Year-Old Record:

	—Age—		Butter		Butter
	Years	Months	7 Days	Milk	30 Days
K. S. P. Lyons	2	2	18.51	402	....
Nattaline Walker	2	0	21.01	549	87.82
Tidy Abbekerk Korndyke	2	2	21.85	363	85.47
Empress Korndyke Pontiac	2	2	23.22	426	96.72
Fairmont Pauline DeKol 2nd	2	1	23.93	469	96.82
Rose De Kol Candee	2	2	24.35	461	94.19
Tora Pontiac of Vina	2	7	24.68	508	100.65
Bessie Veeman Korndyke	2	3	25.02	534	103.22
Tulip Walker	2	1	26.58	493	102.04

There were 2,028 Junior two-year-old tested in the United States during the fiscal year 1917.

We Stood as Follows:

7-day Butter Records, 10th, 14th, 31st.
30-day Butter Records, 4th, 9th, 12th, 18th, 29th.
7-day Milk Record, 5th.
30-day Milk Records, 3rd, 6th, 17th.

In the Senior Two Class We Stood:

7-day Butter Record, 20th.
30-day Butter Record, 7th.
7-day Milk Record, 11th.
30-day Milk Record, 6th.

Junior Three Class:
7-day Butter, 12th.
7-day Milk, 4th.

Senior Four Class:
7-day Butter, 15th. 7-day Milk, 7th.

Aged Class:
7-day Butter, 9th, 38th, 41st.
30-day Butter, 13th.
7-day Milk, 25th, 26th, 29th.
30-day Milk, 14th.

King Segis Alcartra Prilly is being bred to the above enumerated cows, also about fifty more just as good. Young Bulls from High Record Dams for Sale.

BRIDGFORD COMPANY Knightsen, Contra Costa Co., Cal.

PUT YOUR HERD ON THE PROFIT SIDE

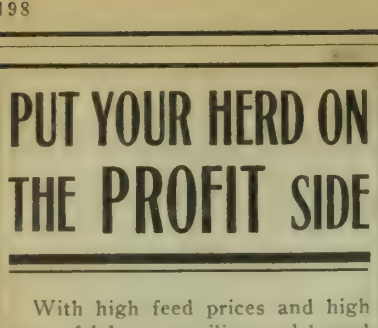
With high feed prices and high cost of labor prevailing and bound to prevail for some time to come, you must either bring up the production of your herd or go out of business.

Breed up with sires who have back of them big production and who will transmit that production to their offspring. Such sires are to be found in sons of

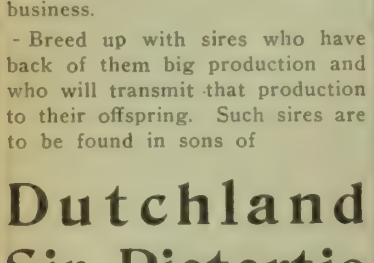
Dutchland Sir Pietertje Creamelle

He is by a grandson of the great transmitting cow, Changeling, and out of a daughter of the world's record cow, Creamelle Vale. He has proven his worth and transmitting power with 18 A. R. O. daughters in my herd with records up to 30 lbs. butter in seven days and averaging 20 lbs. at two years or younger. **All are high testers.**

Below are a couple of Dutchland Sir Pietertje's daughters and their records.



MARIE CLOTHILDE PONTIAC CREAMELLE,
Junior two-year-old. Record: Milk 391, butter 22.52, test 4.6 per cent.



PAULINE INTA DE KOL CREAMELLE,
Senior yearling. Record: Milk 423.4, butter 24.43, test 4.62 per cent.

Have for sale a few young bulls of serviceable age sired by him and out of big producers in my herd. I have sold a large number of them and they have all proved satisfactory. Many have come back for their second and third bull.

Write or call and see them.

F. STENZEL,
San Lorenzo, Cal.
Breeder of high test Holsteins.

WHEN THE SHORTHORN COMES TO TOWN.

[Written for Pacific Rural Press by Frank D. Tomson, Editor The Shorthorn in America.]

It is with the approach of the State fairs and expositions that one's interest in improved livestock is rekindled. The perfected animal, or the animal that is the result of the skillful breeder's efforts, never fails to arouse enthusiasm and admiration. It invariably creates a desire for ownership—for equal achievement.

Looking back through the years, one is impressed with the close identity which the Shorthorn has had with the advance of American agriculture, for it has been a factor in every step of progress for more than one hundred years. The Shorthorn has responded to the needs of the farmer and the ranchman. It has fitted into varying environments with an adaptability that is distinctly a Shorthorn characteristic, for it possesses the ability to make beef and milk from the farm and ranch products as no other breed can do. There is something appealing about a Shorthorn with its variety of color—red, white and roan—its quiet temperament, its ample bulk, its refinement. No wonder its advocates come from all walks of life. No wonder the tillers of the soil and the graziers rely upon this versatile bovine for their financial accumulation. No wonder men of wealth incline to the Shorthorns and students look forward to the day when they can include them in their possession. The Shorthorn combines efficiency and the power to hold the affections of men.

But, more than these, it was the ability to work improvement on the native stocks that long ago added prestige to the breed. A noted authority wrote recently: "The Shorthorn is the ever-efficient missionary of the bovine heathen of the earth, and as far as may now be seen will continue to bear the burden of that responsibility."

It is with the increasing numbers of Shorthorns in California and the Pacific States that mixed husbandry will reach a higher standard and yield a more generous return in money and contentment.

ALEXANDER & KELLOGG DAIRY SHORTHORNS.

The Dairy Shorthorns are very profitable cattle. For beef they rank high, having a big, smooth frame that is easy to fill. They fatten quickly and sell on the market as tops. Their milking ability can be proved by the records made on the Alexander & Kellogg ranch of Suisun. They have about 60 very fine Dairy Shorthorns, including nine cows on official test. Six have completed their yearly tests with an average of 9766 pounds of milk.

Few breeders take as much interest in their stock as do the Misses Alexander & Kellogg, and they are to be complimented on their excellent success. They will show 16 head at the State Fair, including their herd sire, Glenside Royal.

PREMIUM LIST READY FOR CALIFORNIA INTERNATIONAL LIVESTOCK SHOW.

The premium list for the first annual exhibition of the California International Livestock Show Corporation has just been issued in attractive form. It contains complete information regarding the show, including classifications, premiums, rules and regulations. Send for your copy to Jos. E. Painter, manager, Merchants' Exchange building, San Francisco.

J. H. Harlan Co. of Woodland will be back at the State Fair with a herd of Holsteins headed by Prince Butter Boy Walker, senior champion last year. The animals are in fine condition and should win a good share of the ribbons.

Highest Record Calf to be at State Fair

The highest average yearly milk records of the two nearest dams of any calf are those made by the dams of a junior calf grandson of Tilly Alcartra by her only proven son, our 40-pound herd sire, Prince Alcartra Korndyke, and out of Winnie Korndyke Cornucopia De Kol, whose record is 31,034.2 lbs. milk and 1201.0 lbs. butter. The two nearest dams' records averaged 30,749 lbs. of milk in a year. This calf will be shown as one of our ten Holsteins to be shown at the State Fair. Look at him and see how type and production are combined.

Grandsons and Granddaughters of Tilly Alcartra.

Two other sons, two daughters, and a granddaughter of Prince Alcartra Korndyke will be in our show herd. This bull's dam, Tilly Alcartra, has broken several world's records. In five years she produced 4819 pounds of butter, the greatest long-distance record in the world. She is adding new laurels in her present test, during the first six months of which she produced 775 pounds butter and 18,750 pounds milk, including over 40 pounds of butter in seven days.

THE J. S. GIBSON CO.
BOX 97 WILLIAMS, CAL.

LEST YE FORGET

"IT" - From the Greatest Cow of All Time - "IT"

A Few Choice Young Sons of this Great Sire For Sale

McALISTER & SONS
CHINO, CALIF.

PRINCE BUTTER BOY WALKER
Senior and Reserve Grand Champion at Sacramento, 1917.

Holstein Friesian Cattle

Herd Sires:
Prince Butter Boy Walker
King Mead of Riverside
Yolo Valdessa Hengerveld

Young bulls by these sires and out of cows with records.

Write or Call

J. H. HARLAN CO., Woodland, Cal.

DAIRY NOTES

C. D. Hayworth of Modesto will show 14 head of Jerseys, including all classes except the calf classes.

Maé Walker Gelsche Korndyke, the two-year-old heifer bought by J. D. Patterson of Patterson, has dropped a fine heifer calf sired by King Pontiac Netherland Seegis 3d.

Guy Miller of Modesto will have his usual good showing of Jerseys. His show herd will be headed by Altama Interest, and will include a number of young animals sired by him.

W. G. Gurnett of Orland will not show his Jerseys at the State Fair this year. He is busy as Director of Livestock at the Glenn County Fair. He has some splendid King's Valet and Empress Lass stock.

Green corn with ears scarcely started has been supplementing the dry pasture of Marin County hills for M. Pedrotti's herd of Brown Swiss dairy cattle. It is fed lightly, is cleaned up with a relish, and does the cows no harm.

The Santa Margarita Farm showing of Jerseys will number 14 head, and will include most of the classes from the string of milking cows to calf herd, excepting the Senior bull class. Mr. Conant's herd is in fine condition and will make a very creditable showing.

S. F. Williams of Orland will show the Jersey bull Golden Maidikin's Boy and one of his two-year-old sons Alva Lady's La Foss Boy, at the State Fair. Both bulls have been local grand champions. Other entries are an aged cow, junior yearling heifer, senior bull calf, two senior heifer calves, and two other Jerseys.

A beginner with registered Jerseys who is content with nothing but the best is M. Fortini of Orland, whose wife knows as much about the stock as anybody. They have only four head registered, but these include the 1914 State Fair grand champion cow and a R. M. cow with a record of 434 pounds butter from 6,595 pounds milk, testing as high as 7.14 per cent.

Gotschall and the Dairy Magruder of Ripon, have a heifer calf out of K. P. Tola Joe and sired by Pride Fain Faldessa, which makes her a great granddaughter of the first 40-lb. cow. She will make a good show record sometime if properly handled, and if she stays at Ripon you will hear from her.

The Greatest Holstein Blood Combination in the West

PRINCE RIVERSIDE WALKER

The cow making the highest official yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America (and it is the world's official record for one year), is Aaggie Acme of Riverside 2nd. She is out of the same dam as our senior herd sire—

Prince Riverside Walker.

The junior three-year-old heifer making the highest yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America, is Miss Valley Mead De Kol Walker. She is by the same sire as our senior herd sire, **Prince Riverside Walker.**

KING KORNDYKE PONTIAC 20th

Daughters of Prince Riverside Walker are being bred to our junior herd sire, **King Korndyke Pontiac 20th,** secured by us for the highest price ever paid for a bull in California public sale, and the only bull in California in service whose dam as a heifer made above 36 lbs. butter in 7 days and above 1100 lbs. in one year. She is a daughter of Prince Gelsche Walker and of De Kol of Valley Mead 2nd, who formerly held the world's record for two years' product won by a heifer.

His sire, King Korndyke Pontiac, is conceded to be the best individual son of King of the Pontiacs in the West, and he is out of a half sister to Prince Gelsche Walker.

Keep your eye on this breeding and make up your mind early to have a bull of this great combination.

At present we have for sale a few young bulls sired by Prince Riverside Walker.

WRITE, CALL, OR SEE US AT THE STATE FAIR.

TULARE HOLSTEIN FARM

W. J. Higdon, Prop., Tulare, Cal. H. L. Redd, Herdsman

SON OF MODEL FRANCIS GLISTA 173142

From a daughter of Prince Riverside Walker. Model Francis Glista's first seven dams average 4.25 per cent fat. The A. R. O. records of his dam, grand dam and of his sire's dam and grand dam average 30.70 lbs. in seven days. His sires in the first four generations have 17 daughters with records over 30 lbs., the average being 32.14. Forty-six of his near relatives average over 30 lbs. and their average test is over 4 per cent. This includes every dam in the first four generations of his pedigree. This son of Model Francis Glista is almost entirely white, has a perfect back line, and is a splendid typey individual. He will be registered and named to suit the buyer. This and other young stock for sale. Write or come and see.

C. C. SLATER

Martinez-Pacheco Road PACHECO, CAL.

SUNNYSIDE HERD HOLSTEINS

Daughters of Sir Veeman Korndyke Pontiac

Offering for sale a few bulls of serviceable age, sired by Sir Veeman Korndyke Pontiac, a son of Sir Veeman Hengerveld, who has 17 daughters that made over 13 lbs. and a 37-lb. three-year-old daughter. They are out of big producing cows.

WRITE OR CALL AND SEE THEM.

R. F. GUERIN, Proprietor VISALIA, CAL.

Our new herd sire is King Sadie Vale Idyl Segis, by King Korndyke Sadie Vale 27th and out of a daughter of the King of the Pontiacs, with a record of 35.57 pounds in seven days. He is one of the finest bred bulls in the West.

PRINCE HISKE WALKER

Packwood Farm Holsteins

Herd headed by Prince Hiske Walker. His full sister made a State record of 34.25 pounds of butter in seven days.

Offering young bulls from A. R. O. cows with records up to 31.68 pounds in seven days.

WRITE OR CALL AND SEE THEM.

W. F. MITCHELL, Prop., R1, B150, Visalia, Cal.

Glorietta Stock Farm

WOODLAND, CALIFORNIA.

Registered Holsteins

A limited number of serviceable bulls and yearling heifers for sale.

KING DOLLAR GLORIETTA PONTIAC

is our herd sire. All our stock offered for sale is sired by Pietertje De Kol Alka Peterbaas. Write or come and see me.

Mrs. W. C. CURTIS

WOODLAND, CAL.

A Herd Sire for You

One with the right kind of backing. Direct from the famous John B. Irwin herd of Minneapolis, Minn. We have a few young, registered Holstein bulls with individuality, sons of the great

SIR PIETERTJE ORMSBY CANARY

and

SIR BONHEUR HENGERVELD ORMSBY,

from dams of equal stock.

Write for photographs, pedigrees and prices.

McCLOUD RIVER LUMBER COMPANY

McCLOUD, CALIFORNIA

For Economical Production Keep Jerseys

Our herd sire is

Gerties Golden Victor

154555

Junior Champion Kings, Kern and Tulare County Fairs, 1916

To improve your herd, get one of my Jersey Bulls. They are rich in the blood of Gertie of Glynllyn, 16,780 pounds milk, 991 pounds butter, and Lady Lette Lambert, 1081 pounds in 3 years.

Write or call and see my Jerseys.

A. A. JENKINS

TULARE, CAL.

LEONARD FARM
JERSEYS

Bulls from register of merit cows. Write for prices and pedigrees.

ALSO

Duroc Jersey Swine

W. J. HACKETT

Ceres, Cal.

Will show at State Fair

Rancho Santa Margarita

D. F. CONANT, PROP., MODESTO, CAL.

Register of

MERIT JERSEYS

A limited number of bulls for sale. Will exhibit at State Fair

THE JERSEY IS THE FARMER'S COW

All my records are made under ordinary dairy conditions

YOUNG BULLS FOR SALE

Meet me and see my Jerseys at State Fair

C. D. HAYWORTH, - MODESTO, CAL.

Venadera Herd Reg. Jerseys

Young bulls from dams and granddams in Register of Merit.

Will exhibit a herd at State Fair.

GUY H. MILLER, Modesto, Cal.

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing

MY JERSEY BULLS CAN RAISE YOUR MILK TEST

My cows have been bred and selected for high production. My herd bull will delight you to see him. The young stock I offer you will convey to your herd the fine type and high production of their ancestors. Call or write.

W. G. GURNETT

ORLAND, CALIFORNIA

J. E. Thorp of Lockeford, has entered 17 head of Jerseys that will make competition keen in their classes. They are right to win.

George Murphy of Perkins will show a classy herd of milking Shorthorns. They are in fine condition. Be sure to see them.

The annual meeting and election of officers of the California Jersey Breeders' Association will be held Wednesday evening, September 4, at the Fair Grounds. A large attendance is desired.

The Ayrshire ranks at the State Fair will be invaded by the J. Henry Myers Company of Watsonville, with a herd of fine animals well worthy of comparison with the finest specimens of the breed in the State.

The Ayrshire herd on the B. D. Weeks ranch, at La Honda, San Mateo county, has registered the name, "The Redwoods Ayrshire Farm," with the Secretary of State at Sacramento, in accordance with the Farm and Villa Name Act.

The California Jersey Breeders' Association will have a meeting, with banquet and program, at the Travelers Hotel, Sacramento, Tuesday, September 3, at 8 p. m. All breeders and owners of Jerseys are urged to attend. The assessment will be $2 per plate.

Holstein breeders will be disappointed to learn that Santa Anita Rancho will not show at the State Fair. Col. Anita M. Baldwin is devoting practically all of her attention to war work. Superintendent Taylor will fit a few animals for the Liberty Fair at Los Angeles.

The Jersey Breeders have been assured a sufficient sum to purchase a very handsome silver cup to be offered in the State Fair class for five Jersey cows in milk, and it is expected that the cup will be on exhibition during the Fair. There have been a large number of entries made in this class, and a fine showing is expected.

Mrs. W. C. Curtiss of the Glorietta Stock Farm, Woodland, has recently purchased a new herd bull, King Dollar Glorietta Pontiac, a grandson of King of the Pontiacs. He will be used on a fine lot of heifers sired by Pietertje De Kol Alka Peterbass, and the calves from this cross will no doubt be in demand in the future.

With his brother in the army, Jas. McAlister, Jr., of McAlister & Sons, Chino, finds himself too busy to show his Holsteins at the State Fair this year. But things are humming at the ranch just the same. The test cows are making good records, and some fine young stock is coming on. A milking machine is being installed to solve the labor problem.

The Bridgford Company of Knightsen will show 15 head of Holsteins, including the junior herd sire, King Segis Alcartra Prilly, four of his get as get of sire, and a calf herd by him. This bull was junior and grand champion last year. He is by King Segis Pontiac Alcartra, the $50,000 bull, and out of Prilly Princess Julia De Kol, with a world's record of 30.44 pounds of butter in seven days as a four-year-old.

Guy H. Miller is greatly pleased at the result of tests in his Venadera herd of Jerseys at Modesto. Blanda of Venadera, starting at two years and ten months, gave 5619 lbs. milk, making 311 lbs. of fat. Catalina of Venadera, at three years and one month, gave 7403 lbs. of milk and 456 lbs. of fat. Gazelle of Venadera made a record of 8257 lbs. milk and 439 lbs. fat as a five-year-old, and Signora of Venadera 7752 lbs. milk and 427 lbs. fat as a four-year-old.

Eight mature cows have been given records above 30 lbs. during the past year by the Bridgford Company of Knightsen, the highest being 37.60 lbs., made by the famous cow, Boweda. Nine two-year-olds were given records—all but one above 20 lbs. The highest, 26.58 lbs., was made by Tulip Walker at two years and one month. All of these cows and about fifty others just as good are being bred to the junior herd sire, King Segis Alcartra Prilly.

Revada Farm GUERNSEYS

Bred in the Purple

Pearl King of Revada.

Every cow on this ranch imported and carries the blood of such sires as Governor of the Chine Sequel's Monogram, Governor of Gree, etc.

Offering for sale a proven sire and show bull, two-year-old Pearl King of Revada, Junior Champion at 1917 fairs, and his sire and dam are prize winners.

Write for further particulars or call and see them.

REVADA FARMS

B. E. NIXON YOUNTVILLE, CAL.

CLAREMONT GUERNSEYS

Some fine young bulls of serviceable age sired by Presidents Mysie and out of high producing A. R. cows, including a full brother of a 2-year-old heifer that made 21.5 lbs. fat (26.9 lbs. butter) in 7 days.

SEE MY GUERNSEYS at the State Fair

L. Dee Smith, Proprietor R. D. Berkeley, Cal.

Hidden Valley Farm

Breeders of Registered Guernseys

Breeding for High and Consistent Production

Every cow in our herd on yearly test. Records for last month (July):

On test, average 155 days: Butterfat, 54.55 lbs.

This includes 25 per cent heifers with first calf. We have for sale some young bulls of serviceable age and a few heifer calves by Dairymaid's Prince 26353, whose first two daughters to come into milk made respectively

407.12 lbs. butterfat in 265 days.

301.60 lbs. butterfat in 201 days.

They are out of cows that are making large A. R. records. On account of having our cows on test, we cannot show at the State Fair. Will be glad to show our stock at the farm. Correspondence solicited.

A. J. WELCH, Owner R. S. ADAMS, Supt.

REDWOOD CITY, CAL.

Edgemoor Farm Guernseys

Imperial Itchen May King, 25174

PRETTY PRODUCTIVE PROFITABLE

A Few Animals of Either Sex For Sale

SANTEE, CALIF.

H. F. SCRIBNER
Supt.

W. H. DUPEE
Pres.

J. W. Benoit has now on test Vera Volhalla who won the butter-fat contest at 1917 State Fair.

Toyon Farms Association now have on test Albina DeKol Hartoz 3d, one of the cows secured recently at auction in the state of Washington. She has a record of 18.8 lbs. at 22 months old, and her dam's record is 24 lbs. They also have on test two heifers with first calf, secured at the same sale.

R. L. Holmes will show a good herd of Holsteins, including Riverwild Bracelet Britt who was first in her class last year, and other prize winners at last year's shows. Mr. Holmes now has on test Rosa Burke who won first prize and Junior Champion at the California Land Show last winter.

Dean H. E. Van Norman of the University Farm School has been called to Columbus, Ohio, to direct the educational work of the National Dairy Show, to be held there October 10th to 19th. The chief aim of the show will be to impress upon farmers the importance of maintaining an adequate milk supply, both from the standpoint of human welfare and because of its influence on a stable agriculture.

One of the finest members of Chas. Whitsett's herd of 17 registered Jerseys at Orland is Foxy's You'll Do. She is of fine Island type, has a beautiful head, and pin bones as high as her hips, and her production equals her type. When fresh she made 40 pounds of milk per day testing 5.6 per cent, and now after seven months of milking she is still giving nearly three gallons per day.

W. J. Higdon will show his junior herd sire, King Korndyke Pontiac 20th, whom he bought at public auction for $6,500 last spring. He will show Mosel Bonnie Echo, who has a record of over 30 lbs., and her senior yearling son by Mutual Fobes Longfield De Kol. This youngster will in our estimation come very near the top in his class, if not of the entire Holstein bull show. Mr. Higdon will also exhibit a number of young animals by his senior herd sire Prince Riverside Walker.

A worthy dual-purpose dairy-beef breed that has received but little notice in California is the Brown Swiss. A fine herd of 39 head may be seen on the M. Pedrotti ranch near Ignacio. We do not know of another such herd in the State, but Mr. Pedrotti has sold registered stock to a considerable number of dairy men in Siskiyou, Lake, Sonoma, Mendocino, Marin, and Kings counties. Among Brown Swiss owners are Robert Dunlap of Pleasanton, and A. Sartori of Petaluma, who have registered females.

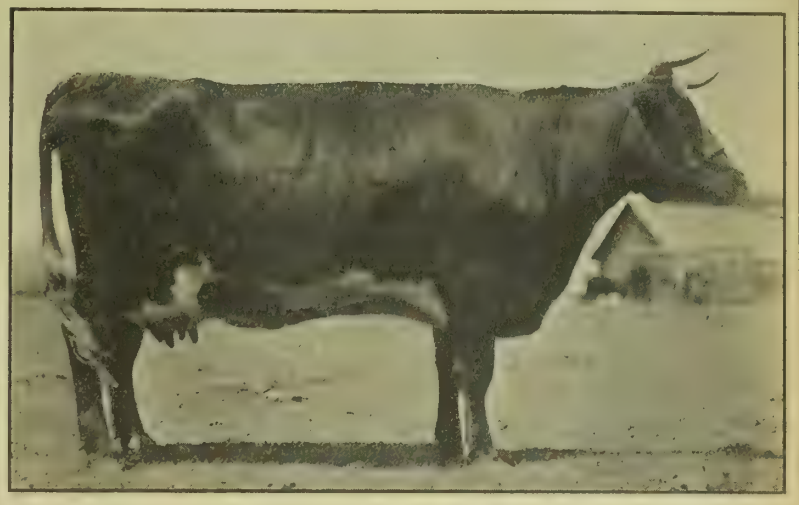
The J. S. Gibson Company of Williams has entered ten Holsteins at the State Fair. A star among them is the senior bull calf whose nearest two dams average more milk in a year than those of any other calf, according to John Self who has charge of the herd. Junior and senior yearling bulls, a junior yearling heifer, two junior heifer calves, and a 30 months' cow in the butter-fat competition are other animals entered. Three sons, two daughters, and a granddaughter of Prince Alcartra Korndyke, the son of Tilly Alcartra heading Gibson's herd, will show what blood will tell.

"Here is Foxhall Sweet Blossom, second prize Jersey at the State Fair last year," said Dr. H. W. Hand of Orland. "We also have the one that beat her, Imp Brilliant Spray. She has three times been grand champion at California State Fair, twice at Oregon State Fair, and once at the Northwestern Livestock Show. She is the highest-priced Jersey cow in California. I also have her daughter and I think she is a better individual. I will show these and another cow at Sacramento with several other Jerseys."

Innisfail Dairy Shorthorns

Will exhibit 16 head at the State Fair, including a group of five cows in milk, among them

BELLEVUE DAISY—Record: 8480 lbs. milk, 322 lbs. butterfat.



PRINCESS CLAY.
Record: 10,249 lbs. milk, 382.2 lbs. butterfat.

HERD BULLS—Glenside Royal, Grand Champion, State Fair, 1916; Kelmscott Viscount 19th, Imported.

FOR SALE—A limited number of young bulls.

SEE US AT THE FAIR OR WRITE US.

ALEXANDER & KELLOGG
SUISUN, CAL.
FARM ON GRIZZLY ISLAND

BREED FOR BEEF and MILK

The two greatest necessities of the age.

Milking Shorthorns

supply both. Authorities admit they are the greatest dual purpose cows. It is the coming breed.

Braemer Beauty

Record

10,000 lbs. of Milk

Choice bulls, all age, for sale. Write me or, better, call and see them.

THOMAS HARRISON
Breeder and Importer
GLEN ELLEN CALIFORNIA

Representative on the Pacific Coast for the celebrated Otis herd of Willoughy, Ohio, which has the largest sale connections in America.

BEMMERLY'S HEREFORDS SATISFY.

Red Cross Hereford heifer, donated by Wm. Bemmerly, Woodland.

"Herefords — the kind that satisfy," was the answer William Bemmerly gave to a friend when asked the kind of cattle he raised. And if one is hard to please he will find what he wants on Mr. Bemmerly's ranch at Woodland, as he has some of the best. Of his three herd sires Mr. Perfection, who is by Perfection 2nd, is thirteen years old, yet he is still a sure breeder, having produced 28 calves from 32 cows. New Eria 2nd, who was bred by George Chandler of Baker, Ore., is a very fine bull and has size and quality. Bonnie Brae 96th, who is by Bonnie Brae 2nd and was bred by William Andrews & Son of Morse, Iowa, is a fine bull and is producing some wonderful calves, one of which was donated to the Red Cross auction to be held at the State Fair and is a sample of what can be found in every field of the 1400-acre ranch. Her picture is here shown.

There is a bull calf from Princess Rainier, who is by Bodonal 31st and is sired by Mr. Perfection, that will be hard to beat if he is ever entered in the show ring. Unfortunately, Mr. Bemmerly will be unable to show at the State Fair this year, but let us hope to see him in some of the later shows.

BEEF CATTLE NOTES.

H. M. Barngrover recently bought of Peter & Church, Chico, 24 head of Hereford calves for his Veramont Stock Farm in Plumas county.

The Hopland Stock Farm will show a good herd of Shorthorns, including their first prize junior yearling bull at last year's Fair.

T. S. Glide of Hillcrest Stock Farm, Davis, will show eleven Shorthorns at the State Fair if help is available to take and feed them. They include two junior yearling bulls, two senior bull calves, a two-year-old heifer, two senior heifer calves, a junior heifer calf, get of sire one entry, breeders young herd, calf herd, and produce of dam two entries.

The Ormondale Farms report sale of Shorthorn bull sired by Golden Goods Jr. to R. B. Clemens of Roseville. The young bull dropped last May by Mayflower 4th of the Ormondale Farm and sired by Radium is developing wonderfully. He will be shown at the San Francisco Livestock Show. We are sorry that he will not be in the ring at the State Fair.

J. A. Bunting of the Mission Hereford Farm at Mission San Jose, will show 8 head at Sacramento, Los Angeles and San Francisco, and is determined to excel the good record he made last year. Showing only 3 head he won 5 prizes, including 3 firsts, junior champion and reserve grand champion. He has a great herd headed by California Prime Donald, purchased from the University Farm.

The show herd at the Pacheco Ranch is ready for the final test and will be on hand at the State Fair with some of last year's blue ribbon winners leading the string. This ranch, like many others, is feeling the help shortage, but they are learning to use machinery in place of labor, and are getting along nicely. The hay stacker and buck rake take the place of four or five men and do the work in half the time.

Hillcrest Stock Farm

KING LANCASTER,
Son of King Edward, Grand Champion, State Fair, 1912-1913-1914, the only bull three times Grand Champion.

Breeder of

Shorthorn Cattle

and

Shropshire

and

Merino Sheep

I have used more grand champion bulls on my range herd than any other California breeder has used on his foundation.

A few service bulls for sale.

Shropshires sired by rams imported from England.
The famous Blacou Glide Merinos.

T. S. GLIDE, Prop.

DAVIS, CAL.

SEE ME AT THE STATE FAIR.

Veramont Stock Farm

PUREBRED HEREFORDS

Bulls in Service:

Patrician 5th 472135
California Prince 2nd 608127

Ranch in Indian Valley, Plumas county. Altitude and climate ideal for production of vigorous cattle.

YOUNG STOCK FOR SALE.

Inspection and Correspondence Invited.

H. M. BARNGROVER

San Jose .·. California

Pacheco Cattle Co.

HOLLISTER, CAL.

Breeders of

SHORTHORNS

Leading Herd Sire, TRUE DALE 367159 by DOUBLE DALE

NOTHING FOR SALE AT PRESENT

SEE US at STATE FAIR or Write Us.

SHORTHORNS BERKSHIRES

Hopland Stock Farm

HOPLAND, CALIFORNIA

REGISTERED HERD AND RANGE BULLS BY RIGHT CHOICE 28951 AND TULE KING 304655. VISIT OUR EXHIBIT AT STATE FAIR.

A limited number of Boars and Gilts sired by

IOWANA RIVAL MAJESTIC, 194736

Reserved Grand Champion, State Fair, 1916, and son of Rival Champion 112500.

San Francisco Office, 226 Southern Pacific Building

HOPLAND LASS 179452, Grand Champion Cow, Sacramento, 1917.

Livestock Notes

F. Stenzel of San Lorenzo is making some more good Holstein records with daughters of Dutchland Sir Pietertje Creamelle.

Fred Johnson of Napa lost his Duroc boar, Johnson's Defender, who was junior champion last year; but he will have a strong showing this year.

W. F. Mitchell of Visalia, proprietor of the Packwood Farm Holstein herd, expects to hold an auction sale of registered stock some time this fall or winter.

The J. H. Harlan Co. will show eight head of Holsteins. Mr. Harlan carried off some of the most desirable awards last year and may be expected to repeat.

Roy Dawson of Gardena will show six head of Hampshires at the State Fair. Mr. Dawson has some very fine specimens of this breed that is becoming so popular.

M. Bassett and A. L. Bassett of Hanford will show 27 head of Poland-Chinas, most of them sired by Model Fellow, a big-type boar who has proved a wonderful sire for Mr. Bassett's medium type sows.

W. L. Haag & Son of Hanford will show their $400 Poland-China boar, Young Jumbo, secured by them at the auction sale of Wm. Bernstein last spring, and a young herd headed by him.

The well-known Holdridge herd of registered Holsteins is now comfortably located in its new home near Santa Clara. Miss Holdridge is installing milking machines.

The Diamond G Ranch, which had the grand champion Hereford bull at the State Fair last year, will not show this year. Mr. Gable reports that he could not get help to fit his herd.

L. De Smith will have a fine herd of Guernseys at the State Fair. His show herd includes some great producers, such as Mysie Babe of Claremont, whose excellent record was recently reported.

The Jack London Ranch will not show their Shire horses and Shorthorn cattle this year. Shortage of help and desire to increase productions are the reasons, according to Manager Eliza Shepard.

Conejo Ranch will show both Durocs and Hampshires at the State Fair. They have recently imported a large number of outstanding animals from the East and are expecting to capture a good share of the ribbons.

A. A. Jenkins recently lost his senior herd sire. He found him lying in the center of his pen with his neck broken. His junior sire, Gertie's Golden Victor, has developed into a great bull. He is a fine individual and is getting splendid calves.

B. E. Nixon of Revada Farms, Napa, has offered a Guernsey heifer bred to his $10,000 herd bull for the best Berkshire barrow farrowed after March 1, 1918, the award to be made at the meeting of the Western Berkshire Congress, which will be held at Davis in February, 1919.

HEREFORDS

Everybody knows the kind I raise.
Once a customer always a customer.

MR. PERFECTION
NEW ERA 2nd
BONNIE BRAY 96
} Herd Sires

For sale—A carload of bulls and a car of heifers.

This herd was established by Jack Splawn of North Yakima, Wash., in 1880.

WRITE OR CALL.

WM. BEMMERELY, Woodland, Cal

Mission Hereford Farm

With three entries at 1917 State Fair, won five prizes—three Firsts, Junior Championship and Reserve Grand Championship.

Offering for sale a fine one-year-old bull, possessing lots of size and quality. Write for pedigree and price or call and see him.

J. A. BUNTING, Prop., Mission San Jose, Cal.

WILL SHOW AT THE STATE FAIR.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

Dairy Shorthorns for Milk and Beef

Dairy Shorthorns lead in butterfat production in many cow-testing association reports. Their calves make fine beef more economically than other dairy breeds. Dairy Shorthorns are the best breed to range hills and stubble for roughage where help is scarce. My young bulls can increase the production of your herd when their calves come to milking age. Write for details of a few bulls I have to sell.

W. T. ROBERTS, Prop. **Willow Brook Farm** PENN GROVE, CAL.

Diamond G Ranch

HOME OF

"Diamond Fairfax"

Grand Champion State Fair, 1917

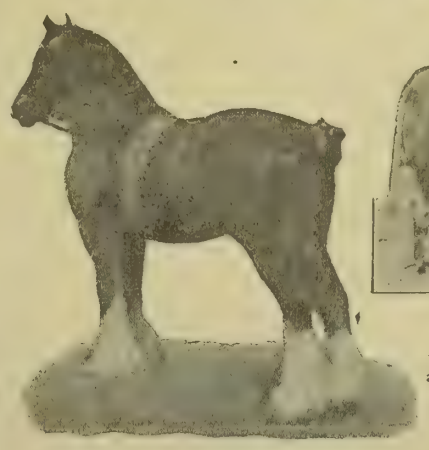
Registered Herefords, purebred sires, pay.

Visit our grade herd and observe the proof.

H. H. GABLE, Proprietor

ESPARTO, CAL.

Jack London Ranch



NEUADD HILLSIDE,
Grand Champion Shire.

ROSELAWN CHOICE 408816

Won two Firsts, two Gold Medals and Senior Champion at State Fair, 1916 and in 1917.

REGISTERED SHIRES—Horses, stud colts and fillies from registered mares and sired by Neuadd Hillside. Also imported brood mares for sale.

REGISTERED SHORTHORN CATTLE—Stock of all ages; young stock sired by Roselawn Choice for sale.

REGISTERED DUROC-JERSEY SWINE—A fine lot of pigs of best Duroc breeding.

Conditions this year make it impossible for us to show at the State Fair, but we are always glad to show our stock at the ranch.

ELIZA SHEPARD, Mgr.

GLEN ELLEN CALIFORNIA

Berkshires Guernseys

Grape Wild Farms

A few fall boars left by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application.

A. B. HUMPHREY

ESCALON

San Joaquin Co., Cal.

In the Swine World

BERKSHIRES. THE STANDARD BREED.

[Written for Pacific Rural Press by F. S. Springer, Secretary American Berkshire Association.]

The rightful function of hogs is to make pork. The greatest amount of highest quality meat, produced most economically at the earliest age, is the real pork maker's ideal. Abundant evidence is at hand to show the ability of the Berkshire hog to fill the pork maker's ideal. At the last International Livestock Exposition Berkshire barrows won more prizes in competition with all the breeds than was ever won by any other breed. The grand champion barrow, grand champion pen of barrows, and grand champion carload were all Berkshires. In the carcass contest, with 41 animals of all breeds competing, first, second and third prizes in the heavy class went to Berkshires. One of these barrows dressed 88 per cent.

The champion carload of Berkshires sold for $21.25 per hundred pounds, the highest price ever paid for a carload of hogs in the Chicago yards. On the same day the average price for hogs was $16.90—a difference between the best and the average of $4.35. Why not breed the best?

The carcass of a Berkshire is better marbled with fat and lean than that of any other breed; hence the superiority of Berkshire hams and Berkshire bacon. As beef and mutton become scarcer, the demand for choice hams and bacon grows more insistent. Berkshires are the logical meat producers of the future.

The market for the breeder of Berkshires for breeding purposes is unlimited. It is the cosmopolitan breed and is found in every State in the Union, the Philippines, Cuba, South America, Mexico, and Canada. Breeders of Berkshires on the Pacific Coast are beginning to realize this, as is evidenced by the increased sales to Corn Belt and Eastern and Southern breeders. And the interest taken in Pacific Coast breeders in the Corn Belt shows where they are taking off the highest honors.

Breed Berkshires. The lively, hustling pigs develop rapidly into hardy, strong-limbed shoats. These shoats are splendid grazers, converting forage crops into good, solid flesh at small cost.

STRICTLY A COMMUNITY BREEDING CENTER.

The advantages of a community breeding only one kind of hogs, dairy cattle, beef cattle, etc., have long been preached and for some years have been practiced more or less in various communities. They have proved so desirable that the settlers on the California State colonization tract at Durham agreed to breed only those kinds of stock selected by the majority. There are 47 farm settlers' and 12 or 15 farm laborers' allotments already made, according to Miss Marshall of the Land Settlement Board's office at Durham, with five farms yet unallotted. All of the settlers will probably have both cattle and hogs. They expressed their preference of breeds in their applications for the farms. Nearly all wanted Duroc hogs and about three-fourths wanted Holstein cattle, so these were made the official and only breeds of hogs and dairy cattle for the colony by action of the Land Settlement Board. Their success in making Durham known as a Holstein-Duroc center is awaited with interest.

Shorthorn Cattle

For Sale

Have 15 head of fancy two and three-year-old Scotch and Scotch-Topped females and a few choice weanling calves of both sexes.

Berkshire Hogs

Have some fine spring pigs of both sexes sired by Welsona King Laurel.

Meet us at the State Fair and arrange to see the stock at farm, four miles east of fair grounds.

H. L. & E. H. MURPHY

PERKINS, CAL.

Count Glory, California Grand Champion, 1916 and 1917. Second Annual Shorthorn Sale this fall, date later.

Carruthers Farms

LIVE OAK CALIFORNIA

Many of Carruthers Farm bred Berkshires will be seen in other breeders' show herds, demonstrating they have made good.

CARRUTHERS FARMS

SHORTHORNS

will be shown at California State Fair this year, at which time our two herd bulls,

COUNT GLORY

and

HALLWOOD VILLAGER

will be on exhibition.

Call around at our stalls and look over our entries and discuss the future of the Shorthorn in California.

NOW Is The Time!

THERE never was a time in the history of the breed that good Shorthorn cattle were more needed to build up the range cattle business than at present. Good grass cattle have been bringing 17c per pound on the hoof at Eastern markets. The trend of the market for good beef is working westward and is knocking at our door. High priced beef can only be had by using the very best of bulls. Range men buy the good sires. It will pay you to do it. Good steers will always bring their value. Poor steers have always dragged the market down.

CARRUTHERS FARMS

BERKSHIRES

will have a small exhibit of Berkshires at California State Fair. We invite all prospective buyers to visit our pens and look our hogs over before purchasing.

The Exhibit of Berkshires at the STATE FAIR will be one of the largest ever seen at Sacramento.

Note Our New Location. Better Equipped than Ever to Serve You.

STATE FAIR EXHIBITS TO BE CARRIED FREE.

Several weeks ago it was announced that there would be no special freight rates for the State Fair, but since then the Federal Railroad Administration has decided to handle all exhibits on the same basis as in former years. This means that the full one-way freight must be paid in shipping to Sacramento, but it will be rebated when the exhibits are returned to point of origin. This makes free freight both ways.

Exhibitors shipping in carload lots should take notice of a change in the switching charges of the Central California Traction Company. This year the charge will be $10 per car each way for switching to and from the Fair Grounds, but the Southern Pacific has a long siding and stock corral one-half mile from the gate, and there is no extra switching charge to this place, which is known as Homestead. A great deal of stock can be led that distance to reduce expenses, or motor trucks can be procured for $3.50 per hour.

Ship early and avoid the rush.

POLAND-CHINAS POPULAR WITH FARMERS.

The chief demand of the practical farmer is now for size. Big foundation stock means big pigs at farrowing time; big pigs grow faster and make greater gains; and economical gains are what every man in the hog business today wants. For this reason Poland-Chinas are great favorites, as they may be forced for early marketing yet do not stop growing until they have attained an enormous size.

The Poland-Chinas breed very true to type, the litters are quite uniform, and little culling is necessary. They have quiet dispositions, and consequently take on fat readily. They have great constitutional strength, which fortifies them from disease and enables them to make profitable gains under the most unfavorable conditions. The pigs when farrowed are exceedingly strong and active, are easy to rear, and will thrive with little care.

A recent investigation showed that 162 Poland-China sows farrowed 1677 pigs, or an average of more than ten to the litter. The sows are excellent sucklers and very quiet, careful mothers, and they raise a very high percentage of their pigs.

Poland-Chinas are exceptionally good for crossing and grading up. They have the hardiness, docility and good feeding qualities that breeders like, and the boars transmit these qualities to their get from sows of any other breed.

As a natural consequence of these merits there is always a good demand for Poland-Chinas, and breeders have no trouble in disposing of their surplus stock at good prices.

CHESTER WHITE CHARACTERISTICS.

Unexcelled in prolificness and per cent of farrow raised; unequaled in disposition and in adapting themselves to their environment; a breed that will mature to the most desirable market condition at the earliest age with the least feed and supply the highest class pork with the least waste—these are the claims that the Chester White breeders make for their hog.

Furthermore, they base their claims upon facts, and point to the winnings of the breed at the Chicago International, where the Chester Whites have captured a large number of the most coveted prizes, especially in the dressing out classes.

There's no getting away from the fact that the Chester White is a great hog, and he is becoming more and more popular in California every day.

SANTA ANITA RANCHO

Anoakia Breeding Farm

Arabian-Thoroughbreds

Out of our choicest thoroughbred mares and sired by our famous imported stallion Ibn Mahruss we are offering some splendid two-year-olds. Also some especially desirable young saddle stock sired by Ibn Mahruss, world renowned Arabian desert stallion, and Don Castano, five-gaited saddle stallion, winner in many prominent shows.

Mammoth Jacks

We have for sale a number of two- and three-year-old jacks, big, growthy fellows of exceptional breeding and quality.

Poland-China and Berkshire Boars

Sired by the World's Fair winners, BANKER'S BOY and KINTYRE LAIRD, and by others of our herd boars of equal breeding.

Correspondence Invited.

ANITA M. BALDWIN

SANTA ANITA CALIF.

W. H. Taylor, Supt.

Castleview Berkshires

The Quick Growing Typey Kind

SEE OUR EXHIBIT AT THE STATE FAIR

CASTLEVIEW RANCH

SANTA ROSA, CALIF.

Mr. Rancher:

We are Ranchers and are breeding BERKSHIRES that will make money for you. They are prolific, easy keepers and we guarantee them to satisfy.

If you are interested in hogs, write and let us tell you what we have and why we think nothing will beat the Berkshire for making money.

WRITE NOW.

GLENWOOD ACRES STOCK FARM

BUSH BROS., Props.

PASO ROBLES, CAL.

WITH Columbia Leader, an outstanding son of the World's Champion Berkshire Boar, Grand Leader II, now at the head of my herd, I am offering some excellent young herd boars that produce the early maturing, profitable sort of pigs. Write, or see me at the State Fair.

FRANK B. ANDERSON, P. O. BOX 724W SACRAMENTO, CAL.

BARON DUKE 201ST, GRAND CHAMPION AT OMAHA INTERNATIONAL

"Nothing to It" But BRUSH Rincon Farm BERKSHIRES

"Wherever They Show"

WIN at the California State Fair, 1917—26 awards, including 6 Firsts and 6 Championships

WIN at the Oregon State Fair, 1917—10 Firsts and 6 Championships

WIN at the Second National Swine Show, Omaha, Neb.—Grand Champion Boar, Grand Champion Sow and 14 other awards

FOR SALE NOW

Young boars ready for service, sired by such boars as Grand Leader and Laurel Champion. Also from Winona Lee Champion 6th, out of Riverby Princess, Grand Champion Sow at the Panama-Pacific Exposition.

Also sows and gilts for March farrow, bred to Baron Duke 201st, Grand Champion at Omaha.

SEE US AT THE STATE FAIR.

F. A. BRUSH C. E. Barrows, Manager Santa Rosa, Cal.

Imperial Stock Farm

Herd headed by WINONA CHAMPION 13th 41793.

Select Registered Berkshires

of size and quality.

Sows all of Rival's Champion's Best blood lines.

We will not be at the State Fair. Write or call and see our Berkshires.

R. J. MERRIL & SON, Props.

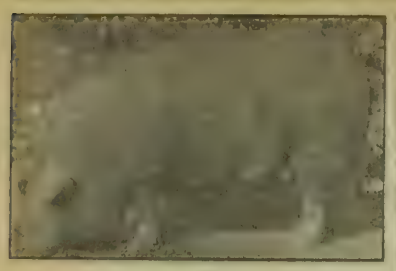
MORGAN HILL, CAL.

BERKSHIRES

We will exhibit at the State Fair, Twenty VERY FINE Animals. All of them are FOR SALE.

James Mills Orchards Corporation

HAMILTON CITY, CALIFORNIA



Poland-China sow donated by M. Bassett, of Hanford, to the Red Cross Sale to be held at the State Fair.

In the Swine World

(Continued.)

Young & Clark of Lodi report the sale of a Poland-China boar to Mills Orchard Company of Hamilton.

The Castleview Ranch of Santa Rosa, owned by J. Francis O'Connor, recently sold six sows and a young boar by Baron Duke 201st, to F. J. Kindle of Santa Rosa.

J. H. Minton of Patterson is a new Duroc breeder, but he has made a fine start, having bought a grand lot of foundation animals from J. M. De Vilbiss. He will be at the Fair with 10 head that would do credit to an old timer at the game.

C. G. De Raad of Lemoore reports recent sales of registered Poland-Chinas as follows: boar and gilt to W. M. Sutherland, Lemoore; boar to Dyxsell Bros., Hardwick; gilt to A. M. Mason, Lemoore; two sows and a boar to J. D. Van Huevel, Hanford.

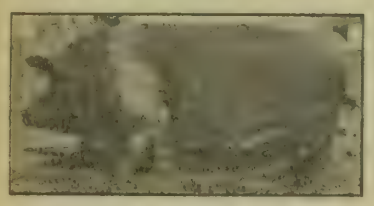
Through an ad in the Pacific Rural Press, Hewitt and Hewitt of Dixon recently sold several Poland-China sows to A. C. Harding of Lincoln. Mr. Harding wrote a two-page letter expressing his delight over the sows and the courteous treatment received. That's the way to do business.

W. F. Sandercock of San Francisco, owner of the Natomario Rancho, is building up a fine herd of Berkshires, and will make a good showing at the State Fair, including a boar and a sow by Baron Duke 201st, and out of Rookwood Lady 100. Both sire and dam are national grand champions.

The James Mills Orchard Company will show about 25 Berkshires, including four Laurel Champion sows whose equals are mighty scarce. The get-of-Laurel-Champion entry will include Laurel Compton Champion, now 23 months old and an exceptionally broad, big, square-built hog. The reserve grand champion at the State Fair in 1916, Forest Grove Laurel 8th.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

HAMPSHIRES



THE KIND THAT PUT "HAM" ON HAMPSHIRE.

ORO 33513, First Senior Yearling, Reserve Grand Champion of Riverside County Fair, '17, is now for sale.
It pays to raise the best. Correspondence solicited.
ROY DAWSON
Route 2 GARDENA, CAL.

BIG TYPE DUROCS
Foundation Stock a Specialty
RIVER BEND FARMS ST. HELENA, CAL.

MONTELENA HERD
of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions

Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.

We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

A. L. TUBBS COMPANY
CALISTOGA, CALIFORNIA

BLUE RIBBON TANKAGE
60% PROTEIN
THE CUDAHY PACKING CO. Los Angeles, California

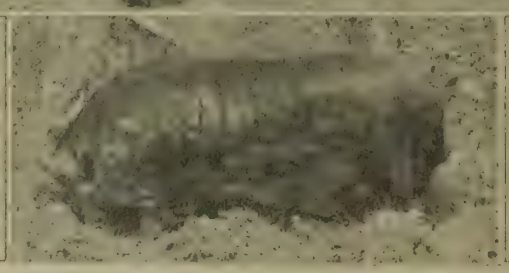
FARMERS—BREEDERS—DAIRYMEN

Weanling boar pigs sired by Baron Duke 201, Grand National Champion, and Winona Lee Champion 6th from 600 pound prize winning sows for sale at very reasonable prices.

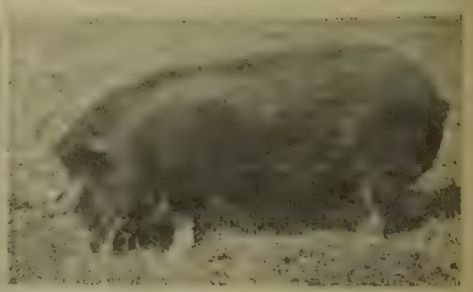
1. Winona Lee Champion 6th. First Prize Junior Yearling State Fair, 1917. Sires Laurel Champion — Rivals Champion Best — Rival Champion Lord Premier's Rival.

2. Riverby Princess 2nd. Litter mate of World Champion.
3. Silberfa Lustre 3. Grand Champion Spokane, 1917.
4. Brood Sows.

BERKSHIRE · HOGS ·



NATOMARIO · RANCHO ·



A great herd of the best Berkshires on the Natomario Rancho, located on the Natomas Lands, adjoining the city of Sacramento. These are the lands that produce as high as 12 tons of alfalfa an acre a year. A crop of barley, followed by a crop of milo maize, can be grown on the same piece of land the same year. Hundreds of these acres have produced 40 sax barley. Twenty sax of wheat is not unusual. Five ton of oat hay, followed by a crop of beans averaging 22 sax to the acre, has been harvested on the same land. See the thousands of acres of beans now growing. See the Natomario Berkshires out Twelfth street to the Natomas concrete boulevard.

While at the State Fair, see Princess Leader, the only Berkshire in the world sired by the World Champion Boar, Grand Leader 2nd, and from the World Champion Sow, Riverby Princess. See the pigs whose sire and dam are the Grand National Champions.

Before or during the State Fair we will be glad to show you Natomario Berkshires and the wonderful Natomas Lands, where farmers are making fortunes. It is only a ten-minute ride from our office, 906 K street, Sacramento, and a few minutes from the Fair Grounds. Natomas Lands have concrete and macadamized roads and it will not take long to show one of the best Berkshire herds and the most wonderful body of farming land that has ever been opened for sale in California.

SANDERCOCK LAND CO.
906 K STREET, SACRAMENTO

Make a memorandum of the address now for a free trip

Dr. H. J. Hammond of Sacramento has donated a Berkshire boar pig, sired by Hedgemere Star, to the Red Cross Auction to be held at the State Fair.

Elmer Lamb of Ceres has sold to Donald Graham of Lancaster the great sow Ceres, that was champion sow bred by exhibitor at the 1914 State Fair; also the show sow, Rosemore Ruby, to Miss Lydia G. Weld of Lancaster.

John M. Bernstein will show 22 head of Poland-Chinas, including his great young boar California Smooth Jumbo, recently imported from the East. Mr. Bernstein has entered 12 head sired by President in the Futurity.

Frank A. Brush of Santa Rosa, who had the unusual distinction of showing the grand champion Berkshire boar and also the grand champion sow at the National Swine Show last year, will show a complete herd at the State Fair.

A. B. Humphrey of Grapewild Farms, Escalon will take 20 head of Berkshires to the State Fair, determined to win his usual share of the ribbons. These will include animals by Grand Leader II, grand champion at the P.-P. I. E., and Royal Superbus, the great boar purchased in the East.

Pressure of Government duties, combined with a severe illness, will prevent C. B. Cunningham of Mills from showing his Chester Whites this year. Mr. Cunningham is one of Uncle Sam's dollar-a-year men and is doing most effective work on the Livestock Commission of the Food Administration.

River Bend Farm of St. Helena has completely sold out its stock of young pigs, as its Duroc-Jerseys have been in heavy demand in the West. Owing to the lack of help on the farm, it is not showing at the fairs this year, but in 1919 hopes to be able to display a herd which will make the Duroc breeders sit up and take notice.

SIXTH SEMI-ANNUAL SALE

OF

KINGS COUNTY POLAND-CHINA BREEDERS ASS'N

Wednesday, October 9th, 1918

AT

Kings County Fair Grounds, Hanford, Cal.

80—HEAD—80

Registered Poland-China Boars and Sows

To be sold without reserve. From the best herds in Kings County.

CONSIGNORS:

M. Bassett	C. G. DeRaad	E. G. Myer
W. Bernstein	Dimmick Bros.	F. D. Ross
J. M. Bernstein	W. L. Haag & Son	Trewhitt Bros.
J. A. Crawshaw	W. S. Hubbard & Sons	C. A. Vaughn
	H. D. McCune	

Auctioneer: Col. Ben A. Rhoades.

For information or catalog, write F. D. Ross, Secretary, Hanford, Cal.

MARSH'S BIG TYPE
POLAND-CHINAS

I. B. A. WONDER, Reserve Champion P. P. I. E. Weight 1000 lbs.

Will exhibit at State Fair aged herd, weighing better than 3200 lbs. Headed by I B A Wonder. Also young stock sired by Model Major.

Breeding Stock Sold on Money Back Guarantee

H. I. MARSH, MODESTO, CAL.

LENDORRIS RANCH

BIG TYPE

Poland-Chinas

YOUNG JUMBO 272305.

At the head of our herd is Young Jumbo 272305, sired by Jumbo Bob and out of Young Big Maid. Farrowed March 13 and now weighs nearly 700 lbs. We selected him as the most promising boar to cross with our herd of daughters of the great boar, President. Three of these will be shown with him at the State Fair.

SEE US AT THE FAIR OR CALL AT THE RANCH.

W. L. HAAG & SON Props. **Rt. A Hanford, Cal.**

BASSETTS—
Poland-Chinas

MODEL FELLOW 552604

AT THE HEAD of our herd is MODEL FELLOW 249121. Sired by Longmodel 225913, out of Long Lady 552604. He is a big type boar of surpassing smoothness.

Our show herd at the State Fair will be made up largely of his breeding.
Be sure to look them up.

M. Bassett & Son

HANFORD -:- CALIFORNIA

Trewhitt's Dispersal Sale
POLAND-CHINAS

September 26th at
HANFORD FAIR GROUNDS

Owing to other business, I am compelled to close out most of my herd of tried

POLAND-CHINA SOWS

I will sell at auction 60 head of tried sows, bred and open gilts. These sows and gilts are from the best herds in the United States, a great many of them are from J. W. Pfander's herd of Clorinda, Iowa, who sold the highest priced Poland-China sow ever sold in America. If you want the best, come or send your bid.

I will also sell my three herd boars—all Eastern bred.

W. D. TREWHITT **HANFORD, CAL.**

WRITE FOR CATALOG.

In the Swine World

(Continued.)

Dimmick Bros. of Lemoore will show 12 head of Poland-China hogs. They have a fine futurity herd.

C. R. Hedges and John McMartin of Willows will show an aged Duroc sow, a junior yearling, and futurity pigs by Uneeda Wonder and out of a sow brought from the East. They have about 30 head of registered Durocs.

Alfalfa on half an acre pastured by 20 mature hogs has grown faster than they could eat it on the Natomario Ranch near Sacramento, and it had to be cut to keep tender growth coming. The hogs receive nothing else except a millfeed slop twice a day. The afalfa is somewhat subirrigated.

F. A. Langdon, the Hampshire breeder of Perris, has 120 sows that have averaged 8½ pigs to the litter. Many of these pigs are sired by the famous boar Gold Mine. Mr. Langdon recently sold 100 head of choice foundation stock to W. J. Morrow of Downey, who is starting a high-class herd.

N. K. Horan of Lockeford has about 70 head of Poland-China pigs by Big Bone Bob and out of I. B. A. Wonder sows. Mr. Horan has picked up some of the best stock that has been sold this year, and plans on having one of the finest herds in the state. He certainly has made the right start.

J. H. Cook of Paradise has been called to the colors, and offers his entire herd of Poland-Chinas for sale, including his two grand Eastern boars of Big Bob and Gerstdale Jones breeding. The brood sows and gilts represent the best of Corn Belt breeding. Mr. Cook will be at the State Fair with a herd of fifteen choice animals.

Young & Clark of Lodi will be at the State Fair with a fine lot of Poland-Chinas, headed by their new herd sire, Golden State King. This grand boar will be shown to a disadvantage, as he had one foot injured while en route from the Corn Belt, and is still quite lame. They have a futurity litter that they will bank their last dollar on.

Five pigs sired by a noted Duroc boar were lost by W. T. Hollingshead and Sons of Orland, because they got to fighting over the teats and their sharp teeth started canker sores followed by blood poison. Since then, the four teeth that are found in a pig's mouth at birth are cut off with a pair of pincers and the trouble has been overcome.

H. I. Marsh of Modesto will show 20 head of Poland-Chinas. His aged herd will be headed by I B A Wonder, reserve champion at the P.-P. I. E., and will include a Big Knox sow weighing 800 lbs., and one of the smoothest big-type sows we have ever seen. He will show a number of sons and daughters of his great breeding boar Model Major.

FOREST VIEW RANCH

Closing Out Entire Herd
of Registered

Big Type Poland Chinas

On account of my entering the army this fall, I am closing out my entire herd of three years' selection and breeding. I offer herd boars, bred and open sows, and gilts and spring pigs of both sexes.

The big, prolific, easy-feeding kind.
WRITE FOR PRICES TODAY.
WILL EXHIBIT A HERD AT THE STATE FAIR.

J. H. COOK, Prop. PARADISE, CAL.

—BIG TYPE—

POLAND-CHINAS

WE ARE OFFERING SOME FINE OPEN AND BRED GILTS, SIRED BY CHIEFTAIN, SON OF BERNSTEIN'S PRESIDENT AND OUT OF J. O. ORANGE SOWS. ALSO A FEW YOUNG SERVICE BOARS OF SAME BLOOD.

WE WILL NOT SHOW THIS YEAR ON ACCOUNT OF OUR SON BEING IN FRANCE, BUT WILL GUARANTEE SATISFACTION.

VISITORS WELCOME ANY TIME AT OUR RANCH.

WRITE OR CALL

HEWITT & HEWITT

DIXON CALIFORNIA

POLAND-CHINAS FOR SALE

Do not fail to see the get of **BIG BONE BOB** at the State Fair. We will have for sale about 15 head of very fine boar pigs weighing 240 lbs. and better at six months old. Also two from **BIG CORVER**, the great boar owned by **C. H. Porter** of **Eagle Grove, Iowa.**

These pigs have for dams such sows as Black Beauty 4th, weighing better than 600 lbs. as junior yearling, and other sows bought last year from the best herds in the East at long prices.

We will also have 12 head of gilts about ten months old. Will sell you these open or bred to the great **GOLDEN STATE KING**, just recently from the Severe herd of sows, Iowa.

We will show the best lot of pigs this fall that we ever raised. Great size, with quality, and prolific.

W. A. YOUNG

== AND ==

J. A. CLARK

LODI, CALIF.

Lakeside Stock Farm

Medium and large type

Poland-Chinas

Our Herd Sire

Matchless Big Bob U. F. 284659

We have a large number of fine gilts for sale.

Also a few choice boars.

See Us at the State Fair

GEO. V. BECKMAN & SONS

Lodi California

J. M. De Vilbiss of Patterson will be back at the Fair this year with 14 corking good Durocs. He has a Mary Jane Pathfinder gilt 11 months old that weighs 400 lbs. and is good enough to win in the hottest competition.

Frank Brush will show a great herd of Berkshires this year. His 28 entries include Silberfa Bernice, a prize winner from the Northwest; Mayfield Laurel, who was grand champion last year; also pigs by Baron Duke, the National grand champion boar, and pigs out of Rookwood Lady, the National and Western Berkshire Congress grand champion.

H. P. Slocum & Sons of Willows will show Durocs in all classes at Sacramento, Oregon, and Washington. Notable in the exhibit will be Uneeda Wonder, their senior herd sire. This is the third time he has been fitted in three years, having been shown at the Nebraska State Fair, the National Swine Show, and last year at the State Fair. They will also show the $1,000 sow, Model Lena.

V. F. Dolcini of June Acres Stock Farm, Davis, will make a good showing of Durocs. He has some great young stuff sired by Model Colonel, a grandson of King the Colonel; Great Wonder's Model 3d, by Great Wonder, grand champion at the Iowa State Fair; and University Wonder, out of the noted show sow, Bessie Wonder, twice grand champion at the Nebraska State Fair.

The following Tulare Duroc breeders, A. Thompson, Tulare; R. C. Sturgeon, Tulare; C. E. Ellis, Tulare; H. Cummings, Goshen; R. S. Clifford, Strathmore; I. O. Williamsen, Visalia; W. J. Fulghan, Visalia; J. L. Dickenson, Visalia; W. J. Stewart, Visalia; J. Chenoweth, Visalia, will make up a futurity show at the Fresno County Fair. They also intend holding a consignment sale this Fall.

The Duroc-Jersey herd of W. P. Andrews, Modesto, is now headed by A's Crimson Monarch, son of Crimson Monarch, the grand champion at the State Fair in 1917. The sows of this herd are line-bred from Crimson Wonder Again and H A's Queen. Mr. Andrews prepared for the Futurity Show at Sacramento this year 4 boars from a litter of 11 pigs raised (14 farrowed) but on account of lack of help will not be able to show.

Elmer Lamb of Ceres is fitting twelve head of Durocs for the State Fair—seven in the junior pig and futurity classes, an under one-year herd and senior pig classes, and a junior yearling sow. Two of the senior sow pigs are out of Ceres, champion sow bred by Exhibitor at the 1914 State Fair. The sow and boar to make up the herd are out of Bettie A 2d, the junior champion at the P. P. I. E. These dams are line-bred top-notcher sows and the pigs are sired by Orion Model, the giant son of Orion Cherry King Jr., grand champion at the National Swine Show in 1916. Some swell breeding.

Frank B. Anderson, Berkshire breeder of the Natomas district, near Sacramento, has entered 14 head for the State Fair, and will show in all classes except aged sows and senior yearlings. Anderson recently bought from Dr. Chas. Keane, former State Veterinarian, Columbia Leader, one of Grand Leader 2d's outstanding sows, and a prize winner last year as a junior boar. Columbia Leader is a grand individual, standing well on his feet, having a broad, square body, good hams and a strong arched back. He will be used to head Anderson's herd.

Mrs. E. A. Hardy of Anchorage Farms, Orland, will show locally but not at the State Fair this year. She has 300 spring pigs of which she is going to breed about 100 gilts sired by Iowana Champion Peer to Anchorage Leader 1st and other sons of Star Leader. Fifty Star Leader gilts will be kept, along with about 50 of the mature sows, for next season's breeding herd. Star Leader is a magnificent animal, 73 inches from between the eyes to the base of his tail, standing on his toes almost like a pig, square built and with a back that can't be beaten. His son, Anchorage Leader 1st, was a year old in June and weighed over 500 pounds last month. The average litter from 50 sows last spring on Anchorage Farms was 8½ pigs. Mrs. Hardy established this herd two years ago with 25 sows and a boar.

JUNE ACRES FARM
Breeders
DUROC
Jersey Hogs
Holstein Friesian Cattle

Offering spring pigs, both sexes, by such boars as Model Colonel, Great Wonder's Model 13th and University Wonder and out of well-bred sows. Model Colonel is considered by experts to be the best boar in California. He is a grandson of King the Colonel, who has more sows and grandsons heading good herds than any other boar of the breed. Great Wonder's Model 3rd is by Greater Wonder, the Iowa Grand Champion, and out of one of the best Golden Model sows. University Wonder is out of a great show sow, Bessie Wonder, twice Grand Champion at Nebraska State Fair, and he is a full brother to the junior champion at the same fair.

The breeding of our sows is of the best. All of them have produced or are sisters of show stuff.

We will also sell some of our foundation sows bred for fall farrow. If you want good Durocs, get some of this stock.

Will exhibit at the State Fair and will be pleased to have all interested parties look up the stock.

V. F. DOLCINI, Prop.
DAVIS. CAL.

See Our Exhibit at the State Fair
OF SONS AND DAUGHTERS OF
Crimson Monarch II
Grand Champion Duroc Jersey Boar
1917 State Fair

A few of them will be for sale and this will be the last opportunity to get sons of this great boar, as he died last July.

IF YOU DO NOT SEE US AT THE FAIR, WRITE OR CALL ON US AT

J. M. DeVILBISS
Orange, Ave.

J. H. MINTO
Walnut Ave.

PATTERSON, CAL.

HOG RAISER

YOU spend more than 15c for barley and tankage to make one pound of pork. With GLOBE A-1 Swine Feeds you can save from $6 to $12 fattening each hog.

Fact Book sent free tells you just how to do this.

GLOBE MILLS
911 E. 3rd, Los Angeles

RAISE 11c Milk-fed PORK

THE DRY BUTTERMILK DOES IT

Rancho Rubio Durocs
See Them at the Fair

A few choice bred gilts and tried sows for sale. Weaned pigs for immediate and future delivery. My foundation sows are line bred Top Notchers. I have added sows of Crimson Wonder, Golden Model, and Long Wonder breeding. These sows, mated to my herd boar, Orion Model, son of Orion Cherry King Jr., are producing pigs of wonderful smoothness and feeding qualities. See me at the State Fair or write for prices.

ELMER LAMB, Ceres, Cal.

The Best is Good Enough for You
PIGS BY NOTED SIRES
DUROC JERSEYS

High Orion 221329 has a refused price of $3,500; Great Wonder 180989, Grand Champion at Iowa; Giant Invincible 208823 heads Waltmeyers Iowa herd; King Orion Cherry 80765, first Junior Yearling, Indiana and Ohio; King of Orions 240249, highest priced pig ever sold; Model Crimson Wonder 181217, a noted prize winner; Russel's Model 205512, second place at Nebraska. Also Uneeda Wonder 204051, Uneeda King Col 89163, and Uneeda King the Col by King the Col.

GET ONE OF THEIR PIGS.
WE SHOW THEM AT STATE FAIR.
H. P. SLOCUM AND SONS, = Willows, California

See Our FUTURITY DUROCS at STATE FAIR

These are typey, square-built, growthy boars, standing splendidly on their toes. They are sired by UNEEDA KINGS COL. and are out of UNEEDA ALBERTA 5th, who is by WESTERN CRIMSON WONDERFUL. They are out of a litter of mine and will be for sale at the Fair. We also have sons of BATES ORION KING that will improve your herd if you give them a change. Mention Pacific Rural Press.

VALLEY VIEW FARMS, W. T. Hollinghead & Sons, Orland, Cal.

TREWHITT HERD TO BE DISPERSED.

For several years young Poland-China breeders have pointed with pride to the fact that they had Trewhitt stock in their herds, and now the public will be given an opportunity to buy the foundation stock from this noted herd. The pressure of Mr. Trewhitt's contracting business makes it necessary for him to close out nearly all of his herd, and he announces a sale at the Hanford Fair Grounds, September 26th. Sixty head of tried sows, bred and open gilts, and the three herd boars will be offered. A large number of the sows and gilts were purchased in the east at long prices, and all represent the best big-type blood lines. The boars, all of eastern breeding, are too well known to need any comment. Here is a chance to buy the best at your own prices.

LIVESTOCK NOTES.

W. B. Bennett of Nord will show a junior yearling Duroc boar at the State Fair, besides his futurity litter.

Ruby & Bowers of Davis will show about 50 head of horses, ponies and jacks at the State Fair. They recently received a carload of three-year-old jacks from New Mexico.

George V. Beckman & Sons of Lodi have another car of Poland-Chinas finished off for market and intend to ship them to San Francisco to be sold on the dressing-out plan. They are confident of getting a premium for an unusually high dressing percentage.

The California Jersey Breeders' Association will hold a banquet at Sacramento during the State Fair. A full program of prominent speakers will be provided. Dr. H. W. Hand, president of the association, is trying to get a representative of the American Jersey Cattle Club to address the meeting on "Jersey Type."

The California Livestock Show to be held in San Francisco in November is to include a horse show. A feature of the show will be the string of thoroughbreds recently acquired by John H. Rosseter, which includes 12 mares and a stallion. Besides horses, the show will include cattle, pigs, poultry, sheep, goats and other animals.

Hidden Valley Farm Guernseys will not be at the State Fair this year. Mr. Welch has all his cows that are in milk on yearly test. Last month they averaged 57.5 pounds of fat after being on test an average of 155 days. Over 25 per cent are heifers with first calf. Imp. Acadia of Lynwood made 84.74 pounds fat, completing 117 days' test, with a total of 307.67 pounds.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811 Lemoore, Cal.

CLOSING OUT MY ENTIRE HERD of three years' selection. I offer herd boars, bred and open sows and gilts and spring pigs of both sexes. The best blood lines. The big, prolific kind. Write for prices today. J. H. Cook, Paradise, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Butcher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

FOR SALE—Registered sow weighing about 600 lbs. and bred to Favorites Best. Am drafted, must sell at once. L. P. Grant, B. 46, R. K., Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts; weaned boar pigs. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

ANDREWS' QUALITY DUROCS—I offer 5 fine early March boar pigs, 4 of one litter; conditions met to enter futurity contest at State Fair, where it is believed they would be sure winners; but I find it impossible to attend. Who wants these pigs? $50 for one; special price for lot. W. P. Andrews, Evergreen Farm, Rt. A, Box 359, Modesto.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY BOARS FOR SALE—Farrowed October 23, 1917. Sired by Ruckers Model G. Dam Queen Is Rite. Grand Champion 1916 California State Fair. Fine, big animals. A. A. Trueblood, Sacramento.

COMMITTEE CERTIFIED DUROCS—El Dorado County Duroc Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

DUROC-JERSEYS—A few boar pigs for sale. Sired by the State Fair junior champion boar and out of prize-winning sows. F. M. Johnson, Napa.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California.

FOR SALE—Boar J. K.'s Model Chief, under two years; sire Model Chief; dam, Beauty I Am. Price, $100.00. J. Stith, Hollister.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

BUTTE CITY RANCH
SHORTHORNS, BERKSHIRES, SHROPSHIRES and PONIES

Our cattle, hogs, sheep and ponies are grown under natural conditions—are not pampered. They make good for those who buy them. We have bought the best for foundation stock, and select breeding animals with great care. We know that it is to the interest of everyone in the market for stock of the breeds we raise to write for descriptions and prices before buying.

BUTTE CITY RANCH, Box P, Butte City, Glenn Co., Calif.
W. P. DWYER and W. S. GUILFORD, Owners

Specialist in Registered Beef Cattle

I am a firm advocate of the use of better sires—Registered Bulls—reflecting through concentration of breeding a high standard of early development in weight, quality and finish, insuring most satisfactory results.

I devote my entire time keeping in touch with the Registered Beef Trade, much of it among Eastern breeders, which enables me to save time and other expenses when buying.

I will deliver at this end for less money than a stranger to the trade can buy at the other end. So let me quote you prices on

REGISTERED BEEF BREEDS DELIVERED.

I was born among Shorthorns and have been among Beef Cattle ever since. My thirty years' experience in California has taught me just what the State needs in

REGISTERED BEEF CATTLE,

and any one of the following list of a few of my customers—all experienced Beef men—will tell you I deliver the right kind:

R. M. Dunlap.

MAYO NEWHALL, San Francisco
SIMON NEWMAN CO., Newman
WM. BEMMERLY, Woodland
STANFORD UNIVERSITY FARM
HOLT & GREGG, Redding
H. H. GABLE, Esparto
HOWARD TILTON, Gilroy
B. F. RUSH, Suisun

R. M. DUNLAP

Hotel Land,

SACRAMENTO, CALIFORNIA

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

BIG TYPE DUROC—Foundation stock our specialty. River Bend Farm, St. Helena, Cal.

DON HERMANOS DUROCS—Boars, gilts, and weanlings. Hans Duveneck, Ukiah, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS—Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

TWENTY-FOUR GOOD, FRESH MILK COWS for sale, mostly Holsteins. Address, Albert M. Bemmerly, Woodland, Cal.

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians, Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

CHOICE YOUNG JERSEY BULLS—Make selections at the Fair or ranch. Priced right. N. H. Locke, Lockeford, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. B. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORT-horns—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORT-horns, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize winning beef Shorthorns. Glen Ellen, Cal Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Short horns. Prices on application. Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy. $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeedrs and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

SHROPSHIRE RAMS—Some choice registered and grade yearlings. Also some purebred lambs. Call or write, Harry L. Huston, Winters, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets San Francisco, Cal

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. Meet me at the Fair. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CARRUTHERS FARMS TO MAKE GOOD SHOWING.

A visit to Carruthers Farms reveals the fact that their new property at Live Oak is fast being developed into a real stock farm. Seventeen head of Shorthorn cattle have been entered at the State Fair. Count Glory, who was the grand champion of California in 1916 and 1917, will be seen again, even though he has been used on sixty cows.

Hallwood Villager, the white two-year-old, will make a good showing, and is destined to become one of the great breeding bulls of the Coast. The junior yearling bull, Count Glory 3rd, is large for his age and will make a better showing in another year. The two senior bull calves and the junior bull calf are a little short in age but good in conformation.

The females are a good lot, especially the two-year-old heifer, junior in age, which weighs close to 1600 pounds, and her great wealth of flesh and depth of body are rarely seen in a Shorthorn cow. Also, the senior yearling heifer, Lady Ruberta, purchased in the East this year, will be hard to beat.

Carruthers Farms will also show six head of Berkshires. Their senior yearling boar, Live Oak Champion, is one of the best the breed has produced on this Coast, and it will take a good one to turn him down.

THE OLD RED HOG A WINNER.

From the standpoint of adaptability the Duroc has proven his value as a producer of cheap pork in California. As a follower of feeding cattle, as a grazer in forage lots, or for dry lot feeding, he has made an enviable reputation for himself in the amount of pork returned for the feed consumed.

The Duroc has been bred for business. Everything regarded as of no cash value has been eliminated and there are no marked features for fanciers to haggle over. But every point which the intelligent buyer demands for a profit-making hog is found intensified in the Duroc.

The breed matures early and the sows breed young, farrow easily, and have large litters of very uniform pigs. The prolificacy of the Duroc is well known, and we must not forget that it's the extra pigs a farmer raises from the litters that make the extra profit.

At the Michigan Experiment Station a feeding test was conducted for 168 days. The Durocs gained 2.50 pounds per day at a cost of 4.65 pounds of grain for each pound of gain. Their nearest competitors gained 2.11 pounds per day at a cost of 5.22 pounds of grain for each pound of gain.

HAMPSHIRE HOGS GAINING IN POPULARITY.

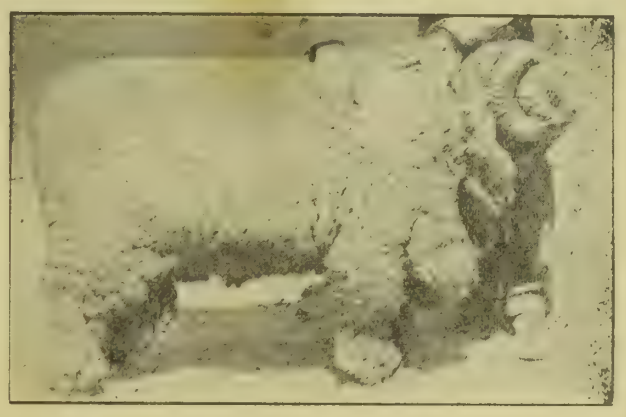
The Hampshire hog is forging his way right to the front by sheer force of merit. He is of good size, an excellent grazer and of good fecundity. The sows make kind mothers and good sucklers. The pigs grow rapidly, mature quickly and have excellent feeding qualities.

In quality of flesh the Hampshire has an enviable reputation. It has made an excellent record in the dressed carcass competitions at the International Livestock Exposition at Chicago, and the packers regard it with high approval, particularly on account of the large proportion of lean meat.

Bullard Rambouillets

Will be at

State Fair



Representing a range class and also a Reg. class. Practically sold out now but have 1000 head of lambs for next year.

BULLARD BROS.

WOODLAND CAL.

KIMBLE'S CALIFORNIA

RAMBOUILLETS

Are large and smooth, with heavy fleece of fine, long staple white wool.
Yearling Rams and Ewes, individual or car lots.
Special offering of several thousand Ewes on account of reduction in range.

Prices reasonable. Correspondence solicited.

CHAS. A. KIMBLE, Importer and Breeder

HANFORD :: CALIFORNIA

The Best is the Cheapest

BIG, SMOOTH-BODIED, HEAVY-WOOLED

Rambouillets

of the best breeding. I have used nothing but registered rams on my original foundation of registered ewes and their offsprings. A few choice yearling rams for sale.

TO SEE THEM WILL CONVINCE YOU.

Come to my ranch, one mile east of St. Helena, or write to

E. C. SPEAR

ST. HELENA CAL.

ELKHORN FARM AYRSHIRES

ARE BACKED BY WORLD'S CHAMPIONS.

A young registered bull will breed MORE production, stamina, size and type into your herd. Prices are reasonable.

Whether you buy or not, visit the farm at Elkhorn, eight miles south of Watsonville, on the main line of the S. P. Railroad. Inspection invited. Write for particulars.

J. HENRY MEYER, Owner

R. F. D. No. 2, BOX 82, WATSONVILLE, CAL.

FOR SALE HAMPSHIRE and RAMBOUILLET RAMS

D. E. KELLIHER,

Breeder and importer of sheep, offers for sale a choice lot of Hampshire Yearling Rams sired by Walnut Hall and Butterfield Rams purchased at Salt Lake in 1916. Also, 12 head of purebred Rambouillet Rams. Inspection and correspondence invited by

D. E. KELLIHER, :: Eugene, California

Protect Your Sheep from Parasites

An ounce of prevention is worth a pound of cure, and now is the time to prevent sheep from being infested with parasites.

A great deal has been written about stomach and lung worms, but there is another bothersome hun in sheepdom and that is the head worm. Little seems to be known about it, yet a great many sheep are affected every year and the results are generally fatal.

The head worm is a grub that bores its way into the brain of the sheep. The sheep remains away from the rest of the flock, turns its head to one side somewhat the same as an animal does when it has foxtail in one ear, grits its teeth, loses its appetite, and becomes very sluggish.

Unless the grub can be removed, the sheep will die, and it is difficult to remove it because it is generally beyond reach by the time the symptoms are noticed. If the sheep can be made to sneeze it will often expel the grub, and both snuff and tobacco dust have been injected in the nose with good results. A 5 per cent solution of Kreso or other coal tar disinfectants will sometimes aaswer.

The head worm develops from a fly blow on the nose, so nip the trouble in the bud and keep the quarters so clean that they will not be a swarming place for flies. If cleanliness alone is not sufficient, keep a little pine tar on the noses of the sheep during fly season. It will pay you. Sheep are so valuable nowadays that you can't afford any when ordinary sanitary measures will prevent it.

SHEEP NOTES

John E. Marble of Pasadena will make a combined showing of Dorsets and Romneys.

Calla Grove Farm of Manteca will exhibit some choice animals from its fine herd of Hampshires.

J. R. Bloom of Dixon is sold down close on Shropshires, but will make a creditable showing at the State Fair.

Bishop Bros. of San Ramon, who won high honors for California sheep at the International Livestock Exposition at Chicago, will show a complete herd of their noted Shropshires at the State Fair.

Bullard Bros. of Woodland have entered a large flock of Rambouillettes, which will be up to their usual high standard. They will show about three head in each class. They report a very heavy demand, and are about sold out of surplus stock.

The average weight of the wool in the State is the same as a year ago. With the increased number of sheep on hand January 1, 1918, over that of a year ago, this yield, plus the prevailing high price, will give the State very substantial returns from this industry.

Herding sheep—the loneliest job in the world—is the latest industry to attract women. Wyoming ranchers have given so many men to the war that sheep herders are very scarce. Hence Misses Lulu Munson, Belle Pattison and Grace Keenan, Campbell county lassies, have become shepherdesses at a wage of $50 a month and "found."

E. C. Spear of St. Helena is a constructive breeder of Rambouillettes. He has used nothing but registered rams for years, and has aimed to develop a distinct type. This year his flock sheared better than 10 pounds to the fleece. Mr. Spear owns one of the prize winning rams at the P. P. I. E. that sheared 36 pounds at 11 months.

A total of 3617 decks of sheep were loaded in California during the three months ending June 30, 1918, according to reports of livestock loadings received from railroad division superintendents by the Bureau of Markets at Chicago. Of this number 1851 decks were loadings for market centers and 1768 decks were destined to miscellaneous. The total of loadings for market centers west of the Rocky Mountains was 1389 decks, 1051 of which were destined to San Francisco.

Be Sure To See

MY PUREBRED

Shropshire Rams

at State Fair

Shropshire Lamb, 6 months old

These rams are the results of continuous breeding of purebred ewes (formerly registered) to registered rams from the best breeders in the United States. A limited number for sale.

For information see me at State Fair or write me.

J. R. BLOOM

P. O. B. 21 DIXON, CAL.

San Ramon Shropshires

Grand Champion Ram
P. P. I. E., 1915

Winnings at P. P. I. E. 1915:

15 FIRSTS, 9 SECONDS and 6 CHAMPIONSHIPS.

Winnings at Sacramento, 1916:

9 FIRSTS, 9 SECONDS and 2 GRAND CHAMPIONSHIPS.

Winnings at International Livestock Show, Chicago, 1916:

FIRST, PEN OF 5 YEARLING LAMBS; FIRST, RAM LAMB; SECOND, AGED RAM; FOURTH, FIFTH AND SIXTH, YEARLING RAM; SECOND, GET OF SIRE; FOURTH, PEN OF 3 EWES; FOURTH, FLOCK.

Offering for 1918

A FINE LOT OF REGISTERED AND RANGE RAMS.

BISHOP BROS.

SAN RAMON, Contra Costa County, Cal.

See Us at the State Fair

KINGS COUNTY JACK RANCH

JACKS

JENNETTS

MULES

The largest Jack and Mule farm on the Coast.
The best selection.

My stock runs from 1100 to 1400 pounds in weight, is straight and right in every way. We can show you some of the heaviest, biggest boned animals you ever saw. Prices right.

WRITE OR CALL AND SEE THEM.

JOHN BURRELL, Prop. Hanford, Cal.

Sales and show barn in Hanford.

Home of Champion Percherons

Many of our readers will be glad to learn that Londrecitos, the greatest living Percheron, will be found at John Matley's, Reno, Nev.

Matineaux.

Mr. Matley has been breeding registered Percherons for many years. His former stallion was Matineaux, whose picture we reproduce. This stallion was champion at the P.-P. I. E. and has sired some very promising mares that Mr. Matley expects to breed to Londrecitos. Naturally, he expects some great colts from such a cross. With a fine selection of mares, headed by such a stallion as Londrecitos, Mr. Matley expects to soon have one of the greatest Percheron breeding establishments in the country.

Good Future for Draft Horses

A farmer's horses should be just as valuable an asset as his cattle, his sheep and his hogs. And to be such they should be bred with just as much care. Yet what do you find? Why, any four-legged beast in the guise of a horse which will stretch a trace satisfies him.

Generally he doesn't breed mares when he has them, or, if he does, any old stallion will do. Consequently the colts are of inferior quality and do not bring good prices, so he decides that it does not pay to raise horses.

Then again, most farmers have always used small or medium-sized horses and they do not realize how much better big drafters would do their work. But the war has brought thousands of horses of all sizes into use, and careful records of work accomplished per horse and per dollar of investment have been kept. These records prove conclusively that big draft horses are the most profitable from every standpoint.

The Government is buying heavily of drafters, dealers admit that good, big horses are scarce, and this proof of a future shortage is sufficient reason for breeding all suitable mares to high-class registered draft stallions.

The Indiana Stallion Enrollment Board collected data on the prices received by farmers for their horses, and found that the offspring of registered stallions sold for an average of $76 more per head than the offspring of grade stallions.

Suppose it costs $10 extra to patronize a purebred stallion. This means that there will be returned a clear profit of $66, or 660 per cent upon the $10 invested. And these figures are very conservative—too much so for California, as grade draft mares weighing 1600 pounds or over will bring from $500 to $600 per pair, while common stock can be bought for half these prices.

The day is fast approaching when farmers will realize that heavy drafters will pay them best. Then they will weed out their small horses and scrubs, and the one who has good stock for sale will make a handsome profit. Will it be you?

HORSE NOTES

H. G. Learned of Stockton will show Percheron mares one, two, three, and four years old, also produce of dam and get of sire entries.

M. Bassett of Hanford will show at the State Fair his great Percheron stallion, Isos, who was grand champion in 1916 and 1917. He will also take along a number of his get.

Ruby & Bowers are preparing to show about 50 head of their fine Belgians, Shires, ponies and Jacks at the State Fair. Their famous Belgian mare, Raby, has foaled another fine horse colt, and she, with her three sons, will be in the show string.

John Burrell, who won most of the prizes for registered Jacks and mules last year, will not show at the State Fair this year. Mr. Burrell, on his farm near Hanford, has the largest herd of Jennets in the State. He reports a good demand for both mules and Jacks.

You Want Real Horses

Ithos, Grand Champion at Sacramento, 1916.

One real good horse will do as much work as two ordinary scrub horses and will eat only half as much. Replace your present stock with real horses and release half your land for the production of food for the Allies and thus help win the war.

Will exhibit Ithos and his get at the State Fair.

M. BASSETT, Hanford, Cal.

A. C. RUBY, Portland, Oregon

C. W. BOWERS, Davis, Cal.

RUBY & BOWERS

DAVIS, CAL.

Breeders and Importers

PERCHERONS, BELGIANS, SHIRES, CLYDES, JACKS, SHORTHORNS AND HEREFORD CATTLE.

Come and Visit Our Exhibit at the State Fair.
Make our office your headquarters. Barn 1

LONDRECITOS

To head our stud of fillies sired by Matineaux we have secured from the Whitehall Estate, Londrecitos, the champion Percheron stallion for five years, both in California and the International, who is now recognized as the greatest stallion in the U. S.

We offer for sale
MATINEAUX

First Prize and Reserve Champion at Panama-Pacific, 1915. He is a gray of massive bone and splendid conformation. He is a sure breeder. You are invited to call and see our horses.

JOHN MATLEY

RENO, NEVADA

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, August 21, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard....$2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft.... 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1.... 2.16
do, No. 2.... 2.13
do, No. 2.... 2.09

BARLEY.

Little demand has developed for barley this week and prices are reported unchanged.

Choice feed, per ctl....$2.40@2.47½

OATS.

While there were some sales of oats during the week, they were so inconsiderable that dealers report the market as dead.

Red feed, per ctl....$2.50@2.65
Red seed .... 2.75@3.25

CORN.

While lower prices in the Eastern market would naturally affect the local market, there is so little corn on hand and so little business that quotations remain nominal.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked ....$4.20@4.25
Milo maize .... 3.95@4.05
Egyptian .... 4.05@4.10

HAY.

Receipts of hay for the past week were 2184 tons, compared with 2509 tons the previous week. The market is still heavily stocked and it is difficult to dispose of arrivals satisfactorily. Considerable has been left on the tracks longer than the free time allowed and has been subject to demurrage charges. Trade is dull. The city warehouses of the dealers are crowded to capacity and hay is being moved from cars to consumers direct where practicable. This naturally caused a lull in buying in the country districts and some holders are finding that they cannot now get for their hay the prices offered earlier in the season. Considerable newspaper reports have appeared regarding a demand for straw during the week, but as far as this city is concerned there is practically no straw being used or sought.

Wheat No. 1 ....$23.00@25.00
do, No. 2 .... 20.00@22.00
Choice tame oat.... 24.00@26.00
Wild oat, new.... 19.00@23.00
Barley, new .... 19.00@23.00
Alfalfa, first cutting.... 16.00@20.00
do, second cutting.... 22.00@24.00
Stock .... 18.00@21.00
Barley straw ....50@80c

FEEDSTUFFS.

The market for feedstuffs was quiet this week and the only change in price was for rolled barley, which is quoted 50c below last week.

New alfalfa meal, per ton....$33.00@34.00
Coconut cake or meal.... 44.50
Cracked corn .... 86.00@88.00
Oilcake ....$75.00@76.00
Rolled barley .... 52.00@53.00
Rolled oats .... 55.00@56.00
Bran, carload lots in S. F.... 23.75
Mixed feed, do, do.... 25.00
Middlings, do, do.... 25.75

POTATOES, ONIONS, ETC.

Potatoes were somewhat higher this week, but the advance in price is regarded as temporary, as potatoes from the north will soon begin to arrive. Onions are weaker as the season's crops comes into the market more strongly. Sweet potatoes are slightly higher and are in fine condition. There is little or no change in the prices of green vegetables, which are arriving in quantities and for which there is an excellent demand.

Peas ....6@8c
String beans, per lb....4@5c
Wax beans, per lb....4@5c
Carrots, per sack....50c@$1.00
Rhubarb, San Jose, per box....$1.00@1.25
Summer squash ....50@90c
Cucumbers (hothouse), per box....50@90c
do, Alameda, lugs ....50@90c
Eggplant, per box....50@65c
Lettuce, Sacramento, crate....75c@$1.00
Tomatoes, per crate—
Merced ....50@75c
Bay ....75c@$1.00
Potatoes—
Garnet Chile, on street....None
Whites ....$2.35@2.90
Sweets, per lb....5@5½c
Onions—
River Reds ....None
do, Yellows ....$1.75@1.90
Australian Browns .... 1.75@1.90
Garlic, new 15c
Green corn, Alameda, per sack..$2.00@2.50
Okra ....5@7c

BEANS.

Very little business is reported in beans. Bayos and pinks were offered at lower prices and the offerings absorbed by the market.

Bayos, per ctl....$ 7.50@ 7.75
Blackeyes .... 6.75@ 7.00
Cranberry beans .... 10.25@10.50
Limas (south, recleaned) .... 12.50@12.75
Pinks .... 6.75@ 7.00
Red kidneys ....Nominal
Mexican Reds .... 7.50@ 7.75
Tepary beans .... 8.00@ 8.50
Garbanzos .... 8.00@ 8.75

POULTRY.

The entire list of poultry is firm and higher quotations are given on most descriptions. Broilers and hens are especially firm, and the latter will continue to advance during the next two weeks on account of the approaching Jewish holidays. Good, fat hens command a premium.

1:I$2.00..o,doaftshrdlu etaoin shrdluuu
Turkeys, live, young spring, lb....40@42c
do, old ....30@32c
do, dressed, old....32@34c
Broilers, 1½ to 2 lbs....36@37c
do, 1¼ lbs....38@40c
do, ¾ to 1¼ lbs....42@45c
Fryers ....35@36c
Hens, extra, per lb., colored....32@34c
do, Leghorn ....28@32c
Smooth young roosters, per lb. (3 lbs. and over) ....36@40c
Old roosters, colored, per lb....22@24c
Geese, young, per lb....22@23c
do, old, per lb....21c
Squabs, per lb. 45c
Ducks ....25@27c
do, old ....23@24c
Belgian hares (live) ....15@18c
do, dressed ....19@23c

BUTTER.

Butter remained firm, with slight fluctuations, during the week and closed at the top for extras. Prime first remained unchanged. During the latter part of the period Firsts were again dealt in on the exchange.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	52	52½	52	52	52½	52½
Prime 1st	49	49	49	49	49	49
Firsts	—	—	—	49	49	49

EGGS.

Both extras and extra pullets continued on their upward course this week. The first going 3c above last week's close and the latter 2½c. While the receipts as a whole show no unexpected diminution, they have been rather irregular and this has caused some uneasiness. A good demand has arisen for shipment to Alaska, and the high prices on the New York market has taken a good number of eggs off the local market, resulting in higher prices.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	54½	55½	56	57	57½	57½
Extra 1sts			Nominal			
Firsts	46	46	46	46	46	Nom.
Extra pullets	49½	51	52	53	52½	53

CHEESE.

Cheese has been strong on the local exchange for some time and has shown a steady upward tendency. This week, however, prices of all descriptions, except Oregon Y. A. Fancy, began to soar, and closed at the top. The cheese manufacturers are making much less cheese this year and several of the largest factories have closed down, as they could not compete for butter fats with the dairies and sell their product at the prices quoted. It is reported that much of the cold storage of last year has been disposed of and when the members began to bid up the price of cheese there was hardly any cheese in storage to take its place. Oregon Long Horn Fancy C. S., has been given a regular place on the call of the exchange. Monterey cheese has been advanced to 23@25c for the full cream.

Fancy California flats, per lb....32½c
First California flats, per lb....31c
Oregon triplets, fancy 30c
Oregon Y. A. fancy....27½c
C. S. Oregon triplets fancy....30c
do, Oregon Y. A. fancy....28½c
do, Long Horn fancy....29c
Monterey cheese ....23@25c

FRESH FRUITS.

Loganberries are about out. Raspberries are unchanged, while strawberries and blackberries are somewhat lower. The arrivals of the latter have been unusually good. Cantaloupes and grapes were lower and more plentiful this week. Otherwise the fresh fruit market was unchanged.

Apples ....$1.50@2.50
Apricots, per crate .... 1.25@2.00
Peaches, 4-box crate .... .75@1.00
Figs, black, per box....None
do, double layer ....$1.00@1.50
Strawberries, per chest.... 7.00@8.00
Blackberries, per chest.... 5.50@7.00
Raspberries, per chest.... 9.00@11.00
Loganberries, per chest ....None
Plums ....$1.00@1.50
Cantaloupes, flats ....60@65c
do, ponies ....$1.25@1.50
do, standard .... 1.50@1.75
Watermelons, per lb....1½@2c
Pears, Bartlett, per box....$2.00@2.50
Grapes, seedless .... .75@1.00
do, Malaga .... 1.00@1.25
do, Fountainbleu .... .90@1.00
do, Tokay .... 1.25@1.50

CITRUS FRUITS.

Grapefruit and orange prices show an upward tendency this week. Lemons have been somewhat more plentiful and showed some recessions from last week's high prices.

Oranges:
Valencias, fancy ....$7.50@8.00
Valencias, choice .... 7.00@7.50
Lemons:
Fancy, per box.... 6.00@7.00
Choice .... 5.00@6.00
Standard .... 4.00@4.50
Lemonettes .... 3.50@4.50
Grapefruit, fancy, new.... 5.00@6.00

DRIED FRUITS.

The buyers have been in the market for apples more actively this week and they report quite a bit of fruit bought from dryers at 13c, which has been resold to Eastern jobbers at 13½c and 14c. Where the latter price was obtained the stock was especially fine. The pear situation is unchanged; it is reported that 10c has been paid for some lots.

Prunes, graded, price to growers:
gain in dip 11c
Prunes, graded prices to growers:
20-30, inclusive, per lb....15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8¼c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121, inclusive, per lb....4½c
122 and up, per lb....4c
Apricots ....12@19c
Figs ....12@16c
Raisins—
Muscats 5¼c
Thompsons 6¾c
Sultanas 6½c

HONEY.

The honey situation is the same. Some buying is going on all the time, but the dealers are not buying freely and in most cases have the honey placed before buying.

White, extracted 21c
Light amber ....18@20c
Amber ....15@18c

RICE.

Paddy rice, 1918 crop....$4.32
Clear No. 1, 1918 crop at mill.... 7.00

HIDES, SKINS AND TALLOW.

No change from last week, except as noted below:

Cows and steers, all weights, No. 1..14@15c
Bulls and stags....12c
Kip 20c
Calfskin 28c

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, August 20, 1918.

Probably the heaviest offerings of the season were unloaded in all of the auction markets the past week. The result of these increased sales, however, had little effect upon the market, as the demand was unusually heavy. A large percentage of the offerings of Bartlett pears developed ripe stock and this condition, together with the extreme heat that prevailed generally throughout the Eastern States, resulted in a noticeably declining market on unsound Bartletts.

The offerings of plums were fairly liberal and met with a ready market.

Sales of Elbertas increased over the week previous and though a few cars of uncolored stock failed to realize satisfactory prices the majority of the cars sold to advantage. The Elberta market has held steady on account of the distribution of a good proportion of the stock in the Western markets.

There was quite a falling off in the demand for Thompsons and for some unaccountable reason quite a percentage of the stock arriving has been showing wasty.

The Malaga market has returned fairly satisfactory prices, but the demand has not been quite up to expectations. We look for somewhat of a decline during the next week under heavier receipts.

But few Tokays have been shipped to date. The season will practically open this week. Florin Tokays are now moving, though none have reached the Eastern markets. The stock from Florin is up to standard, with good-sized berries and showing excellent color, while the stock from the San Joaquin Valley, especially in non-irrigated districts, is below the average. We predict a wide range in the market on Tokays this season on account of the great variance of quality from different sections.

El Dorado and Placer county mountain Bartletts are rolling and the stock is of excellent quality and should meet with an active demand.

As a whole, last week's general market on all varieties can be considered as highly satisfactory and, with the exception of Malagas, we look for a noticeable increase on all other varieties during the next two or three weeks.

Following are the averages for the week:

Boston: Pears—Bartlett, $2.88. Grapes—Thompson Seedless, $1.37; Malaga, $2.14. Peaches—Decker, $1.16; Crawford, $1.18; Tuscan, $1.47; Elberta, $1.22. Plums—American Blue, $1.64; Tragedy, $2.05; Wickson, $1.74; Grand Duke, $2.30; Giant, $2.20; Kelsey, $3.08; Diamond, $2.03; Burbank, $1.87; Gros, $2.44; California Red, $1.65; Egg, $1.87; Duane, $2.11.

New York: Peaches—Tuscan, $1.40; Elberta, $1.19; Crawford, $1.17; Foster, $1.70; Decker, $1.27. Grapes—Thompson Seedless, $1.18; Malaga, $2.33; Muscat, $2.65; Tokay, $3.64. Pears—Bartlett, $3.86; B. Hardy, $3.00. Plums—Wickson, $2.10; Grand Duke, $2.23; Diamond, $1.96; Tragedy, $2.00; Kelsey, $2.47; Burbank, $1.62; American Blue, $1.84; Gros, $2.65.

Chicago: Plums—Satsuma, $1.90; Grand Duke, $2.51; American Blue, $2.15; Diamond, $2.30; Tragedy, $2.30; Giant, $2.28; Kelsey, $2.46; California Blue, $2.15; Gros, $2.53; Yellow Egg, $1.68. Pears—Bartlett, $3.35. Peaches—Elberta, $1.34; Crawford, $1.24; Tuscan, $1.37; Foster, $1.21; Lovell, $1.09. Grapes—Thompson Seedless, $1.33; Malaga, $3.15.

Total shipments, by cars, from August 10 to August 16, inclusive: 539 grapes, 379 peaches, 196 plums, 508 pears.

Total shipments to date, 1918—8680 cars. Total shipments to date, 1917—7709 cars.

LOS ANGELES

Los Angeles, August 20, 1918.

BUTTER.

The lower prices noted at the close of our last review caused a little better demand, and as the receipts were again light prices were bid up during the week 2c, and demand was fair at this advance. Receipts for the week 285,400 pounds against 395,950 pounds the same week last year. There was taken into cold storage during the week 43,866 pounds, mostly Eastern butter drawn from the Central West by the high prices. The cold storage holdings now are 260,206 pounds heavier than this time last year.

We quote—

California extra creamery....50c
do, prime first....49c
do, first 48c

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	50	48	49½	50	50	50
1917—						
Extra	41	41	42	42	42	42

EGGS.

The fresh receipts continue to fall short of the demand. Not only was a good local demand reported, but a good many were taken by nearby out-of-town points and prices were advanced 3c on extras up to Monday and 2c on case count. Pullets unchanged. Receipts for the week by rail 771 cases against 961 cases the same week last year. The truck receipts continue to run four times as heavy as the arrivals by rail, making the supply for the week 3855 cases against 4805 cases the same week last year. The receipts of fresh eggs caused cold storage to be withdrawn to the extent of 1800 cases, to help out.

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	49	49	49	51	51	52
Case count	47	47	47	47	47	49
Pullets	46	46	46	46	46	46
1917—						
Extra	39	39½	41	42	42	42
Case count	37½	38½	40	40	40	40
Pullets	36	36½	37	37	37½	37½

POULTRY.

The market as a whole continues quiet. There was a light supply of light broilers in the past week, they were in good demand and sold higher. Heavy hens also steady. Fryers and young roosters coming in more freely, dull and lower. All else steady but slow sale.

The following prices were agreed upon last Friday, August 16, and hold good until the coming Friday:

Broilers, 1@1¼ lbs 33c
Broilers, 1½@1¾ lbs. 32c
Fryers, 2@3 lbs 29c
Roasters (soft bone), 3 lbs and up 29c
Stags and old roosters, lb. 19c
Hens ....20@27c
Tom turkeys ....20@22c
Ducks ....22@28c
Geese 15c
Squabs, live per lb 20c
Squabs, dressed lb 40c

VEGETABLES.

There is not much new to note in this market from a week ago. Offerings pretty good and most prices held steady. Potatoes were in light supply, good demand and held firm. Some northern stock was in and it met with ready sale. Onions, too, showed a little firmness and the best were in very good demand. Cabbage scarce and sharply higher. String beans were in light supply and higher. Tomatoes steady and good demand. Corn firm. Cucumbers and summer squash steady.

We quote from growers—

Potatoes, local, per lug....75c@$1.00
do, do, per cwt. ....$2.25@2.50
do, northern, per cwt.... $2.00@2.40
Sweet potatoes, per lb. ....4@5c
Garlic, per lb. ....8@9c
Onions—Stockton Yellow Danvers, cwt. ....$2.00@2.25
Onions—White Globe, per cwt.... 2.00@2.25
Onions—Small Bermuda, per crate..80@90c
Cabbage, per 100 lbs....$4.00@4.50
Bell peppers, per lb.... .3@3½c
Chile peppers, per lb. ....3@3½c
Summer squash, local, per lug.... 25@30c
String beans, per lb ....6@7c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb....4@5c
Cucumbers, home grown, per lug 20@40c
Corn, per lug of 3 doz ....65@75c

FRUITS.

There was a better tone to the market the past week. Offerings very good and so was the demand for all fancy stock. Not many changes and what made generally favored holders. Apples met with a better demand and peaches and pears also sold more readily. Grapes were also in fair request. Figs coming in more freely and market slow and weak. Seedless grapes dull and lower. Others unchanged. Some Tokay now arriving and selling fairly well. A few quinces were in but they were slow sale.

We quote from growers:

Figs, Black Spanish, 7-lb. box..50@75c
do, White, 7-lb. box....50@60c
Peaches, freestone, per lug....$1.00@1.50
do, clings, per lug.... 1.25@1.60
do, Northern, freestone, lb....3½@4c
do, do, clings, lb....3½@4c
Pears, local, lb ....3@3½c
Crabapples, per lug....$1.00@1.25
Satsuma, lb ....4@4½c
Nectarines, per lb. ....5@7c
Grapes—Imperial Valley Malagas, per lb. ....3@3½c
do, Muscat, per lb....3@3½c
do, Thompson's Seedless, per lb....2@2½c
do, Tokay, per lb. 6c
Banana apples, 4-tier $2.25
Apples—Alexanders, 4-tier....$2.25
do, 4½-tier 2.00
Plums, per lb. ....5@7½c
Quinces, per lug $1.00

BERRIES.

There was quite a drop in the receipts the past week and the market in consequence was higher both for strawberries and raspberries, and what coming in found very fair sale.

We quote from growers:

Strawberries -

Fancy, per 30-basket crate.....$2.50@2.75
Poor to choice, 30-basket crate. 1.80@2.00
Blackberries, 30-basket crate.... 1.80@2.00
Raspberries, 30-basket crate..... 2.75@3.00

MELONS.

Receipts and demand very good, both for cantaloupes and watermelons. Their cheapness, encouraging consumption. Honey dew melons are now coming in quite freely and slow sale. Casabas were also dull under freer offerings. Watermelons are also lower. Cantaloupes show no change.

We quote from growers:

Cantaloupes—
Tip Top, home-grown standard crate .....70@75c
do, do, pony crate .....40@60c
do, do, jumbo crate:.....$1.50@1.75
Columbia, jumbo crate ..... 1.75@2.00
Casabas, per lb. .....2@2½c
Pineapple, standard crate .....70@75c
do, jumbo crate .....$1.50@1.75
do, Paul Rose, standard crate..75c@$1.00
Watermelons, per 100 lbs.....75c@$1.10
Honeydew Melons, 16 in crate....90c@$1.00

BEANS.

Very little doing in this market the past week. The new crop is now being harvested and buyers are holding back. The crop is said to be good. Whites have been dropped to $10 per cwt., the price that is being bid for the new crop. Other varieties unchanged.

We quote from growers:

Limas, per cwt. $12.00
Large white, per cwt. 10.00
Small white, per cwt. 10.00
Pink, per cwt. 7.50
Blackeyes, per cwt. 7.00
Tepary, per cwt. 8.50

HAY.

The past week was another dull one in this market. Alfalfa and barley hay continue to arrive quite freely and sales very slow and prices weak at quotations. Buyers only taking such lots as needed for immediate use. Oat hay is scarce, in good demand and $1.00 a ton higher.

We quote f. o. b. Los Angeles—
Barley hay, per ton .....$24.00@26.00
Oat hay, per ton ..... 26.00@28.00
Alfalfa, northern, per ton.... 21.00@22.00
Alfalfa, local, per ton..... 22.00@24.00
Straw, per ton ..... 9.00@10.00

COTTON.

There was less speculative life in this market the past week. At the same time, prices worked higher. At the opening of our review week, there was some selling by longs on private reports of rains in Central Texas. But as these were not confirmed, the market was bid up again and the last half of the week there was better trading and higher prices. On Saturday, October sold in New York as high as 32.60c, making the highest price for this option yet obtained. This caused some realizing and the market closed lower than the high point. The current week opened Monday with October closing at 31.45c and December at 31.85c.

Special Citrus Market Report

Los Angeles, August 19, 1918.

The Eastern market is practically unchanged on Valencias. The abundance of deciduous fruits at this season of the year modifies the demand considerably for citrus fruits of all kinds, and at the high prices ruling Valencias have not been easy to move. It is reported that the Valencias favorite is becoming popular as a substitute for lemons in the making of citrus drinks, owing to the scarcity of sugar, and the practice promises to become permanent. There are about 1100 boxes of Valencias still on hand, which are bringing from $7 to $7.50 f. o. b. The fancy article is bringing as high as $9.60 in New York. The Philadelphia market is temporarily cleaned out. Boston has but little stock and a strong market.

A modification of the hot weather in the East has caused the lemon market to slacken up and prices are on a basis of $7 to $8 for choice to fancy stock. Few foreign lemons are arriving.

The local market shows an upward trend on oranges, owing to increasing scarcity. Lemons are somewhat easier.

Special Livestock Market Report

San Francisco, August 21, 1918.

CATTLE A new high point has been reached in the Eastern markets on beef animals, a record of $18.85 having been reached for choice steers. Locally the situation has experienced no change, except that thin, unfinished stock is more abundant and prices have sagged slightly. Calves are in good demand and holding their own.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11@11½c
No. 1, weighing 1200 to 1400 lbs..11@11½c
Second quality .....9@10½c
Thin .....7½@8½c
Cows and heifers—
No. 1 .....7½@8c
Second quality .....6@7c
Common to thin .....3½@5½c
Bulls and stags—
Good 6c
Fair .....5@5½c
Thin .....4@4½c
Calves—
Lightweight 11c
Medium 10c
Heavy .....8@8½c

SHEEP—Lambs have made a record for the month in the East, an Idaho shipment bringing $17.65. All Western stock is readily taken up at advancing prices. The local market has risen a fraction in sympathy with the Eastern situation, as will be noted in the quotations below:

Lambs—
Yearlings .....12@12½c
Milk .....12@14½c
Sheep—
Wethers .....11@11½c
Ewes .....8½@9½c

HOGS Choice hogs have gone up to $20.15 in the Chicago market recently. The late hot weather caused a light run, and traders became somewhat panicky, pushing the top price up to the above figure. While the local supply is also light, there has been practically no change in quotations this week.

Hogs—
Hard, grain-fed 100@140.....17½c
do, do, 140@300.....17¾c
do, do, 300@400.....17¼c

DRESSED MEATS.

Steers, No. 1 .....18½@19½c
do, second quality.....15@18c
Cows and heifers .....10@16c
Calves, as to size, etc.....15@19c
Lambs
Suckling .....23@25c
Yearling .....22@23c
Sheep—
Wethers 21c
Ewes .....18@19c
Hogs .....25@26c

Los Angeles, August 20, 1918.

CATTLE—The weakness in this market last week for cows and thin steers culminated in a decline of 50c per cwt, and market dull at this reduction, a good many being offered. At the same time choice fed steers were scarce, firm and in demand. Calves steady and selling fairly.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs.....$9.00@12.00
Prime cows and heifers..... 7.50@ 8.50
Good cows and heifers ..... 7.00@ 7.50
Canners, per cwt. ..... 5.00@ 5.50
Calves, per cwt. ..... 8.50@ 9.50

HOGS The run of hogs continues light and with a little better demand for pork under cooler weather, the market was advanced 50c per cwt. Killers all wanted a few and the Eastern markets continue high, which had a sympathetic influence.

Per cwt. f. o. b. Los Angeles—
Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225@275 lbs. ..... 16.00@17.00
Light, 175@220 lbs. ..... 16.50@17.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—There was a little better demand the past week for both sheep and lambs, and killers had to bid firm prices to get what they wanted. As it was they had to draw supplies farther away from home, most of the arrivals coming from Northern California and Nevada. Lambs higher.

Per cwt. f. o. b. Los Angeles—
Prime wethers .....$9.00@10.00
Prime ewes ..... 8.50@ 9.50
Yearlings ..... 9.50@10.50
Lambs .....14.00@14.50

North Portland, August 19, 1918.

With a moderate run of livestock at the North Portland Stock Yards over Sunday, the market is a mass of strength in all the divisions. Taking quality into consideration, the cattle market is a quarter higher. Quotations:

CATTLE—Prime steers, $12.25@13.25; good to choice steers, $10.75@11.75; medium to good steers, $9.50@$10.75; common to fair steers, $5.50@8.00; choice cows and heifers, $8.00@9.00; medium to good cows and heifers, $6.00@7.50; canners, $3.00@5.00; bulls, $5.00@7.00; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Great strength continues in the hog trade today. The run is not heavy, the quality is good and hit the high mark of 20c early. Quotations: Prime mixed, $19.50@20.00; medium mixed, $19.00@19.50; rough heavies, $17.50@18.50; pigs, $16.75@18.00; bulk sales, $19.25@19.50.

SHEEP—The sheep market has gotten out of the old rut and is showing considerable life. The trade is strong, with prices 25c to 50c over last week's quotations. Quotations: Price lambs, $14.00@15.00; fair to medium lambs, $11.00@13.00; yearlings, $10.00@11.75; wethers, $9.00@10.50; ewes, $7.00@9.00.

HAVE WE MADE GOOD?

Last week we told you about our new plans and gave you reason to look for a big improvement in our paper. We started right out to make good on our promises, and in this issue we feel that we have.

Naturally, as it is a special issue, you expect it to be a little better than the average, but isn't it a "great deal" better?

Don't merely glance through the pages. Don't confine your reading to the articles along your particular line. If you are a swine breeder, you may find a plan in the article on the grape industry that will be worth hundreds of dollars to you. And if you raise grain, you may get profit-producing ideas from the article on dairying. There is hardly an article that cannot be read with profit by every subscriber.

That's the way it's going to be right along. On account of the shortage of paper, we can't give you as many pages each week, but you don't value a magazine by its bulk. It's real worth lies in the way you can adapt the articles to your own needs and profit by their money-making value.

Next week we shall have a splendid article on the first page devoted to prunes. Also, there is being prepared for that issue a special article on grain growing in California. Then, too, Mr. Whitten has one of his great dairy stories already in hand for the next paper.

As the weeks pass, there will be plans that have increased production, solved the labor and feed problems, cut costs, found better markets, and improved farm management in general. Every branch of farming will be included, and you can't afford to miss a single issue of the paper. We are going to make it just as indispensable to you as your daily food. Food for the mind, you know.

Just watch our smoke.

Classified Advertisements

MISCELLANEOUS.

REMANUFACTURED PIPE. All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works,** 160 Eleventh street, San Francisco.

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CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

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FOR SALE—A deep well pumping outfit, complete; 100 feet 7-inch discharge pipe. Box B, Menlo Park.

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ATTENTION, STOCKMEN—FOR SALE—4254 acres Yolo county. Will develop into one of the finest stock ranches in the West. Excellent feed. Gentle rolling land. Will grow a variety of fruits. Many valley tracks throughout. Southeastern exposure. Deep well, 180 gallons per minute. Fine reservoir sites. Creek crossing entire property. Improvements for sheep ranch. Seven-room bungalow, ½ mile State Highway. Splendidly located, 100 miles from San Francisco. $35.00 an acre—one-quarter down, balance easy payments. Address owner, 685 Berendo street, Los Angeles.

BE PATRIOTIC—Raise stock on productive Government land, plainly marked on county sectional maps; $2.50 any county; booklet. Particulars for stamps. Write Joseph Clark, Sacramento.

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ALFALFA RANCH IN FRESNO COUNTY—50-acre alfalfa ranch, subirrigation, with substantial improvements, work stock and implements. Price, $20,000, $6,000 cash, balance long time. J. Hargeshimer, Sanger, Cal.

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CITY MAN'S MISFORTUNE MAKES REMARKABLE BARGAIN.

Must sacrifice well located 240-acre place in Stanislaus county. Under irrigation—100 acres in alfalfa, figs, olives, etc. Comfortable six-room house, large barn, new silo. Deep well, fine water and pumping plant. Ample farming equipment and tools. Herd fifteen head graded Holsteins and one thoroughbred bull—will sell separately if desired. This place is an unusual snap. A practical farmer can make of it an excellent investment and delightful home. Address owner, 2714 Grove St., Berkeley.

FOR SALE—Best cattle alfalfa ranch proposition in San Joaquin Valley. Half section, 220 acres, A1 stand of alfalfa, 25 acres corn. Abundance of electric pumped water, 300 tons alfalfa in stack. S. P. main line siding on ranch. State highway passes through ranch. Will give terms; deal direct with owner. J. S. Going, Quail Ranch, Pixley, Cal.

WANTED.

WANTED—Foreman for large ranch in upper San Joaquin Valley. Grain and fruit. Steady position, good wages for honest, experienced, intelligent, and energetic man. Give full information, references, and salary expected. Address, Superintendent, Box 1220, Pacific Rural Press, San Francisco.

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WANTED—To rent, a ranch suitable for hogs, about 60 acres farm land, part in alfalfa. Hans Duveneck, Ukiah, Cal.

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Represent the best producing Holstein blood lines. Inherited both from their great sire and from their high-producing dams in the **Palo Alto herd,** including such cows as Laurameka, State record four-year-old, with a record of 33.90 lbs. in seven days, 140 lbs. in thirty days and 275 lbs. butter and 6400 lbs. milk in sixty days; Finderne Alexis, 38.2 lbs. butter in seven days as a three-year-old; Roxie Hengerveld De Kol, 25,300 lbs. milk in 365 days and 1188 lbs. butter.

HIS SIRE:

King Segis De Kol Korndyke, 59 A. R. O. daughters, including Mabel Segis Korndyke, butter 7 days 40.32 at four years (world's record when made). Three other daughters over 30 lbs. Twenty-one daughters from 20 to 30 lbs. Grandsire of 40-lb. three-and-a-half-year-old. His sire's sire, King Segis, 59 A. R. O. daughters. **Dam,** Pontiac Clothilde De Kol 2nd, butter 7 days 37.21 lbs. butter 1 year 1271.60 lbs (world's record when made).

KING PONTIAC SEGIS KORNDYKE

HIS DAM:

Beauty Rauwerd De Kol, butter 7 days 30.54 lbs., milk 709.90; butter 30 days 120.98 lbs., milk 2914.40. His dam's sire, Pietertje Hengerveld Count De Kol, 99 A. R. O. daughters, 8 with records for 28 to 33 lbs., 39 with records for 20 to 28 lbs.

His first seven sires have 492 A. R. O. daughters. Four over 40 lbs. in seven days, 33 over 30 lbs. and 207 over 20 lbs. His grandsire, King Segis, and his great grandsire, Pontiac Korndyke, are two of the greatest transmitters of great production in the breed. The latter has 141 A. R. O. daughters and 84 A. R. sons.

King Pontiac Segis Korndyke has to date 22 daughters in milk, their records averaging over 20 lbs. in seven days as two-year-olds.

A bull calf sired by King Pontiac Segis Korndyke goes to South America this week. He was selected as future head of the Holstein foundation of Rafael Larco, one of the largest plantation owners and breeders of Peru. After careful investigation all over the country, Mr. Larco chose this youngster largely on account of the production and breeding back of his sire.

His sons are coming in *in fine shape* and will be in big demand.

The established sales policy of the Palo Alto Stock Farm is reasonable prices and easy terms.

WRITE TO US FOR FURTHER PARTICULARS OR VISIT THE FARM.

PALO ALTO STOCK FARM

MYRON H. TICHENOR, Pres.

PALO ALTO **CALIFORNIA**

Vol. XCVI—No. 9

THE PACIFIC RURAL PRESS

Forty-eighth Year

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7-1-20 State Library

Prune Conditions in Sonoma County

Written for Pacific Rural Press by Jno. J. Fox

WE HAVE reported prunes in various other sections of the State as being disappointing after the spring promise. Sonoma county, on the other hand, will have a 100 per cent crop, or pretty close to it. At this date (August 16) the first drop of inferior prunes is being cleared from the ground and will be kept separate, it is hoped, so that it may not mar the excellence of the fully ripened and matured fruit.

The efforts of the Prune and Apricot Growers' Association have resulted in establishing a reliable pack, in extending and developing new markets and in giving its members all the money the prunes bring after deducting the cost of administration expenses only. The reliability of the fruit sent in should be carefully seen to by every member, in loyalty to the association, for one sour prune in a plateful is likely to put a new consumer out of conceit with the fruit, and every prune lover "counts" in this business. It is, therefore, most important that all these early, leaden-colored prunes be set aside—redipped if need be and sent in marked sacks to the warehouse.

Eight-year-old prune orchard of E. D. Seaton near Santa Rosa. These trees have responded to proper treatment.

Russian River Prunes Run Heavy.

I think that in many orchards the fruit is the largest that has ever been produced here. There are two orchards side by side near Healdsburg, on the borders of the Russian river, that look as though they would run 40s—mixed French and Imperial, but mostly French. One belongs to Sheridan W. Baker & Co and the other to James Petray. We weighed some Imperials that ran eight to the pound, and French, picked up off the ground (selected), that went twelve to the pound. Both these orchards are the same age—nine years old—and they are estimated to run four tons of dried fruit to the acre this year.

Care of Breakage.

Although these trees have been heavily propped, several had split and fallen with the weight of fruit. The splits were well painted over with asphaltum paint and then, with the aid of a block and tackle and gin-pole, were pulled up into place again, a few ¼-inch bolts run through the trunks and the seam painted over. It is quite an achievement to get half a tree back into place, but it was done promptly, and, except for the streak of asphaltum, the join could not be distinguished a row away. Where thorough spraying had been done there was very little thrips injury in this county; also red spider and mealy plum louse were inconspicuous. The young orchards were a good deep green and in all of them one notices about an average amount of new growth.

Fred L. Wright's 100-acre young prune ranch on Mark West Creek is one of the promising groves of four and five years old. A lot of interplanting of tomatoes is seen here, with a good set on them; but the young trees show promise of a fine set of fruit next year. They will be sprayed again this fall, he says, with a miscible oil spray. This place was formerly all in hops and is therefore ground eminently suited to the prune. The hop kilns he contemplates fitting up some time with drying units that will serve as an insurance against a poor drying season and also for evaporating vegetables or other fruits if need be.

Results in Spraying.

Where thrips were bad two years ago Sheridan W. Baker sprayed the larvæ just after the blooming period, then sprayed with Zeno in October and November of last year and did some spraying with lime-sulphur in the spring. Less thrips damage is noticeable where the spring lime-sulphur was used, but the miscible oils certainly seem to leave the prune trees in good condition.

We also saw two orchards side by side—trees probably thirty-five years old—that had never been sprayed. One of them is still innocent of spray and its twigs bear moss to the tips, while the branches and trunk are in some places venerable with gray lichen. The sprayed orchard has clean healthy bark, a nice thrifty annual growth and twice the crop of fruit. These two orchards were one before the estate was cut up. The clean one was sprayed a year ago last March (early) with a miscible oil, 15 to 1, together with 8 pounds of lye to the tank—the latter for the purpose of destroying the lichen and the moss, which provides such splendid protection and shelter to mites and scale insects. These trees will be sprayed again this coming season, minus the lye this time, and the mossy ones across the alley will receive their baptism, too. The effect of cleanliness and freedom from parasites on the vigor of the tree is cumulative. There is a bloom and a sheen to the foliage of clean trees lacking in others under equal conditions in other respects. Just as a pig, dog or horse are feverish, out of condition and lack-lustre under an infestation of parasitic insects, so is a tree a sufferer. Besides, a tree cannot rub or protect itself, and it is a well-known fact that wherever animals or trees or vegetables are cultivated in large areas there will their enemies, in course of time, congregate, too, and it is our business in the fight against pests not only to destroy them at the least cost or injury but even to invigorate the tree in the process, as has been done with nitrate sprays.

Another Precocious Young Orchard.

George E. Merrill, Sonoma County Farm Adviser, took us out to the E. D. Seaton orchard, just opposite the Vrooman walnut grove. We were chiefly interested in the prunes, though Mr. Seaton has 1600 young Gravenstein apples eight years old that have made phenomenal growth. The soil in this orchard is adobe from 16 inches to 24 inches deep and then

(Continued on page 221.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

WHO ARE THE PROFITEERS?

FOR ONE reason we are very glad that the Bulletin of this city is undertaking an expose of the relation of the price the consumer pays for food to the price which the producer receives for it. This reason is that such an expose must remove from the public mind the erroneous impression that the farmer is profiteering. Such an impression injures the farmer in public opinion and though it is impossible to state in just what relation such ill-feeling may hit him it is unquestionable that it does him wrong—in fact, may hurt him in all his relations—and it is important to him to have his innocence of profiteering widely recognized. In the course of its pursuit of food articles from the producer to the consumer the Bulletin has shown beyond question that in the case of at least one fully traced food article, the grower, the transportation company and the wholesaler in the city all together received sixteen cents for the very stuff for which the consumer paid one dollar: that is the retail distributor received 84 per cent of the consumer's dollar. This is surely a notable distinction in San Francisco distribution, for if we are not mistaken it beats the record in that line about 20 per cent. The country was somewhat excited when it was demonstrated in New York some time ago that the producer received only about one-third of the consumer's dollar, and the country is up for a new thrill when it learns that the producer supplying San Francisco receives only about one-sixth of it. This fact, if it be fully established, may go far to explain why San Francisco has such a poor reputation among producers—for they have long known that our city markets were a poor reliance for producers, who have been forced to take the position that they will never ship hither if they can do anything else with their produce. It may explain also the complaint of city people that they always get the worst there is of everything because the best is shipped out of the State, either in cans or otherwise. Naturally this must be so if it is true that city profiteering only allows the producer to get one-sixth of the final selling price.

A CITY SET TO BE WELL-FED.

WHAT CAN be done to make San Francisco a better selling place for producers? It is very important that something should be done, because San Francisco is a good buying community. Probably the people of no city in the country are such free spenders and live better. They pay enough for what they get. It is probably true also that no city is better situated and environed to get the best foods fresh from the soil and with the least delay between the soil and the table. Not only has the city an environment of market gardens on the peninsula and even within the city limits, nearer than other great cities and with a cool air which lengthens the delicious life of fresh stuff, but the city has a vast producing area reached by trucks and boats by very short hauls. California's two great cities, San Francisco and Los Angeles, are really metropolises in the midst of gardens, and yet in the case of San Francisco at least the eater could hardly pay more or the grower get less if they had a Saharan environment between the two. A Bulletin writer puts the facts in this way:

San Francisco has the cheapest transportation of food products to market possessed by any large American city. The freight rate on the great waterways leading from the very sides of the gardens in which the vegetables and much of the fruit consumed here are grown is remarkably low. From Sacramento to San Francisco a rate that runs close to 12c per 50-pound box is maintained. From Stockton the price per package is 14c. There is a veritable fleet of small river boats and of barges, all of which ply in and out among the islands, carrying produce, supplies, laborers and all essentials to a highly developed commercial gardening system. Organized for the best operation at least cost, the river transportation system makes it possible to deliver a 50-pound box and place it on sale within a few minutes after its arrival at the bay side and at a cost of a very small fraction of a cent per pound.

This paragraph is delightful to reprint because it gives a true picture of the cities environment as related to the subject of "good eats," which we have recently learned to recognize as a more important factor in joy-living than we ever thought before Mr. Hoover taught us how to defy the submarine. San Francisco's Edenic environment would draw people from all the skyscraping world were we not forced to admit that there is a snake in it. And the environment itself would develop concurrently with the city were there fairer return to those who would be attracted to extend production for the city's use. As it now is, the industry in that environment would perish were it not for distant shipment of fresh truck constantly in competition with the canners' demand—and the city itself would starve were it not for shippers' and canners' cullings, for which the grower gets only a part of sixteen cents on the dollar! The situation is simply suicidal to both city and country.

WHOSE BUSINESS IS THE CURE?

NATURALLY the subject goes to the State Market Director, and Col. Weinstock says of it:

There is an unexplained gap between the prices paid the producer and charged the consumer which should be run down and, if actual profiteering exists, it should be stopped at all hazards. Unfortunately the State has no means either of assisting in this investigation or of correcting errors should they be discovered—except through the organization of producers. It has no authority to compel retailer, middleman or producer to show his books, and an investigation by this means (the only certain and accurate one) would have to be conducted through or by the aid of the Food Administrator, who has such authority.

The retailer must be given credit for considerable loss through spoiling on his hands of perishable food, for delivery service which is now very expensive, for charge accounts on which there is both delay and loss. Yet 84 per cent seems too large a profit to be absorbed by such means.

The remedy would lie in free markets, which, however, as municipal experiments seem foredoomed to failure. This has been the case in many California cities; neither the farmers nor the housewives seem to appreciate the advantages they present—probably because telephones and highly developed delivery service have made personal marketing unpopular.

We give this alleged quotation from Col. Weinstock because it has much wider bearing than its relation to the situation disclosed in San Francisco and suggests work for the coming Legislature. We have learned so much about regulating distribution-profits at the school of Professors Hoover and Merritt that it can no more be truthfully said that nothing can be done about it. The question now clearly is: What should be done?

IS IT UP TO THE PRODUCER?

AS Col. Weinstock says, the only way the subject can be approached by State law is through organizing producers to protect themselves from commercial outrage. Such organizations have no power, however, to compel a show-down of books, etc., though if producers were organized with sufficient strength they might get from the Legislature some sort of a commercial and price-fixing tribunal which could be given such power. The producer is deeply interested, of course, for he might be made able to sell more good stuff and we can conceive that he might, by loosening the grasp of the retailer, market twice as much stuff and in that way get 32c from the consumer's dollar, and might be a little better off, for, by increasing production, he might net two of the consumer's cents instead of one—which is probably all he nets now. But it is not the producer who is in to win most from fair trading. The consumer's chance to win as compared with his is six to one, which is probably as good as house-breaking. Therefore, it is up to the consumer by appeal to the Legislature or by commercial annexes to city charters, or otherwise, to create some judicial organism which shall have power de ventre inspiciendo — which, being liberally translated, may mean to inquire how much what he has in his tummy ought to cost him. It is quite true it is to the producer's interest to make retailers' prices reasonable and to prevent profiteering, but to expect him to mount guard on the consumer's purse while he is vainly trying to get something into his own is not a business-like requirement. What, therefore, is the matter that the swindled consumer does not try to do a little something for himself? Why does he not do a little ward politics to see if he can get supervisors who will pay more attention to suffering humanity which goes empty-pursed from the front doors of the corner groceries and less attention to hilarious humanity which rolls out full as ticks from the back doors? Though the country is interested deeply in the matter and may draw prosperity instead of bankruptcy from it if properly regulated, it is still overwhelmingly a city question and must be regulated by city people.

PUBLIC MARKETS A VAIN RECOURSE.

WE QUITE agree with Col. Weinstock's implied conclusion that municipal markets can avail but little in curing city profiteering. They are desirable as far as they go and are worth establishing and encouraging. They will help small producers whose places are within mule or gasoline distance from them to add a day's wages to a fair grower's profit on the produce sold. They may help old-fashioned housewives and boarding-housers to make a day's wages out of what they take away from the city profiteers. But the farmer who has considerable of a producing enterprise cannot, and the housewife who has money enough to hire a telephone will not, take a day's wages for the time consumed in hawking a little jag of produce nor in yanking home portions thereof. Mankind nowadays seems built for more pleasurable work or for less irksome fun. In our youth it was different, and both the work and the fun of it seemed very enjoyable. The old farmer took great delight in driving to town on market day, spending the long morning in bantering conversation with the sprightly village dames and, after a late dinner at the tavern, taking a nap on the wagon seat while the old skates brought him safely to the farm gate. And he felt that he had done a great day's work if he could count out coppers and dimes to the amount of $3.50 for a load of stuff for which a wandering buyer for a store would have paid him $2 at the farm! It was all right in its way and in its time, but not now for most people.

CITY HOUSEWIVES ARE TOO BUSY.

AND THE buying side has also changed quite as much. The village dames of the long ago gained a headful of gossip, which was good stuff before the "society column" dawned on the editor's consciousness and when war news fell from the tongue instead of flashing from the leased wire, and it lightened the household drudgery of the olden time not a little no doubt. But what time or need has the modern housewife for self-marketing now? Is she not put to it sorely to get off the kids to the one-session school and iron up a dress for the baby in time to reach the picture palace before the seven-reel melodrama starts at eleven? And is it not nip and tuck to run those reels off fast enough to get home before the kids arrive at two, get them their lunch and dinner ready for the old man when he is through his day's work at four, so that he can have a smoke before he has to start out with the older kids for the circus—so that she, having retired the baby, can sit down for a quiet two hours with the comic supplement—a quick lunch of art and

poetry for the soul of a weary woman. No, indeed: there is no time in our crowded modern life for haggling with rural hucksters over things to eat. And what is the telephone for if not to save wastes of time? That is the way it earns its pay—paying eighty-four cents to the retailer for bringing sixteen cents' worth of food.

But this is, of course, only one phase of the unwillingness of people to put in half a day's time in personal buying and homeward carriage of the food they eat during the other half of the day. Some refuse self-buying because they can make more money in home-ordering than they could save by giving the time to shopping, and so they are really saving by deciding not to save. Nothing can change the accepted method of those who are wasting or saving either time or money. Therefore, to exalt public markets as a cure-all and self-marketing by consumers as a way out of extortion is to roll out a lot of bread-dough pills, as the harmless doctors of the olden time are said to have done. We do not know what the answer to the question is, but we are sure of two things: organization of farmers cannot cure city robbery; organization of consumers can cure it, if it can secure laws or ordinances to specify what percentages of profits shall go to distributors and a court to enforce such laws.

* * *

WELCOME TO DR. WHITTEN.

CALIFORNIA fruit growers will extend a cordial welcome to Dr. J. C. Whitten, who arrived in Berkeley last week to assume leadership of the pomological work of the University of California. Dr. Whitten is of a type of manhood for which Californians always have a cordial greeting and delight in acquisitions of the type—content even to loot the outside world to get possession of it. He is alert, magnetic; scholarly and yet incisive and practical; straightforward and frank and yet full of grace of manner: silvered a little in personal adornments and yet youthful in the freshness of his thought and the cordiality of attitude. California fruit growers will take to him like a debutante to a doughboy. Dr. Whitten is what may be called a progressive American: his course has always been westward. Born in Maine in 1866 and graduated with honors from the agricultural college of his native State, he pursued advance studies at Cornell University and at the Missouri Botanic Garden, subsequently taking a German doctorate and finally settling down to mid-Western life in instruction and research at the University of Missouri, where his work brought him recognition in both lines as a leader in American pomology. And now he comes to California, thoroughly equipped and experienced therein, to do his best work in California, where American pomology has reached its greatest development and its richest variety, and is waiting for scientific achievement commensurate with its commercial importance. In California Dr. Whitten returns to association with Dr. Howard, who came from Missouri University to California University four years ago and is already widely known to our readers for his good work in fruit lines. With these two men in the lead and with a squad of thoroughly trained younger men to assist them, California is now thoroughly equipped for progressive work in deciduous fruits as she has been for several years past in semi-tropical lines, and we understand that such an advance in the interest of what are sometimes called "common orchard fruits" is now contemplated by the University in response to manifestation of desire in that direction by the commercial growers thereof. In such a drive Dr. Whitten will be the allied commander.

WE NEED YOU

to represent us in the field in place of those who have been called to the "colors." The work of securing new subscriptions and collecting on renewals is pleasant, dignified, and healthful, and the salary is ample.

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No objection if you are along in years, provided you haven't lost your pep. If you really like the paper and think you can convince others of its merits, your first step toward Greater Success will be to write us a little about yourself, and give us an opportunity to tell you what we have to offer.

Only a few positions open. Better write today.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

What to Do for Borers Now.

To the Editor: I find that a considerable part of a few hundred plums on myrobalan are badly infested with borers which enter through dead or badly sunburned bark. Can anything at all practical be done on these trees, which were budded in nursery and planted out this past winter? The trees were planted in good soil and, so far as I know, there has been no orchard there for a long time, if ever. Where could the borers come from? They are not all through the soil, are they? I am almost afraid I will have to replace the infested ones and try to give them a little better treatment.—H. L. D., Colusa.

Trees which are badly sunburned and full of borers should be pulled up and burned now: good, clean trees should be planted next winter and thoroughly protected by "protectors" or whitewashing—extending the protection downward a few inches below the surface. Do not wait for hot weather: get on the protection as soon as the trees are planted and make it good again if removed by rain. Borers get into nursery stock and you should plant nothing which has discolorations on the stem. But these borers are everywhere in many kinds of trees and though the worms are not "all through the soil" the small, bronzy beetles are all through the air looking for injured bark to lay their eggs on. It is not too late to begin hunting the grubs. If trees are still looking well above, they may be saved by cutting into blackened spots in the upper roots or lower stem disclosing the burrow in the wood and pushing into that with a piece of pliable wire, which will follow the hole and pierce the worm. Do not delay to do that on trees which you wish to save because the borers will be increasing their injuries all through the fall and early winter and trees which look fairly well now may be worthless later if left to the worms.

Beans Partly "Damped Off."

To the Editor: What is the matter with these beans? Moisture seems to enable them to overcome it early. These did not at all. It seems the same trouble that my blackeyes have and you called that "wilt"; yet I have never heard of bluepods having wilt. I am puzzled.—D. B. S., Santa Cruz.

The "wilt disease" of the cow pea (the "blackeye" is a cow pea) is different from the trouble which your specimens show—which is apparently the after effects of a damping-off fungus. The attack comes early in the season and on plants in which it was checked by increasing dryness of the air and soil-surface before it could kill the plant the growth may continue and yet the roots and lower stem are sufficiently weakened by it so that the plant cannot stand the strain of later development and the pods are apt to ripen only small and deformed beans—as your samples show. No treatment would probably be effective after damping off got in its early work. A preventive would be wider planting and better chance for the soil surface to dry off around the plants during their early growth. Too thick planting and too dense a shade at this time favors damping off—especially near the coast or on river bottoms where damp air is apt to prevail.

Passivism on Squirrel Question.

To the Editor: It is impossible for me to get rid of squirrels with poison or bisulphide of carbon. If "mustard gas" is fine for Germans, why not for squirrels? Can you do something in this line?—D. B. S., Santa Cruz.

If you cannot poison squirrels it is because you have poor poison or do not use good poison right. If you cannot get them with carbon bisulphide it may be that you are using it during the dry season. It should be used after the rains have closed up the soil cracks, etc. The only way to protect yourself against squirrels is to keep killing them, and that seems to be the present case with Germans but will soon be unnecessary, we hope. The only way for a district to get squirrels below the point of much injury is to get everybody to fight them and to have power to fight them on open lands and to assess the cost against such lands. That is the purpose of recent laws the execution of which rests with the State Horticultural Commissioner, and he has a staff of expert assistants for that work. Everyone who has nerve to make a fight against ground squirrels and will not allow him to drop into a ruinous passivism on that subject, should enlist for the drive which the county horticultural commissioners are authorized by law to push forward.

A Peach-Almond.

To the Editor: I send sample of some fruits from a tree which was supposed to be an almond; but the fruit is quite different. It tastes and looks more like a peach, but the covering cracks open like an almond. What would you call them?—Grower, Arbuckle.

The fruit is a peach-almond. Trees bearing such fruits have appeared here and there in California ever since pioneer days and have been known abroad for a long time. Darwin speaks of it as known in France, where it was called the peach-almond, and several varieties of it were noted, which are held to be "varieties which connect the peach and the almond." There are not only different varieties, which are distinguishable by size of pit and external appearance, but even single trees have a way of varying widely in their fruits — sometimes producing peach-like fruits, sometimes regular almonds. In short, it is a very sporty affair—not seeming to know itself whether it is a peach or an almond. It is of no commercial account except that the nuts have been used to some extent for many years to grow seedlings for budding both peach and almond upon—but no superiority of them over peach and almond seedlings has ever been clearly demonstrated.

Subterranean Inhospitality.

To the Editor: I am sending twigs of French prunes. Growth seems to start well in the spring, but afterwards it stops, the twigs become thin, the leaves small and brown around the edges, and the wood dies back. Some trees recover by sending up new shoots near the trunk, though it may take several years. Can you tell me what is the trouble? It's not quite so bad on deep sediment soil as the lighter hill soil, though it favors certain spots. Though the trees never get large, they bear very heavily and unusually large prunes, some 20s and 30s.—Grower, Santa Margarita.

There is no disease-causing agency present. You have to deal with an underground trouble. It is more probably involved in irregular and insufficient soil moisture than in any other cause, though this may act through concentration of some unwholesome soil substance as well as by direct famishing for lack of moisture as the season advances away from the spring supply which starts the growth. Naturally the trees do better on the deeper soils both because of the better soil substance and of the greater amount of soil moisture which they are able to retain. But even they would show more growth and promise better for long life if they had more summer and fall moisture. Irrigation, to be used more or less according to the seasonal rainfall and the retaining capacity of the soil in different parts of the area planted, would be the first aid in such cases of injury.

Pink Bean Root-Rot.

To the Editor: What is the cause of pink bean roots rotting? The vines turn yellow, then wilt and die.—R. A., Atwater.

If the plants wilt yellow and die without appearance of spots or blotches on the leaves, pods or stems, the trouble is in the root and it may be due to a fungus which works into the substance of the root or lower stem from the soil, which in such cases usually has too much moisture at the surface—or the root may be rotted by alkali. In both cases the visible effects on the plants are similar.

California Weather Record

The following rainfall and temperature record is furninished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 27, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.01	.43	.15	66	50
Red Bluff		.12	...	106	68
Sacramento		...	...	102	56
San Francisco		...	.01	72	53
San Jose		...	.06	92	50
Fresno		...	...	104	62
San Luis Obispo		.01	.03	84	50
Los Angeles		.11	...	90	58
San Diego		.04	...	78	62

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

Evaporation of Fruits and Vegetables

[Written for Pacific Rural Press by John J. Fox.]

IN MOST sections of the State of California a dry atmosphere and a hot sun make the curing of fruit by exposure the natural and the cheapest method.

There are certain localities, however, where an artificial evaporating plant is advisable to save fruit in a late or unfavorable season and others where it is a necessity in order to deal with the bulk of fruit to be cured.

The drying plant illustrated in this article belongs to the latter class, where apples only are considered at present, though there is no reason why the plant could not be adapted to other fruits as well. It has been installed by the owners for the purpose of dealing with their entire crop if necessary and with more even than they grow themselves.

In early days, when apples were dried in the open entirely, so many trays and so much ground space was necessary and the handling was so expensive that it cut a big hole in the profits of the growers, though many apples are still sun-dried. Then came the box evaporator, which is still in use and is a very efficient one. In fact, most of the small dryers are practically variations of the chambered dryer designed and patented by W. L. Parsons of Santa Clara county and which has been described already.

Hop kilns are being converted into fruit-evaporating houses.

Rodgers Brothers of Watsonville converted their hop-kiln into an apple dryer and used it last year. They, however, had considerable trouble with the furnaces, which were not large enough and would not stand up under the heat. Also the overhead room was insufficient to deal with the fruit as they desired to handle it. So this year they are building a new dryer, keeping the old one intact to be used in emergency.

NEW STANDARD PROCESS.

The new plant is the standard form of dryer used in western New York. It is 80 feet long by 38 feet wide and has two floors. The receiving (ground) floor is on a level with the unloading height of a truck and here the apples are pared and cored, after which the whole operation is automatic except the shoveling.

The waste is carried to the rear end of the building and dumped into receivers. This waste — parings, cores and trimmings—is sold to a vinegar works in Watsonville at $1.20 a ton at the ranch.

The cored and pared apples are conveyed on an elevator to the second floor, where they are run through the sulphuring chamber whole. This process takes 40 minutes and they are then sliced and placed on the drying floor from four to six inches deep and are left there for from four to six hours before being shoveled over. Sometimes they are shoveled over twice or even a third time, according to humidity of the outside atmosphere, but the complete drying takes about 12 hours in the kiln. The temperature is kept at 160 to 165 degrees Fahr. The dried fruit is then shoveled out into the cooling room and left in heaps for two or three days to equalize the moisture, being shoveled over if necessary, and they are then ready to pack. The press is in this room.

FURNACES AND FLOORS.

The furnaces are 12 feet long by 4½ feet wide and 4½ feet high, with 7 runs of 12-inch sheet-iron pipes running parallel about 4½ feet below the drying floor, in order to distribute the heat evenly. The draught is regulated below and above. Ray oil-burners are used.

The drying floors, of which there are four—one for each furnace—are 20 feet square. They are slatted with spruce strips 1 inch by ¾ inch, the narrow end resting on the joists, leaving a ¼-inch crack between each slat. This allows the heat to circulate through the cut fruit without danger of any slices being lost through the cracks.

The floor is scrubbed every few days and then slightly oiled to prevent the fruit from sticking on.

There is room in every department for dealing with the full drying capacity without overcrowding. This dryer will turn off an average of two tons of dried fruit per day. This means dealing with some 14 tons of green fruit each day, as it dries away about 7 to 1. The slicing machine will slice up 1000 boxes of apples a day.

MARKETING.

Carroll Rodgers, the manager, handles his entire crop, including the marketing of both green and dried fruit, and he is assisted by his brother, Marion Rodgers. Should apples go below $1 a box green, he dries them and is now equipped to dry his entire crop and more.

PRUNE EVAPORATION.

The few localities where prune evaporators are used are where conditions of climate or altitude or both make it safer for the grower to have access to one, even though he does not need to use it more than once in three years. In these localities, where the fruit does not mature so early because of great summer heat or any other condition, the harvest season runs into shortened days, moister nights and a less powerful sun, whereby the drying process is delayed to such an extent that early rains may cause quite a loss of fruit, and the same reason

(Continued on page 221.)

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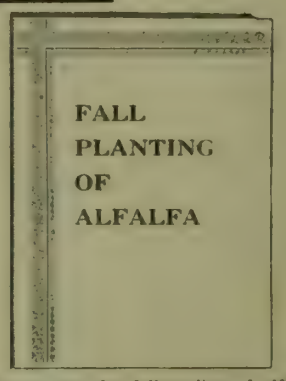

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Growers Operate Drier.

The West Side Fruit Growers' Association is operating a large drying establishment on Stevens Creek road, near Cupertino. It is offering specially attractive terms to association members only who desire to have their fruit drying done for them economically. Members of the California Prune and Apricot Growers' Association will avail themselves of this opportunity. This association expects to pay its members at least a 6c base on delivery for their prunes and possibly more if arrangements can be made to secure something on account from the Government.

Co-operation Pays.

E. A. Smith of Concord, member of the California Pear Growers' Association, sold his dried pears last week at 12½c a pound. Two days previously his neighbors had closed sales at 10½c and 11c. Mr. Smith kept closely in touch with the association by telephone, and when the price suddenly jumped he was advised. On his twenty tons of pears it made a difference of just $600—just one example of the benefits of organization.

Increased Freight Rates on Fruit.

Thousands of California fruit and vegetable producers are suffering losses as a result of increased freight and express rates. These rates have displaced the Western fruit and vegetable producers in the market east of the Mississippi river. They have been forced to market their product cheaper than formerly in order to compete with other fruit and vegetable producing territories, according to a complaint recently filed.

Wages for Almond and Grape Labor.

Wages fixed at Roseville by almond and grape growers provide for an eight-hour day and the following prices are reported: $2.50 and board, almond pickers; and $1.50 to $2 and board for hullers and sorters—the latter work being mostly done by women and girls. Grape growers are to give $2.50 a ton for picking wine grapes.

Expanding the Prune Market.

Some 50,000 acres of young prune orchards will be coming into bearing in the next few years, and for the first time in its history the prune market is being extended and established in new regions all over the world—not only to maintain a remunerative price for the present but to establish a stable outlet for a vastly increasing production.

Grape Driers Advance Rates.

Raisin-grape driers in Yuba City are reported to have announced that growers will be charged $70 a dry ton for drying grapes this season. The price in 1916 was $37.50 a ton. In 1917 it was raised to $42.50, and as a result of the new high scale some of the larger vineyardists are said to be installing their own drying plants.

California's Grape Industry.

One hundred and forty-eight thousand tons of grapes were crushed for dry wines and 200,000 for sweet wines in California during 1917. Five hundred thousand tons of fresh grapes were dried for raisins during the same period and 174,500 tons of table grapes were shipped from the State.

Peach Peeling Patent.

Various canning concerns in the State are affected by a suit filed in the United States District Court by Dunkley & Co. of Kalamazoo, Mich., who claim the patent rights to a peach-peeling machine and now seek to enjoin its use by certain firms named.

Prune Conditions in Sonoma County

(Continued from first page.)

strata of clay loam, sandy loam, gravel, etc., deposited in layers, and is well drained though hard to work because of the adobe surface. Over the whole 50 acres planted holes were dug 4 feet across and 4 feet deep—Mr. Seaton preferring the extra expense involved because, as he pointed out, this ground never gets dry enough to blast without creating a pot hole. The trees responded to this treatment to the extent shown in the accompanying photograph and the trees are of very even size for such a large orchard. When the trees were planted the holes were filled into with surface soil, giving the young roots a plentiful supply of readily assimilable plant food to start with. This year the crop will probably exceed four tons of dried prunes to the acre and it has cost about $100 an acre for props this year. The fruit looks as though it would average 60s. In addition to this remarkable crop, a goodly growth of new wood is evident. The trees are on the square, 28 feet apart, mostly French.

Cultivation is now carried on by the use of a tractor, which plows the ground to a depth of 7 inches, and whole place was subsoiled this year to a depth of 18 inches. The subsoiler made three deep breaks between every tree row and this will be crossed next year.

We noticed a force of men making up new trays to deal with this crop, which should gross somewhere in the neighborhood of $15,000 on an 8½c basis. The writer remembers 15 years ago that a number of prune orchards were ripped out in disgust. The base was about 1½c and growers were disgusted at not being able to scratch through. Of course, the high cost of labor naturally makes the present high price, but the united efforts of the associated growers will preserve an equable return based on cost of production as well as supply and demand as it has already cut the speculative element down.

EVAPORATION OF FRUITS AND VEGETABLES.

(Continued from page 220.)

may be applied to sections where pears are late in ripening. The pear industry is a growing one and there is still much waste that might be mitigated by the use of a small evaporator or even a community one.

CULTIVATING TASTE FOR DRIED FRUIT.

Our boys in France are not only going to learn how to like stewed dried fruits, they are going to ask for them when they return to their homes. The British, French and Italian soldiers also, who have never intimately known dried prunes, apricots, peaches and raisins as a dessert, will create a new market for our fruits in the remotest sections of their respective countries that must prove a big boost to the dried fruit business of California. We shall have to be prepared for it. We must not merely dry our fruit—we must cure it, taking pains to obtain the best color, flavor and texture possible. We must grade it so that our grades shall be reliable and our dryers and our methods of handling must be up to date to get the best quality at the least expense.

Under new methods not only delicious fruit but equally delicious vegetables will be available in a dried, easily stored form that will take a lot of labor from the shoulders of our women folk.

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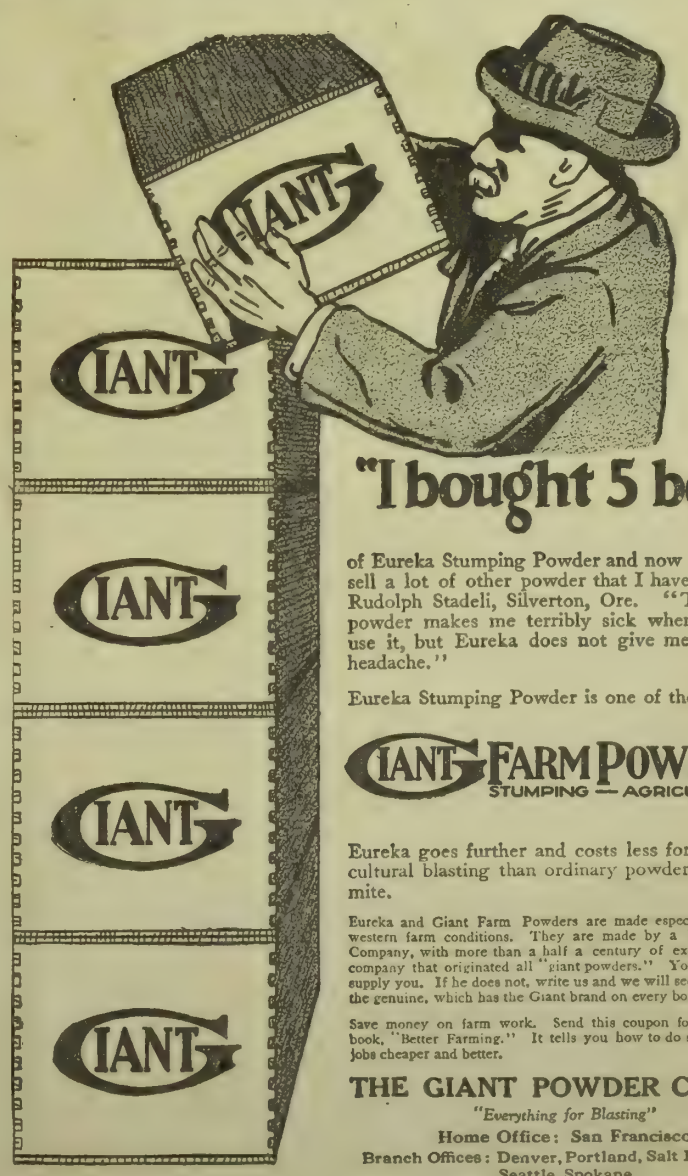

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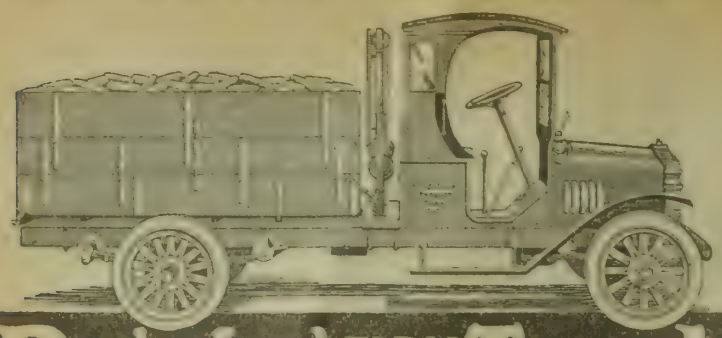

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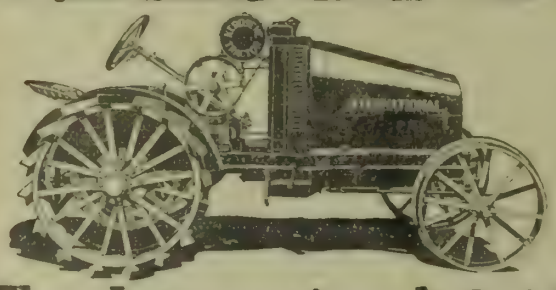

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The New International 8-16 has one reverse and three forward speeds: 1¾ and 2½ miles per hour for plowing, disking and other field work, and 4 miles per hour for road work and when traveling from one job to another.

You will like this tractor when you see it. When you run it you will like it better. When you find out how light your bills are for kerosene and for general upkeep you will like it best of all. Go to the dealer soon and see it or write us for information because it looks as though the demand for **International 8-16** tractors is going to be much heavier than we expected and we shall have to fill orders in their turn.

International Harvester Company of America

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201 POTRERO AVENUE, SAN FRANCISCO.

Woman's Land Army in the San Joaquin

[Written for Pacific Rural Press.]

What the women are doing throughout England and France is now being carried out in the rural fruit districts of California. Ralph D. Robertson, Farm Adviser of San Joaquin county, after setting forth at his various centers the results that were being obtained, visited the Vacaville camp and studied the whole system of its management and then reported to a mass meeting of grape growers and fruit men at Lodi. A committee of growers was appointed as a result of the report to go to Vacaville and observe the plan for themselves and to ascertain whether it would apply to their needs at Lodi. These gentlemen, to whose enterprise was due the successful consummation of the scheme, are W. D. Swim, W. H. Thompson and M. E. Angler.

They returned very favorably impressed and immediately set to work to obtain the co-operation of their brother growers to adopt the plan of installing a section of the Woman's Land Army to assist in harvesting the Lodi fruit and grapes, and it was decided to establish a camp completely equipped to care for 100 women and girls. This has since been extended for the accommodation of 150.

A CAMP SITE.

The City Trustees granted the farmers the privilege of using the municipal park as the most central and convenient place for the camp. It is now being constructed. The advantages of this site are many. It is well shaded with wide-spreading trees and is adjacent to the handsome and commodious municipal swimming baths, to which the workers will have access. It is also well lighted with electricity and the whole camp is being enclosed with a board fence to insure privacy.

WAYS AND MEANS.

After the camp was decided on, an estimate of the cost of installation was made, the farmers themselves backed the scheme and contributed to the cost, with the understanding that the expenses of the camp would be later apportioned among those farmers who benefited by the scheme. The enthusiasm amongst "doubters" was aroused that eight young ladies who had worked at Vacaville in the Woman's Land Army came over to work in the Frank H. Buck orchard of 560 acres at Acampo. Directly they arrived at the Buck orchard, they went to work with the ladders and buckets in such workmanlike manner that the Lodi growers are convinced of the practicability of the plan.

WAGES AND LIVING EXPENSES.

The present arrangement provides for the payment of about 25c an hour to beginners and 30c an hour to good pickers or packers for a 10-hour day. The girls who are volunteering for the work in this great movement are college girls, school teachers, stenographers, telephone girls, etc., who are not only keenly conscious of the importance to the country of the work they are undertaking but feel their health will improve and their muscles strengthen in thus taking part in "the great adventure" in which every citizen of the country is involved. Their faithful services will be required and augmented as long as we are at war. It is not the amount of money they can earn that brings these girls to the field any more than a private's pay makes a millionaire's son volunteer for the trenches. It is the fact that they are "doing their bit" for the country and its fighters that is the prime motive. Over 5,000,000 women are signed up for service in England for the duration of the war and we are making a good start to emulate the example of our great ally.

THE CAMP AT LODI

Stands on a space—all boarded in—measuring 200 feet square. Provision has been made for 75 huts, neatly built of wood, with tent tops. These are now in course of erection and will soon be completed. Each hut accommodates two girls—a cot on each side. The standard size is 8 feet by 10 feet by 6 feet high. The dining hall, under the trees, will be spacious and airy and its dimensions are 24 by 60 feet—enough to accommodate 200 if necessary.

The kitchen will be set to the south of the center of the dining hall—T shape—and is 24 by 30 feet in area, fitted with every convenience for barrack use.

The sanitary arrangements are very complete and convenient and include toilets, dressing rooms, shower baths, wash trays, etc.

There will be a regular rising-call, "setting-up" exercises and definite hours as in any other properly constituted army. Farmers wanting two, four or ten or any number of workers will call for them at the camp mornings and take them to the fields, bringing them back at night.

AMUSEMENT AND RECREATION.

We feel assured that our bright, energetic American girls of this class will organize their own musicales, swimming contests and other amusements in leisure hours under their own director, just as their brothers are doing in France. Under the conditions a friendly rivalry is engendered and competition becomes keen for excellence in work as well as in play.

The way in which our best women and girls have responded to their country's appeal for help in the harvest fields and elsewhere is an inspiration to the men folk and an added impetus to its productive capacity. These women and girls will help to curb the rapacity of certain of the foreign alien element in their demands for labor payment.

Next year these Land Army cantonments will doubtless be enlarged and extended more or less all over the State, for the end of the great conflict is not yet in sight. For this reason Lodi is likely to be visited during the grape season by committees of growers from other sections of the State.

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A "Time-Sales" Plan for Tractor Dealers

Food Will Win The War
Help Produce It!

By Prof. E. J. WICKSON
Editor Pacific Rural Press
(formerly Dean of the College of Agriculture, University of California)

Peace Only Through Victory
Win The Next War Now!

A plan for financing the purchase by farmers of tractors and other kinds of power farming machinery recently came to my attention, which it seems to me will be of great assistance in the present drive for greater production of food from our farms.

The plan referred to is that of the Western Farm Credit Company of San Francisco, and it is simply an adaptation to the farmer's requirements of the time-payment plans already widely used in selling automobiles, pianos and many other articles. The farmer using the plan selects the particular tractor or truck or thresher or feed chopper or other piece of machinery he is buying and pays a certain amount on the purchase in cash, giving to the dealer, by whom the sale is made, his note for the balance of the purchase price. The Western Farm Credit Company then takes this note over from the dealer and attends to the collection, giving the dealer the cash. The plan applies to all tested and approved makes of tractors, the Credit Company having no interest in any particular tractor. The necessary note and contract forms are provided free of cost by the Credit Company, which makes a small charge made for collecting and cashing the farmer's note.

The plan is of mutual helpfulness. It gives the farmer his machinery at once, enabling him to put it to work earning dividends for him while it is being paid for. It gives the dealer his cash, enabling him to keep his capital free for use in his business, and also enabling him to do a much larger business than would be possible if he sold only on an "all cash" basis.

This plan supplements and does not compete with the service rendered by the local banks. Banks are limited by law in the amount of money they can put out in any one class of investment, and while they have been giving much assistance to tractor buyers, they have not been able to meet the demand at all seasons of the year and still provide for the needs of their other customers. Furthermore, banks prefer short time loans, whereas a full twelve months or two season period seems necessary in buying tractors. Also, it has been proven advisable, in transactions of this kind, to divorce the financing and collecting features from the sales feature. "Getting the paper out of town" results in more harmonious relations for all parties.

All of us must give every possible assistance at this time to help win the war. We are told that food will do it, and tractors and other power machinery will help produce that food. With this plan in effect no responsible farmer need complain of the shortage of help. His local dealer, if at all patriotic, will meet him half way and help him to make use of the Western Farm Credit Company's plan and thus one more blow will be struck at the Kaiser and his Huns.

Information concerning the time-sales plan referred to by Prof. WICKSON will be gladly furnished on application to:

WESTERN FARM CREDIT COMPANY

NORTHWESTERN BANK BUILDING
Portland, Oregon

FIRST NATIONAL BANK BUILDING
San Francisco, California

FORSYTH BUILDING
Fresno, California

Advertisement paid for by WESTERN FARM CREDIT COMPANY

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Dried Vegetables Replace Fresh.

One New York restaurant recently ordered 1000 pounds of California dried spinach per month for ten months from the E. Clemens Horst Co., according to Frank George, who has general supervision of the vegetables. Eastern and Western hotels, restaurants, steamship lines, and householders are increasing their demand even in the season of growing vegetables. This is because the fresh vegetables in cities are not always so fresh, while you can almost taste the dew on the dried vegetables, as Mr. Horst says, because they often are cleaned and drying within two hours from the time they are pulled or picked. Labor scarcity increases demand for dried vegetables because they are already cleaned and ready for cooking, which avoids the need of much domestic labor. The light weight and lessened space required for transportation and storage are also advantageous over the dirty wilted fresh vegetables that would otherwise have to be used. The dried vegetables are put up in tight cartons, avoiding the excessive cost of tin plate, which is making canned vegetables expensive.

The Horst Co. is operating two driers in British Columbia and five in California. Their combined capacity is roughly over 300 tons of fresh vegetables per day, this varying according to the kind of vegetable. An experimental plant in San Francisco is trying every kind of suggestion on drying that may be proposed. Dried fish, meat, vegetables, and flowers are produced here.

A recent development is the grinding of various vegetables more or less finely for more convenient handling and quick cooking. At the Horst offices may be seen samples of ground carrots, green dried beans, green dried peas, celery, peanuts, potatoes, etc. Powdered soup is a step in advance of this, as mentioned in another article.

Grain Seedbed Irrigation.

The most successful way to prepare ground for grain in the Tulare Lake region is to plow dry as soon as grain is off, then irrigate and randall, then seed at the proper time, says S. G. McQuiston, a tractor driver of long experience here. If the ground is clean of weeds, it may be irrigated before plowing, since water is cheap and the extra evaporation by this system would be compensated by easier plowing. But if irrigated late in the fall, ground is likely to remain too wet to work until spring. The system of irrigation is to make great checks, many of them covering more than a square mile each. These are filled with water and it is likely to be a month before plow outfits can get on. One man began irrigating about October 1 and was unable to plant until March; while if he had irrigated a month or two earlier the grain would have been growing all winter.

Fertilizer Demand Active

Carlot market quotations on the plant foods in commercial fertilizers are now about $8 to $8.50 per unit for nitrogen (as ammonia), about $1 to $3 per unit for phosphoric acid, and about $6 per unit for potash, according to W. N. Liebler of the Hawaiian Fertilizer Co. A unit is 1 per cent of the total weight. If there are five units of nitrogen in a fertilizer, there will be 100 pounds of nitrogen per ton of fertilizer. There is a brisk demand for fertilizers, which will continue until spring, says Mr. Liebler. The Hawaiian Co. is keeping its factories in Honolulu and San Francisco busy night and day. Many progressive farmers are ordering ahead for spring delivery to insure having the fertilizer when it is wanted. Results of the applications last fall, winter and spring on potatoes, prunes, and other crops in various parts of the State have shown up well this season.

Beginning with Bees.

To the Editor: With sugar so scarce, I want to keep some bees for honey, but I don't know even how to start.—Subscriber.

[Manager W. B. Dickenson of the Apiary Department of the Diamond Match Co. says that honey production pays with extracted honey at 7c a pound, and that 21c is being offered for immediate delivery. He believes there will be a great boom. Prices in 1909 were the lowest ever, 2¾c per pound. Extracted honey has generally sold at 5c to 7c. A novice should either begin with a few colonies and increase as experience justifies expansion or obtain employment in a successful established apiary. Be sure that your employer is not one of those who are getting only one-fourth as much honey as they ought. When you know the business, you can go in as heavy as you wish.]

Save Burlap and Bags.

New burlap imported by the United States now costs about $150,000,000 annually, of which at least $100,000,000 is ultimately paid by American farmers for grain, feed, fertilizer, produce bags, etc., according to the U. S. Food Administration. Imports of burlap cloth by the United States normally average about 700,000,000 yards annually. Any waste of burlap or bags adds to the national demand, which causes an economic pressure for shipping from India. Saving burlap or bags will help save shipping to supply American armed forces abroad. Sell second-hand bags unpatched, as the manufacturers have special facilities for mending torn bags and they prefer to do it.

New Burbank Wheats.

Luther Burbank has been breeding, selecting, and fixing seed wheats for the past eleven years, the growth on his plots having been marvelous as seen by the writer. Last year he distributed small quantities to various ranchers and had baking tests made. The results have led him to put three varieties on the market this season. Comparisons with other wheats have shown two of them far excelling in yield the others of 68 varieties tested. One variety is white and has a hardness and weight "like granite."

San Joaquin Beans.

San Joaquin county's bean yield will be a little less than that of 1917, when almost double the normal acreage was planted, as reported by Farm Adviser Ralph D. Robertson. Last year part of the acreage, however, was not adapted to beans. Much of the decreased yield this season is laid to red spider and dry weather, since the acreage is about equal to that of last year.

Cheap Bean Bags.

Bean bags at 25¼c f. o. b. San Francisco for the 100-pound size and 20½c for the 80-pound size are being furnished by the California Bean Growers' Association of Stockton to its members. This is cost price; but there are only 100,000 of the larger size and 50,000 of the smaller ones, so first come first served.

Rye Grass Crowds Foxtail Out.

Where alfalfa has failed to come thick, W. P. Slusser of Sonoma county has found it very fine to sow Italian rye grass in the fall. It prevents foxtail and produces a fine quality of hay, which, thinks Mr. Slusser, gives butter a fine nutty flavor.

Watch for Registration Day

The President of the United States will soon announce by proclamation, a Registration Day to be held as early in September as possible.

More than 2,000,000 men are needed to put our army on a 5,000,000 men basis. 13,000,000 are expected to register.

Class one is nearly exhausted. This Class must be replenished from new registrants not later than October 1st.

Who must register:

All men from 18 to 20 years of age, inclusive and
All men from 32 to 45 years of age, inclusive, should watch closely for the President's Proclamation, definitely designating who must register.

Where you will register:

In the customary voting precincts in the jurisdiction of your Local Selective Service or at other points to be designated.

Sick and non-resident registrants:

These will be furnished cards by their Local Boards. The sick will be registered by persons deputized to do so. Non-residents may register by mail through the County or City Clerk of the place at which they are stopping. Special provision will be made for felons, persons awaiting trial and others confined in jails or institutions.

The Government of the United States asks your hearty co-operation with your Local Board in making the registration a complete 100% catalogue of every man of the ages to be announced in the President's Proclamation. Selection will take place later by the usual classification method.

The penalty for failure to register is one year imprisonment and NO man can exonerate himself by the payment of a fine.

UNITED STATES OF AMERICA WAR OFFICE

WATCH FOR REGISTRATION DAY!

Approved by
NEWTON D. BAKER
Secretary of War

E. H. CROWDER
Provost Marshal General
United States War Department

This space contributed for the Winning of the War by

PACIFIC RURAL PRESS

Fewer Men, More Food Production

[Written for Pacific Rural Press.]

Increased acreage farmed per man is one of the ways by which we can make up for our great losses of manpower. But because of the greater distance that must thus be traveled by man, beast, and implement, it may not be the most economical way to speed up food production with less manpower. Certainly it is not the only way. At least two others are open.

First and quite important is the diversion of farm acres and efforts from non-essential products to real food products. A list of non-essentials and of the less essentials would show up a lot of people who are making money because the Food Administration permits them to fritter away their time and acres on non-essentials while the world is hungry for real food. This may be excusable where their products are such as require a term of years to bring to profitable yield, provided there is reasonable hope that after the war such products will be in profitable permanent demand. But all non-essentials which do not fall in that class should be cut out at once in favor of products that will help win the war and keep the world from real hunger.

Of equal importance are less waste and greater production per acre of real foodstuff. It is proved by the experience of a limited number of your neighbors that certain practices and investments enable them to produce more per man and per acre than the average and to make a greater net profit per man and per acre. Reduction of waste work, waste land, and wasted products may well claim first attention. Then it will be worth while to turn to greater production per acre. Frequently greater production is merely a matter of timeliness of operations, with no increase in cost. Frequently a 10 per cent increase in investment brings a 20 per cent increase in profits. This is especially true with machinery and irrigation. Frequently increased production results from increased efficiency of workers due to decreased stomachage of certain non-essential products of the land which ought to be banned for this reason also. In all ways all who owe allegiance to America will seek and work and plan to avoid waste acres, efforts, and products and to increase production while manpower is decreasing.

Grain Growers' Organization

[Written for Pacific Rural Press.]

The Grain Growers' Association Committee on Permanent Organization met, August 22, with Market Director Weinstock and studied the advantages of stock and non-profit organizations as adapted to grain growing. In the afternoon they met at the University for further information, and afterward met alone to discuss their project. The committeemen present were Dr. W. H. Walker of Willows, temporary president of the association; G. H. Winton of Livingston, W. G. Hill of El Centro, J. L. Davis of Madera, R. S. Seydel of Lincoln, Elmer Sisson of Red Bluff, Martin Kuster of Wheatland, J. H. Harlan of Woodland, and A. E. Lindstrom of Orland. It has been pointed out that while most California organizations handle crops of which California has a near-monopoly, the grain growers will be competing with the world and may need affiliation with a national organization of the same nature. In their private meeting, the committee voted 4 to 4 on the general proposition of a stock corporation form of organization such as the raisin, prune, and peach growers, or a non-profit form such as the orange, almond, and walnut growers have. They have taken tentative forms of both kinds of organization back to their counties for further conference with grain growers and will meet again in Sacramento, September 6, to formulate their recommendation to the general grain growers' association which will meet in Sacramento, September 7. All members of the committee want letters or visits from grain growers promptly, stating points that should be included in the organization.

Bean Growers at Farmers' Convention

[Written for Pacific Rural Press.]

A nation-wide conference of farmers will have been held August 27 to 29 in Washington at the request of the Federal Board of Farm Organizations. The delegates will represent large organizations from all over the Union. They will give the Government the fullest assurances of the farmers' determination to produce the food that is to win the war, and they will in return request assurance that in all matters of price fixing they will have a voice, as well as the middleman. President George A. Turner of the California Bean Growers' Association has been asked to address the conference. He says in part: "California produces about half of the beans grown in the entire United States and we were this year urged to plant freely in order that our army and navy and those of the allies might have plenty of beans. While we were not enthusiastic about the prices then being offered, and although we had to face a labor shortage, we planted beans as we never planted them before. This was fortunate; for 1918 is not a good bean year and production per acre will fall below that of 1917. However, the increased acreage will probably balance the short yield. Our organization includes about 1000 growers, representing millions of dollars of invested capital, and we naturally feel that the Government should consult us when it seeks to arrive at a fair price for the 1918 crop."

Truckee-Carson (Nev.) Project Booming

[Written for Pacific Rural Press by D. L. Schrader.]

The Truckee-Carson project appears to the writer to be in the most favorable condition of any district of California or Nevada. Five years ago there were but half a dozen autos in the colony. Now it is safe to say that 75 per cent have already advanced beyond the Ford stage. Payments on the land are being promptly met and everyone seems to think he is past the hardest pull. Late in August the second cutting of alfalfa was yielding two tons per acre on many ranches. The first cutting was still heavier generally. Most of the hay was contracted early in the season at $14 to $17 in the stack, but $20 to $22 is being offered, and baled hay is selling for $27 f. o. b. shipping point. Having Lake Tahoe as their source of irrigation, water is plentiful. Very little grain is grown in the Fernley or Fallon districts, but a large acreage is being harvested in the Stillwater and Carson Lake sections. Wheat is running a ton to the acre in most places. Barley and oats are doing well, too. Some barley has been sold for $45 per ton f. o. b. Fallon. No sugar beets were planted on account of the labor situation. A large acreage grown last year yielded too little on account of lack of labor.

Drainage is still quite a problem, but the Government is doing good work in some places and there is a movement on foot to bond the project and make a thorough job of drainage.

Samson

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Model S-25

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The GMC SAMSON SIEVE-GRIP TRACTOR, during its many years of service, has firmly established a record for strength, durability and economy, combined with great simplicity of construction and operation.

It performs the work of ten horses and does it better, more economically and quicker, in fair weather or foul, day in and day out.

We are sure the GMC SAMSON SIEVE-GRIP TRACTOR will please you. Ask the man who owns one or write for our booklet, "Better Farming."

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LAND OPENING!

About 17,000 acres of very rich land has just been placed under irrigation and will be opened for sale after September 15. This land will produce two big grain crops each year and will raise a bale of cotton or seven cuttings of alfalfa per acre each year. Land will be sold for $65 per acre on long time payments. Write or call for highly illustrated book showing photographs and giving full information.

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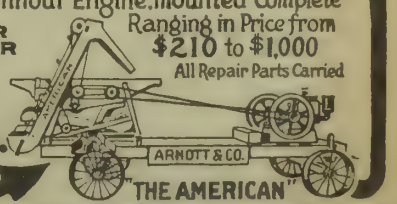

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Grain Roots Forage Six Feet Deep

[Written for Pacific Rural Press by R. E. Hodges.]

About 450 pounds of water are taken up by a grain plant in California to produce one pound of dry grain and straw where the soil is rich enough so the water taken up by plants is pretty well saturated with plant food. Where the soil is not so rich, more water is required per pound of dry matter produced in the plant. This is equal to about four acre-inches of water per ton of grain and straw produced. This much water must actually pass through the grain plants. It does not include evaporation or water that drains downward beyond reach of the roots or runs off by surface drainage. Evaporation from cultivated sandy loam planted to corn at the Utah Agricultural College nearly equalled the transpiration (water which passes through the plants); and evaporation from uncultivated soil was nearly twice the transpiration. These ratios would vary widely with soil and the character of preparation and cultivation, but are worth while to start from. It is apparent that to get a maximum crop of barley, for instance, about four acre-inches per ton of grain and straw produced must be supplied to the roots in addition to enough to compensate for evaporation. Enough water should be put into the soil for these purposes; but any excess is not only useless for crop production, but is likely to be injurious either by expelling necessary air from the soil or by carrying fertility downward or away beyond reach of the roots.

Where physical and moisture conditions of soil are right, annual plants and cereals go six or eight feet below the surface and use the plant food as well as the moisture stored there.

There are subirrigated grain lands in California, there are irrigated grain lands, and there are grain lands where there is enough rainfall every ordinary year to raise a full crop of grain. But the greatest proportion of grain acreage is under conditions where all rainfall must be carefully husbanded to secure maximum crops.

WATER IS LIMITING FACTOR.

The plowsole of California grain land, with the exception of adobe, is notorious. Its sinister effect on the hunger of the world is many sided. Its very hardness prevents storage of moisture in that six or eight feet of soil where the roots might forage. It prevents access of air to enable bacteria to make the plant food in that subsoil soluble in the water required to carry it to the right place in grain plants. It spreads the roots sidewise to form a network in the surface three or four inches of soil where similar roots have been feeding and leaving more or less poisonous by-products for half a century. The roots cannot go where adequate moisture is lacking. The limiting factor in grain crop production is not rainfall nor fertility, but inadequate soil moisture largely due to plowsole. Not to plowsole alone, however, for continuous cropping without return of organic matter to the soil has all over California reduced the humus content. With humus gone, soil runs together when it gets wet and results in a more or less waterproof condition of surface soil also, which causes rainfall to run off by surface drainage. The soil cannot absorb and hold half the water it could if well filled with humus. More humus then is desirable for production of good crops on old grain ranches. But it is said by grain growers that they cannot plow straw under for humus because it will not rot. That trouble can only be removed by plowing deep enough to cover the straw in moist earth. But this addition to humus is not generally available in 1918 on account of the demand for straw for feed and bedding.

RESERVOIR THE RAINFALL.

The same remedy will knock out the plowpan, provide a deep soil reservoir to hold moisture for the biggest kind of a crop, open that subsoil to air and the work of bacteria, and permit grain roots to range in a new country long since discovered by their ancestors but locked against succeeding crops by the plowsole. Figure what this means. If barley can still produce 15 sacks per acre in four inches of wornout soil, can it produce more when its roots forage in 64 inches of soil that has been protected from them by plowsole these many years? If the moisture that can be stored in four inches of surface soil exposed to evaporation can mature a fair crop of grain, could the moisture in five or six feet supply a thicker stand producing heavier straw and bigger heads?

DEEP PLOWING OR SUBSOILING.

Two ways are possible to apply this remedy for plowpan. Deep plowing by tractor before the rains and afterward, leaving the land rough to catch and hold the rains until just before seeding time, is one way. It is not immediately a good way where the subsoil is worse than the surface soil in physical condition, humus, or possible fertility. Where plowpan is broken and mixed with surface soil by deep plowing, there may be even a decreased crop because it takes a year or two to soften, and meanwhile it prevents the compacting of soil enough to keep it from drying into clods. With deep plowing, some means of compacting the soil before seeding will prove necessary. This may be by rain if there is enough of it and enough time before seeding, or it may be by compacting implements, of which there are several on the market.

But the plowsole may be broken and the subsoil opened to air, bacteria, moisture, and plant roots without mixing any of it with the surface soil, which must be fine and supplied with available plant food in order to give the seedlings a start. Subsoiling has proved the means of doubling grain crops the past season on many fields in California, not only where plowpan existed but also in the adobe rice fields planted to grain on account of weeds.

BIRDS TOOK PEA SEEDLINGS.

Because garden peas did not come up when they should, W. A. Reubold of the California Seed Co. thought the seed was bad. But before complaining, he dug up some of them. They had all sprouted, but where they came through the ground, birds had picked them off in the morning before Mr. Reubold looked at them. Some people prevent this trouble by laying mosquito netting over the seedbed. Some blame the seedsman.

J. A. Bunting of Mission San Jose sold 250 tons of red oat hay for $25.50 f. o. b. Irvington. He also sold 100 tons of wild oat hay for $20 per ton.

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$1600 f. o. b. Los Angeles

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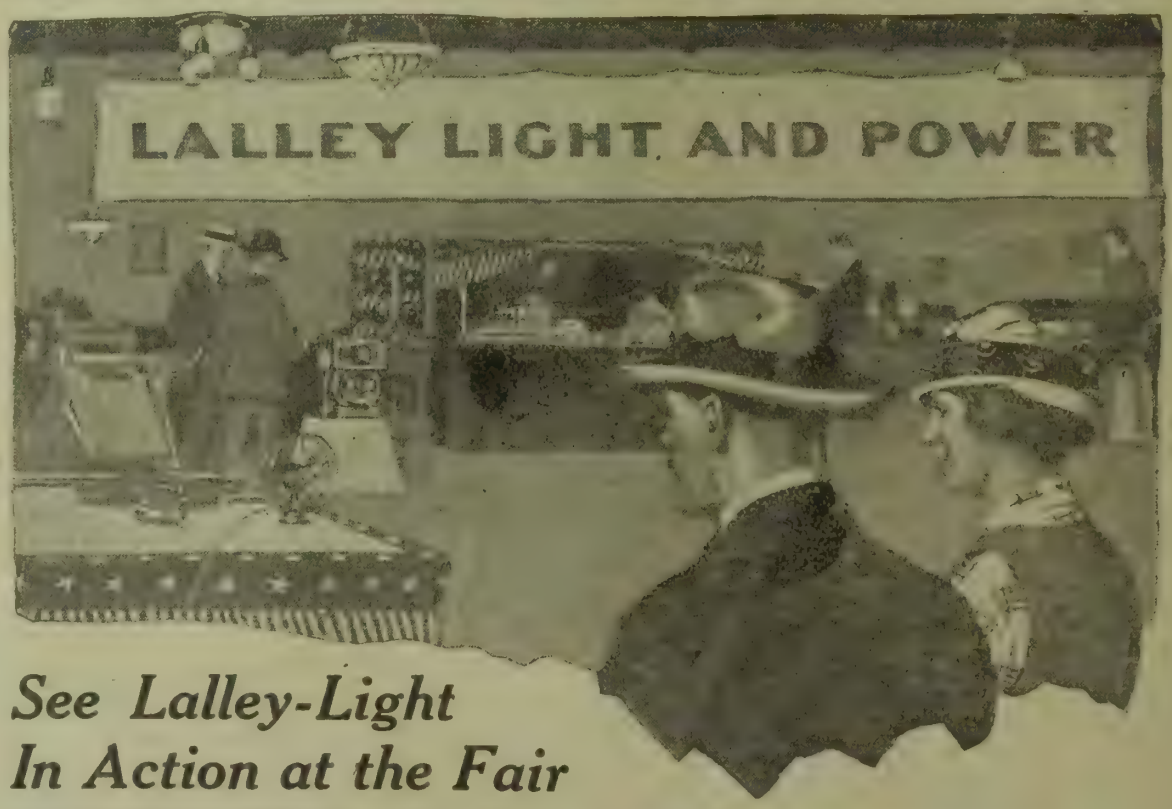

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In Action at the Fair

Lalley-Light will be exhibited, and in operation, at most of the county and state fairs this fall.

We ask you to note particularly the way it runs, and the character of the electric light and power it produces.

If you will do this, we count on the plant itself to convince you of the superiority it has proven in eight years of every day farm use.

You probably will be impressed, first, with its extremely smooth running; and the fact that a low hum is all you hear when it is running.

You will see that the electric lights are strong and steady all the time—without even a suggestion of a flicker.

You will observe, also, the same steady flow of power to the electrical machines which may be exhibited.

The men in charge will explain that Lalley-Light furnishes light and power from two sources—the storage battery; and the generator, independently of the battery.

That means with Lalley-Light you are doubly sure of having light and power.

Even if you are not of a mechanical turn, you can't help admiring the unusual simplicity of the plant, and its very compact design.

We urge you to study Lalley-Light, because it points the way to a great saving of farm labor and an equal increase of comforts and conveniences on the farm.

Next year the farmer's need for Lalley-Light's reliable, economical power and light will be even greater than this year.

You should prepare now to meet that need.

If Lalley-Light should not be displayed at your home fair, write to us for details and name of the nearest Lalley-Light merchant.

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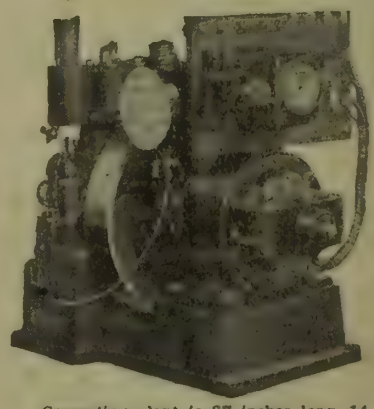

Generating plant is 27 inches long, 14 inches wide, 21 inches high. Storage battery is included in complete outfit.

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Agricultural Notes

Many pear growers around Lakeport and Kelseyville are drying their own pears.

Canada's wheat crop is estimated to be one and three-quarters millions bushels less than last year.

The sales of table grapes and deciduous fruits jointly bid fair to reach a total this season of about $70,000,000.

The Pioneer Fruit Company plans the erecting of a packing plant in Healdsburg previous to next year's packing season.

The corn crop about Lakeport is good and anyone who likes roasting ears can find especial delight in making a hog of himself.

Manteca sugar beet growers sold their beet tops at $3 per acre last year, the yield being about 10 tons per acre, according to W. J. Woodward.

The Government estimate of the commercial apple crop for the United States is 24,285,000 barrels. The same crop for last year was 22,419,000 barrels.

Fallon, Nevada, is to have an agricultural short course, September 2 and 3, to hear and discuss lectures on soils, dairying, livestock, alfalfa, fruit, potatoes, poultry, packing and marketing of fruits and vegetables, home canning and bread making.

In 1912 the raisin pack of California amounted to about 95,000 tons. A conservative estimate places the production this year at about 175,000 tons.

Large quantities of Fresno county wine grapes have been bought at prices ranging from $25 to $35 a ton for Eastern shipment. Earlier in the season buying was done on a $22 a ton basis.

The apiary department of the Diamond Match Co. was organized only four years ago, but is now the fourth largest bee supply manufacturing plant in the world, according to the Chico Record.

In spite of the dry season, a big wheat crop is being bound in Carson Valley, Nevada. Some of it yields as high as 25 sacks per acre. Barley was planted too late in most places and is yielding light.

Plans for the year-round operation of the plant of the California Associated Olive Growers, Inc., at Oroville, under lease to the Pacific Packing Corporation of Boston and New York, have been announced.

Spain has authorized, in addition to special permits previously granted, the exportation until the end of the current year of 20,000,000 kilos of olive oil, one-half of which shall be allotted to North and South America.

This is the dryest year that Carson Valley, Nevada, has seen for many years. It is estimated that the alfalfa and wild hay crop will be 25,000 tons less than last year. Surely this will be no place to dispose of California feeder cattle.

The sugar factory is running full capacity at Manteca, and the quality of beets is reported very good.

Four hundred and thirty-four sacks of barley on 12 acres; 313 sacks of oats on 10½ acres are reported by A. Raymo, manager of Brae Bourne ranch, Santa Rosa, as an example of good soil and proper cultivation.

Early & Hart of Imperial county have ginned their first picking of volunteer short-staple cotton. Seven bales were sold at 30c and four bales at 32¼c. About 12 acres of the 35-acre field are estimated to have two bales per acre.

M. Burleson, a cousin of Albert Sidney Burleson, Postmaster General, has purchased the R. W. Elmiston ranch of 160 acres near Sanger. The vineyard is one of the finest in the country. The consideration was $80,000.

HOME-MADE SYRUP FROM BEETS

To the Editor: Can you give me a receipt for extracting the juice out of sugar beets to make syrup for home use?—R. D., Aptos.

[In making syrup the topped beets are cleaned by soaking a few minutes, then scrubbing with a coarse, stiff brush. The next step is to cut them into slices as thin as one-sixteenth of an inch if possible. A butcher knife may be used, but a kraut cutter or some other slicing device is easier. The sliced beets are placed in a tight barrel and just enough hot water to cover them—boiling water, if possible—is poured in at once. The barrel is then covered with several thicknesses of canvas to hold the heat. The sliced beets are allowed to soak for about 60 minutes. The barrel is agitated from time to time without being uncovered. The process brings out the sugar from the beets. The liquid is then drawn off, strained through several thicknesses of cheesecloth, and placed in a kettle or other vessel, in which it is boiled slowly until it has evaporated down to the thickness desired. It is important that the boiling be slow and the process will take several hours. The work may be done out of doors if desired. Care should be taken not to scorch the syrup. The scum which rises to the surface of the liquid is skimmed off, to remove the strong, beet-like flavor. The syrup is bottled or canned while hot and sealed to prevent molding. It is dark in color, but has a pleasant flavor. A bushel of beets will produce three to five quarts of syrup.]

Gardner's Bean Harvester

meets the requirements of the rancher and is within easy reach of all.
Ask your dealer about it, or send direct to factory.

Gardner Harvester Co.
902 E. Fourth St., Santa Ana, Cal.

The Big Third Annual Tractor Demonstration

Begins September 17th

Five full days of intensely interesting features are scheduled. There'll be a special program every day of the mammoth meet---some event of vital interest to the food producer will be taking place every minute of the day. This will be positively the biggest exhibition of modern farm machinery, tractors, implements and ranch necessities ever arranged.

Exhibition Tents will cover 60 Acres
One Million Dollar Exhibition
150,000 Visitors Expected

YOUR DUTY

is to attend this important Demonstration so that you can become familiar with every late development of modern ranch equipment.

THE DATES--September 17, 18, 19, 20, 21

THE PLACE--Whittier Boulevard--Half mile east of Los Angeles city limits

No Admission **Free Auto Parking**

Plenty to eat at the Restaurant——Quick service——Moderate Prices

TRACTION ENGINE & IMPLEMENT DEALERS ASSOCIATION

of Southern California

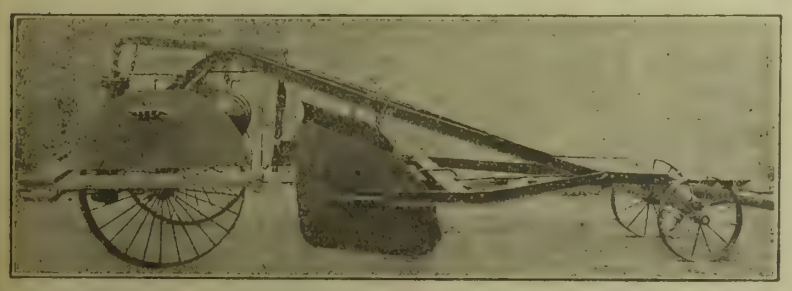
220 H. W. HELLMAN BUILDING, LOS ANGELES

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

of the "Giant" Type

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth-moving machines.

Schmeiser Manufacturing Co.

12 Mechanic Street DAVIS, CAL.

Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

LARGEST STOCK IN AMERICA
Decomposed.

Sheep-MANURES-Steer

Concentrated
In Perfect Mechanical Condition

Because of the shortage of manures in this territory it will be well to consider NOW your fertilizer requirements for the next twelve months. More carefully handled and prepared than other manures. From highest nitrogenous feed.

Steer Analysis		Sheep Analysis	
Available Nitrogen	1.58 to 1.75%	Available Nitrogen	1.75 to 2.00%
" Phosphoric Acid	.86 to 1.20%	" Phosphoric Acid	1.12 to 1.29%
" Water Soluble Potash	3.48 to 3.92%	" Water Soluble Potash	3.62 to 3.88%
" Humus	5.07 to 5.70%	" Humus	7.42 to 8.12%

Highest in organic, and free from foreign matter. Shipped commercial dry basis.—Saves four-fifths labor in application. Write for price and particulars today to insure prompt delivery.

CALIVADA FERTILIZER COMPANY
423 Citizens National Bank Building, Los Angeles, California. Phone 65613.

YOUNG MAN IT'S UP TO YOU TO MAKE YOURSELF BUILD YOUR FUTURE SUCCESS NOW

The demand of THIS AGE is mechanical skill. PERFECT YOURSELF NOW for that BIG PAY which demand makes possible. Learn Tractioneering, Automobiling, Repairing, Ignition, Self-Starters, Acetylene Welding, Vulcanizing, Machinist Trade in Western America's Oldest, Largest and Most Reliable Mechanical Trade School. Established 1905. Over 5,000 graduates. Write today for BIG 64-PAGE CATALOG, which may mean much to you. NATIONAL AUTOMOTIVE SCHOOL, Figueroa at 8th, Los Angeles.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

RELIEVING ELECTRIC SCARCITY

[Written for Pacific Rural Press by R. E. Hodges.]

Mountain water to run electric power plants of Northern and Central California became so scarce early in June that the situation was critical. The season had been dry. People who generally depended on gravity water had to pump. People who had depended on wells found the water-level lowered so it required more power to raise water to the surface. People who had never before irrigated installed pumps and many of them called for electric power. Irrigation alone took 10,000,000 kilowatt hours in May and increased to 15,000,000 during the summer months. No other user of electric power required more except the street and interurban railways, which, combined, used 21,000,000 kilowatt hours per month.

But there were people who could not get power, while there was a considerable waste of water that might have generated electricity in plants that were idle part of the time. For instance, one company might have three power plants under one reservoir, each using the same water that had run a plant above it. But at times only one or two of the plants would be needed to supply electricity required by that company's patrons. At the same time, another company might be unable to supply its patrons all they needed and crops were endangered.

To remedy such a situation and to protect war industries, the power companies pooled their resources in co-operation with Federal authorities and put it up to the Railroad Commission of California to work out the best combination of their resources and to make the mountain water last as long as possible. To handle this job H. G. Butler was on June 15 appointed State Power Administrator for all of California north of a line running northeast roughly through King City and a point eight miles north of Merced, thence to the summit of the Sierras. Five or six power companies operate in this section and the California-Oregon Power Co., operating also in southern Oregon, will join the others about October 1.

All of these systems have been connected so electricity from any of them may be sent via any other line if necessary to any district where a heavy load is demanded. Use of electricity has been curtailed in several ways; so by these two means it is hoped that the water supply may last until nearly time for the rains. Meanwhile every steam plant for production of electricity is running full blast day and night.

As irrigation is essential, it is hoped that use of electricity for this purpose will not have to be curtailed. Interurban trains have been reduced, street railways are skipping some of their former stops, street lights are being reduced to the minimum of public safety, one-third of the power used by gold dredgers has just been voluntarily relinquished, cement plants' power has been cut in half, and the patriotic breweries, running a food-destruction, labor-destruction business, have given up half of their power.

As the demand for electric current is less at night than in daytime, all irrigators who can are urged to pump at night and lighten their requirements during the daylight hours.

HOME-MADE SUDAN THRESHER.

To the Editor: As I have seen many valuable suggestions in your paper, I offer my experience threshing Sudan grass. My son had a small patch and no way to thresh it. We put an old 1½-inch mower shaft through a wooden block 13 inches long and 14 inches in diameter. Two ⅜-inch holes had been bored through the block crosswise of it. Holes to match were drilled through the shaft so that pieces of hayrake teeth driven through them would lock the block to the shaft. We set four 7-foot posts 4 feet in the ground in a 2x4-foot rectangle and bolted two 4x6's 4 feet long horizontally on top of them, level both ways and parallel about two feet apart. On the 4x6's we put boxings made by hollowing out pieces of 2x4 6 inches long. The block and shaft were supported in the boxings and babbit poured around the shaft. We put a 6-inch pulley wheel on the shaft and belted it to a 12-inch wheel on a gas engine. With the block rotating, there was no trouble to make it round with a wood chisel. We marked thirteen circles around the block nearly an inch apart and divided each circle into nine parts. Heads were cut from 60-penny nails, which were driven into the block in alternate circles, with the points out, so there were nine rows of nails running lengthwise of the block. In alternate rows we had seven spikes; in the others, only six, which were in the alternate circles. They were then curved like any threshing teeth. This made a threshing machine cylinder 13 inches long, 14 inches in diameter, with nine rows of teeth corresponding to those on cylinder bars. A groove around each end was wrapped with 12 or 15 rounds of baling wire so it would not burst. Then we put in four rows of concave teeth and put a top over the contrivance. Looks like an old chaff piler of fifty years ago, when Dad threshed wheat with a flail, but it beats the flail. We threshed 2130 pounds of Sudan in two and a half hours and did as clean a job as anybody, only we had to clean the seed in a fanning mill. After threshing the Sudan we put the big pulley on the cylinder and the little one on the engine and threshed 350 pounds of beans in twenty minutes, and you could hardly find one cracked bean.—J. W. Richman, Gilroy.

AUTO TRUCKS FOR BULK GRAIN.

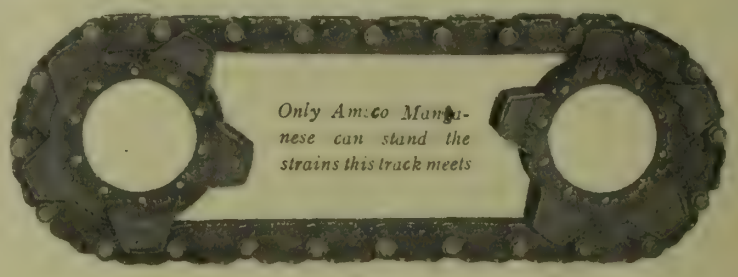
Hauling bulk grain from three combined harvesters in the field five miles to the elevator, Andrew Kaiser of Glenn county is using ten wagons and a motor truck. All are fitted with hopper-bottomed bodies. Eight of the wagons are run in pairs with one driver and six horses per pair. Two are pulled singly by four light horses or brood mares each. Bins on the harvesters hold somewhat over two tons when full, and each wagon has equal capacity. The truck holds about seven tons of grain, according to its driver. It is a simple matter to drive up to a harvester when its bin is full, pull a slide and let the grain shoot into the truck body—except that it does not shoot very well because the top of the truck body is eight feet above the ground—too high to permit enough slope from the harvester bin. The truck, operated by one man, hauls as much grain as three or four wagons and makes twice as great speed on the road. It makes the round trip in about an hour. It dumps much faster than three or four wagons. The truck driver can deliver about four times as much grain as any other driver; but at noon he doesn't have to feed a bushel of good grain to his machine. Similar comparative experience on a larger scale last year by Moreing Bros. of Sacramento county led to the use of trucks only, during the present season. That is another story.

One of the first pumping plants to be installed in Carson Valley, Nevada, is saving feed and livestock for the Dangberg Co. of Minden, who run 20,000 sheep and 10,000 beef cattle. They are short about 3000 tons of hay, but are saving a lot by running a centrifugal pump with a Yuba tractor for irrigation.

The One Enduring Metal for Crawler Tractors

THE track of a Crawler type tractor meets gruelling service. It must be constructed of wear-defying metal. Otherwise, you have constant repair bills and loss from an idle tractor during the busy season.

"Amsco" Manganese steel is as superior to carbon or alloy as hickory is to the soft pine. It increases tractor durability by giving you a track that practically defies wear. It is the most satisfactory metal that has ever been discovered.



"Amsco" Manganese Steel Is Found on Leading Crawler Type Tractors

Tractor makers are fast adopting "Amsco" Manganese. It is proof against abrasion and friction and when used as track metal it stands the wear of constant rubbing against the soil.

Tractor Parts That Should Be Made of Amsco Wear-Defying Steel

"Amsco" is the "Steel of Endurance" for

Shoes	Links	Pins
Grousers	Rollers	Lags
Spacing Blocks	Sprockets	Chains

Transmission Gears

In Wheel Tractors it is the metal for bull gears, pinions, sprockets and transmission gears.

See "Amsco" at Sacramento and Los Angeles

Many "Amsco" equipped tractors will be exhibited at the Sacramento and Los Angeles demonstrations. You will find these tractors among the leaders in each class and price. May we not mail you new issue of "Amsco Tractor Parts Bulletin"?

AMERICAN MANGANESE STEEL COMPANY
McCormick Building, Chicago, Ill.

Tractors equipped with "AMSCO" parts are on sale by the following dealers:

W. L. CLEVELAND CO. (MONARCH TRACTORS)

C. L. BEST GAS TRACTION CO.
YUBA CONSTRUCTION CO.

AMSCO
WEAR-DEFYING STEEL

GREATEST MACHINE AND TRACTOR EXHIBIT.

Three hundred and fifty acres are devoted to the Los Angeles tractor demonstration which is to take place September 17 to 21. For the public demonstrations, in which every one of more than 50 tractors will plow at the same time for an hour each afternoon, the amount of land assigned for each tractor is allotted in proportion to the manufacturers' drawbar horsepower rating. Individual demonstrations will be in progress from 8 a. m. to 5 p. m., except at noon and during the public demonstrations.

The greatest farm machinery exhibit ever staged in California will be shown on 60 acres in connection with the tractor demonstration. Besides all of the members of the Traction Engine and Implement Dealers' Association of Southern California, about 100 firms will exhibit equipment of every kind for Western farming. It pays to keep up to date and no place or event can equal the Los Angeles demonstration for this purpose.

NILSON ROLLER-WHEEL TRACTOR.

A five-wheeled tractor newly on the California market has three rear drive wheels placed roller fashion so they bear least pressure per square inch on the ground yet give greatest traction surface for a wheel tractor. It is the Nilson, made in Minneapolis and handled in California by D. A. Linthicum of Stockton. The seat is between engine and rear wheel. Its Waukesha motor develops 30 hp. About 40 of these machines are working in the Turlock and Porterville districts and one is expected to be shown at the State Fair.

DAUCH MANUFACTURING HEAD KILLED.

The automobile driver looked back to see if a trolley car was approaching. The left wheels of the machine ran into a shallow ditch. Trying to swing back and avoid a telephone pole, the automobile swerved so sharply that it overturned. J. J. Dauch, president of the Dauch Manufacturing Co., and the driver were both killed. The manufacture of Sandusky tractors will be continued along the lines Mr. Dauch so successfully built up.

POWER NOTES.

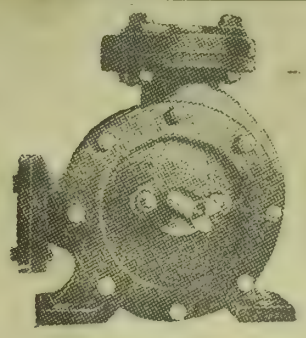
Tool sheds haven't risen in price nearly so fast as farm machinery.

Alfalfa was disked and sowed to barley after the first rain on Aaron & Brown's ranch in Sutter county to provide early green feed or hay and to crowd out weeds from first-crop alfalfa.

The Holt Manufacturing Company of Stockton is working its immense Caterpillar plant in that city day and night, employing 2200 men. Only two sizes of tractors are being made, the 75 and the 45.

The Pacific Gas and Electric Co. has asked the State Railroad Commission to investigate the fares charged on their forty-four miles of street railway in Sacramento and make new rates that will yield a fair return on investment. The lines are valued at $2,057,981, on which last year the net revenue was $63,941 to cover depreciation and return on investment.

IRRIGATION PUMPS



"Piatt's Wonder Pumps"

Grand Gold Medal Awarded, California State Fair, September, 1916.

WILL PUMP WATER AND AIR AT THE SAME TIME—NEEDS NO PRIMING

Any kind of power may be used, which is an advantage in many cases. It weighs less than any other pump, and takes up less room. It is wonderfully elastic in operation. Will pump either a large or small amount of water without decreasing speed.

PIATT'S WONDER PUMP is the most economical pump manufactured for irrigation purposes.

Write for catalogue and prices.
Immediate delivery guaranteed.

CONSULT US REGARDING YOUR PUMPING PROBLEMS

Jackson Rotary Pump Co.

329 HOLBROOK BUILDING

San Francisco :: California

WHEN YOU BUY AN AVERY, YOU BUY

the most Actual Horse Power—at one third less first cost—and one-tenth the expense of upkeep

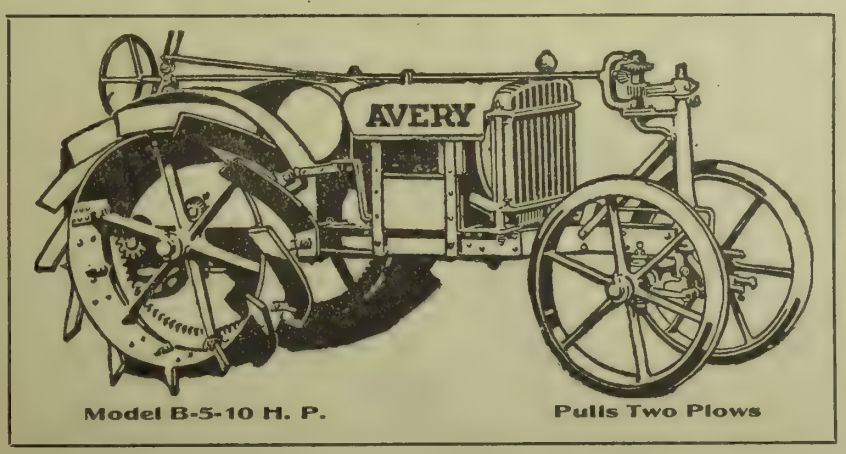
Price $650, delivered

Four cylinders
Selective, gear drive
3-speed transmission

Plowing speed and direct drive on INTERMEDIATE, 2⅛ miles per hour

Low speed for difficult work

High speed for road 4½ miles per hour



Model B-5-10 H. P. Pulls Two Plows

Hyatt Roller Bearings thruout

Motor and transmission entirely inclosed

Seat in rear and adjustable to center or either side

Low, Short, Narrow, Durable

AVERY TRACTORS ARE FULLY GUARANTEED *READ SPECIFICATIONS*

Be Sure to See This Wonderful Little Tractor At The State Fair--Sacramento--Aug. 31-Sept. 8th

F. H. Poss Company

67-69 Beale St. San Francisco, Cal.

Proper Methods of Milking

[Written for Pacific Rural Press by R. H. Whitten.]

HOW CAN we make a cow let down her milk? We treat her gently, and she has great capacity."

This question from a subscriber was recently published under our "Veterinary Queries" and readers were invited to answer. No suggestions have been received, so I want to take a whack at this subject, not so much to prescribe a remedy for the trouble in this particular case as to give the proper methods of milking, which, if followed, will prevent cows from forming such bad habits.

An advertisement recently appeared in The Dairy, a paper published in London. It was headed "The Artificial Cow Udder," and readers were told that the advertiser had invented an udder of canvas with soft rubber teats. The canvas was filled with water, and the operator sat down to it and "really" learned how to milk. The ad also stated that no person could milk successfully without training the hand and arm, and that this method responded to and demanded exactly the same movements from the hand as the natural udder of the cow.

Think what a wonderful invention this is! Think of the far-reaching benefits to the dairyman! No longer need he worry about the shortage of experienced milkers; no longer need he have good cows spoiled by beginners. When a milker leaves he merely needs to send to the city and get one of these carefully trained operators, who, although he may never have seen a live cow before, will take hold like an old-timer—yes, even better, for he'll do it the scientific way, with just the proper hand and arm movements.

Sounds great, but let us hope that the contrivance will never come across the ocean. For the one who treats a cow as a mere machine, instead of a highly organized living mechanism for the conversion of feed into milk, is not going to get the flow of milk that should result from all of his hand and arm movements.

MOTHERHOOD THE BASIS OF MILK PRODUCTION.

Too few dairy-farmers recognize the basis of milk production—the motherhood of the animal furnishing the milk. The giving of milk, beyond that required by the calf for a few months, is purely an artificial function, and only to the extent that a milker can take the place of a calf in the affection of the cow will she reward him at milking time. She has it within her power to retaliate against any unkind treatment by withholding her milk, and no matter if every movement of the milker is made exactly according to his instruction book, she will not do her best unless he understands her nature and knows how to keep her in a pleasant mood.

This is because the cow possesses a highly developed nervous system with which the secretion of milk is closely associated. Consequently, whatever reacts on the nervous system of the cow will react in like degree on the secretion of milk.

This does not mean that the attendant merely needs to refrain from harsh treatment. Probably the average milker is not unkind to his cows. He has learned from experience that it does not pay to yell at them or pound them with the milking stool to make them mind. But that is not enough. He must go further and satisfy their natural desire to be petted. The cow is a sensitive animal, responsive to attention, and her affection must be gained before her maximum flow can be secured.

There must be sympathy and understanding between the cow and the milker, but it must not be pretended sympathy on the part of the latter. A dairy cow has an instinct that quickly tells her whether or not her attendant likes her. It seems to tell her just what is in his heart, and if she finds affection there she will reward it at the milk pail. When you see a cow that happens to be fastened loosely at the neck, reach around and affectionately lick her milker as she would her calf, then you may know that a bond of sympathy and understanding has been established, and you may be sure that the man will get all the milk that anyone can get.

This practice of milkers taking whatever cow happens to be next in line is a bad one. Each cow should be milked by the same person at each milking.

START THE HEIFER RIGHT.

Most cows that kick and hold up their milk acquire these habits during their first lactation period—generally when they are being "broken" to milk. But a heifer should not be broken, and if she is treated kindly while a calf and a growing yearling and then is handled like a cow before freshening, there will be no such thing as breaking her to milk. She will take it as a matter of course.

The springing heifer should be put in with the milking string several days before she freshens, and should be driven into the dairy barn so that she will become accustomed to a stanchion and to the presence and touch of her attendant. Begin by patting her and speaking encouragingly to her, then rub her udder gently and handle her teats carefully without squeezing them, and soon you will have her standing like an old cow to have her udder manipulated.

Also, if her calf is to be left with her for three days or so, she should be accustomed to haltering so that she can be tied in her stall and her udder can be worked on.

Nature trains the heifer to expect the muzzling and pushing of the calf, and the manipulations of the teats by the milker should be similar to the first attempts of the calf. However, both gentleness and patience are necessary, and if the udder is hard or tender to the touch no attempt should be made to force her into quietness by blows or angry words.

Don't tie her legs to prevent kicking or to make her stand still. Don't attempt to get her into position by pushing the leg of the stool into her flank or kicking her on the shin to make her step back. Teaching a heifer how to stand properly is not the easiest task in the world, but a slight pressure on the front or back of the leg, as may be necessary, coupled with plenty of patience, will accomplish more than harsh methods.

THE CORRECT WAY TO MILK.

The milker should be seated squarely on a substantial stool from ten to thirteen inches high, and just far enough from the cow so that his arms will be almost fully extended when milking her. His finger nails should be well trimmed, and he should milk with dry hands. The cow should stand with her right hind leg set back, so that nothing but the hands of the milker comes in contact with the cow. The pail should be held between the knees of the milker and not more than six

DON'T CUT OUT
A Shoe Boil, Capped Hock or Bursitis
FOR
ABSORBINE
TRADE MARK REG. U.S. PAT. OFF

will reduce them and leave no blemishes. Stops lameness promptly. Does not blister or remove the hair, and horse can be worked. $2.50 a bottle delivered. Book 6 R free.

ABSORBINE, JR., for mankind, the antiseptic liniment for Boils, Bruises, Sores, Swellings, Varicose Veins, Allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Will tell you more if you write.

W. F. YOUNG, P. D. F., 86 Temple St., Springfield, Mass.

Holding Up the Nation's Defense

The telephone played a tremendous part in this Nation's mobilization for war. It continues vital to the Government's program.

At the same time it has remained at the service of the whole people whose demands upon it grow apace with that of the Government.

The public is entitled to the best service that it is possible to render. But the public has a partnership in the responsibility for good telephone service.

It takes three to make any telephone connection: the person calling, the company, and the person called. Without the co-operation of all three the service suffers.

The telephone company can make the connection, but no words can be heard at one end of the line which are not properly spoken into the transmitter at the other. The relation between the speaker and the hearer is the same as the relation between the orator and his audience. It cannot be maintained if the orator turns his back to the listeners or if the audience is inattentive.

Telephone traffic must be kept moving. Speak distinctly—answer promptly—and release the line as quickly as possible. Don't continue reading when the bell rings.

These seem little things to ask the individual telephone subscriber, but when the individual is multiplied by millions all over this country, it is easy to see how important it is that *all* should co-operate.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES
One Policy *One System* *Universal Service*

ELKHORN FARM AYRSHIRES
ARE BACKED BY WORLD'S CHAMPIONS.
A young registered bull will breed MORE production, stamina, size and type into your herd. Prices are reasonable.
Whether you buy or not, visit the farm at Elkhorn, eight miles south of Watsonville, on the main line of the S. P. Railroad. Inspection invited. Write for particulars.
J. HENRY MEYER, Owner
R. F. D. No. 2, BOX 82, WATSONVILLE, CAL.

ASK YOUR DEALER FOR
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
EL DORADO OIL WORKS,
433 California Street, San Francisco

Reduced Rates for State Fair

Director General McAdoo of the U. S. Railroad Administration has issued an order that all railroads shall make a round trip passenger rate of one and one-half times the present one-way rate for all State fairs. If your local agent has not been informed of this, have him take the matter up with the regional director of your section, so that you can get the reduced rate.

inches below the teats.

The milk should be drawn by pressure of the full hands encircling the teats. The udder should not be swayed or pulled downward, but should be held almost motionless. The milk works down into the teats during the process of milking, and a muscle at the end of each teat contracts and prevents the milk from running out of its own accord. So the milker must grasp a teat in such a way as to prevent the milk from going back into the udder when the teat is squeezed, and at the same time the milk must be forced out. By grasping a teat with the full hand and closing on it with the thumb and fore finger first, the milk is held in the teat, and then by closing in succession the second, third and fourth fingers it is forced out. Of course, when once learned, all of the movements are made mechanically.

Care should be taken to move the fingers properly so that the milk is always driven downward, and never by accident forced upward. A sudden lurch or kick or withholding of milk may often be attributed to this, as upward pressure is liable to cause pain.

Usually a cow lets down her milk more readily in her rear quarters and yields more heavily from them, so milkers generally milk them first. But if this is done the cow is liable to develop an unbalanced udder, and as a rule milk from the fore quarters should be drawn first.

All the milk that is let down into a teat should be drawn with each pressure of the hand, and the milking should be done as rapidly as possible without being rough. Fast milkers, who make the milk fairly boil in the pail and raise a lot of foam, get more milk than slow milkers. This is probably due to the greater stimulation of the udder. A few gentle pressures upward as the flow begins to slacken will bring almost the last drop of milk, and little stripping will be necessary.

IMPORTANCE OF THOROUGH MILKING.

However, this does not mean that the milker should stop as soon as the milk ceases to come fast, for not only is thorough milking of the greatest aid in developing the mammary glands of the cow and increasing the capacity for production, but it is a case where "the last is the best."

Complete milking will result in getting from a half pint to a pint more milk at each milking. The last half pint of strippings will test from 10 to 15 per cent, while milk from the average cow tests only about 4 per cent. This makes a pint of strippings worth 1½ quarts of average milk.

A half pint of milk may seem a small amount to leave in the udder at a milking, but in a lactation period of ten months it will amount to over 300 pounds of milk, and it will contain over 40 pounds of butter, worth over $20. Now suppose it takes you ten hours extra during the lactation period. This pays you at the rate of $2 per hour for your time. Pretty easy way to make money, isn't it? And the best part of all is that while you are increasing your profits you are also increasing the capacity of the cow.

MAKE REGULARITY YOUR WATCHWORD.

Regularity must be made your watchword in order to get the best results. There should be a fixed time morning and evening for milking, and the periods between milkings should be as nearly equal as possible. Also, the cows should always be milked in the same order. A cow soon comes to know when her milking hour arrives and she expects to be milked then. If disappointed, she probably will withhold part of her milk and may develop the habit of withholding it regularly.

A change of milkers may have a good or bad effect. Two milkers may be equally efficient, yet one may be able to get more milk from one cow and the other may excel him on some other cow. So the best plan is to find which cows each milker can do the best with and have him milk them regularly. They will become accustomed to him, and if he is the right kind of a milker they will learn to love him. He will never sit down to milk one of them without first gentling her a little; he will always use low-spoken, soothing words.

And not only will the most nervous cow stand contentedly for him in the barn, but out in the pasture she will come at his call to have her head scratched and perhaps be given a carrot. She will try to lick his hands and clothes, and express in her way her appreciation of his kind treatment.

Sentimental? Perhaps. But if so, it is a case where sentiment can and should be mixed with business. The dairy cow is a mother. Treat her with the same kindness and consideration that you would show to a human mother, and you will be amazed at the results.

Dr. Verdo B. Gregory, a prominent physician and owner of the Joseph Hospital at Joseph, Ore., has recently put in a $10,000 foundation herd of Aberdeen-Angus cattle at his ranch at Oakdale, Cal.; also a notable foundation of Berkshires, most of the hogs being purchased from Winona Ranch, Grants Pass, Ore.

N. W. Thompson, the draft horseman of Patterson, has returned from Chicago with 16 head of Belgian and Percheron stallions, mostly two- and three-year-olds. They will be on exhibition at the State Fair. They are the best lot Mr. Thompson has ever handled, and as they have been winning at Eastern shows he expects to make a big killing with them out here.

It is announced that no more hand-knitting yarn can be manufactured in the United States, and the only yarn hereafter available will be what the Red Cross can buy from dealers. Also, no more wool will be allotted for civilian purposes. The reason for both restrictions is that the Government needs 900,000,000 pounds of wool this year and only about 280,000,000 pounds will be produced. Wool growers are not worrying about a market for their product these days.

"Slipping" not "Saving"

"I kept slipping back two feet every time I went ahead one." That's what the small boy gave as an excuse to his teacher for being late for school one winter day.

And that's just what is happening to the cow owner who is trying to get along without a cream separator or with an inferior or half-worn-out machine. Like the small boy he is "slipping." He thinks he is thrifty, but for every dollar he saves by not buying a De Laval he loses two through not having one.

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Feeding $80 Alfalfa to Steers

To the Editor: Would it be profitable to fatten range cattle on alfalfa instead of cutting and selling it baled, when hay will sell around $30 per ton?—D. Gerster, Jr., Redlands, Cal.

[Answered by Livestock Editor.]

Experiments conducted when alfalfa sold for $10 per ton showed that it cost $3.92 per 100 pounds of gain. With alfalfa at $30 per ton this would make the cost $11.76 per 100 pounds.

Not very encouraging at first thought, yet there are four factors that should be taken into consideration: First, the alfalfa will not cost you $30 per ton. Second, your cattle have been on range and it has not cost you much to bring them to finishing condition. Third, by marketing your alfalfa through the steers you will get nearly a ton of manure per month from each animal, valued, according to the present prices of farm products, at from $4 to $6 per ton. Fourth, you should consider what the price of beef cattle will probably be when yours are ready for market, rather than the present price. In all probability, after the grass-fed stock has been cleaned up, shipments will not be so heavy and the price will raise to correspond.

If you can supplement your alfalfa with straw, silage, corn stalks, beet tops or beet pulp, together with a little cottonseed meal, you will be able to reduce the feeding cost and make a satisfactory profit. Chopping all feed used will eliminate the waste and still further increase your profits.

Glenn County for Durocs

[Written for Pacific Rural Press.]

A highly commendable and strictly business-like system of Duroc-Jersey propaganda is being carried on with gratifying success in Glenn county by H. P. Slocum & Sons of Willows. As a result, State Fair visitors will be delighted by a splendid exhibit of seven futurities from Glenn county and two from Butte county, among the other Duroc hogs that will be shown.

The writer had the pleasure of seeing most of these futurity litters and he is glad not to be the judge. The 36 pigs in the nine exhibits are of wonderful uniformity and excellence. Their exhibitors are mostly youths, but all are people for whom Clayton M. Slocum has bought pigs or sows from the East or to whom he has sold from his own herd. The exhibitors are C. W. Scott, C. D. Bright, and Hedges & McMartin, all of Glenn; C. W. Smith, H. P. Slocum & Sons, and W. H. Manis, all of Willows; W. B. Bennett of Nord, and Hollingshead & Sons of Orland. Some of these will show other Durocs besides the futurities, but the latter have been leaders in the interest of their communities.

Mr. Slocum has attended to the registration papers and entry in the futurities, and has also acted as adviser on feeding and fitting. The exhibitors are all enthusiastic, and determined to make their sections famous for Durocs. This is Mr. Slocum's aim and one object of his activities. His slogan is printed on the auto truck he drives about, "Glenn County for Durocs."

But it is not enough to get farmers all around him interested in raising more and better hogs. Mr. Slocum is depended upon to find a market for the surplus of his new clients. This he does in his personal contact with prospective buyers and visitors to the ranch and by advertising his clients' stock along with his own under his own name. Eventually they will strike out independently, but, at any rate, within a short time anybody will be able to buy carloads of the best Duroc blood in this one community.

To Tell the Age of Sheep

[Written for Pacific Rural Press.]

The age of sheep may be determined fairly accurately by means of the teeth. Sheep are classified as lambs up to twelve months old. During this period lambs have temporary or milk teeth, which are distinguished from the permanent teeth by their being narrow, small and of a pure white color.

At about one year the first pair of permanent incisors replaces the central pair of milk teeth on the lower jaw. (Sheep have no incisors on the upper jaw.) These permanent teeth are wider and longer and of a yellowish color.

When two years old the second pair of permanent incisors replaces the next outer pair of milk teeth. At three years the third pair appears, and at the end of four years the sheep has four pairs of permanent teeth, or a "full mouth." Sheep are said to reach maturity at this time.

After the "full mouth" period is reached the only means of telling the age is by the degree of wearing and sometimes the protruding of the teeth. After about six years sheep begin to lose their teeth and are spoken of as "broken mouthed" or "gummers." Such sheep cannot pick up a living on the range, but if they are put on alfalfa, or even used to clean up the waste of the average farm, they will be good for two or three more crops of lambs before they outlive their usefulness.

How to Measure a Hog

[Written for Pacific Rural Press.]

Now that the show season is about to begin, you will be seeing prize-winning hogs, or at least reading about them. Often their measurements will be given and naturally you will want to measure your own hogs to see how they compare with these winners. So here's the way to do it.

For the length, have the head down and measure from a point between the eyes to the root of the tail. For the heart girth, measure around the body just back of the fore legs, having the tape straight up and down. For the loin girth, just in front of the hind legs, with the tape perpendicular. For the circumference of the leg, commonly referred to as the bone measurement, measure around the hind leg in the largest part between the hock and the pastern. For the height, have the hog on a board or cement floor at the side of a building or partition. Place a board over its back horizontally and mark where the under side of it strikes the wall, then measure the distance to the floor and you will have the height of the hog.

TRY THIS TO SECURE HELP.

Having trouble getting satisfactory help? Next time you go to town get your grocer, meat man or druggist to paste a little sign on his window stating that a farm hand is wanted. If you have time, hang around for awhile. If not, have the dealer tell applicants what time to meet you there. You will be surprised at the number of replies you will get, and the men will be of a much better grade than those you find hanging around saloons and pool halls.

My Range Bulls are Shorthorn Show Bulls

All of them have been at the Fairs and have generally won something. Their get are uniform, vigorous, and hardy, raised to service age on the range. King Lancaster, three times Grand Champion at the State Fair and now 13 years old, is still getting fine calves. My bulls won Grand Championships every year for eleven years (1904 to 1914, inclusive), except 1907, when I showed only calves. I have a breeding herd of 400 cows and can supply service buls in car lots, but they are going fast. Write me your wants pretty soon or come and see.

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VETERINARY QUERIES

[Answered by Dr. Edward J. Creely.]

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

When to Dry Off a Cow.

To the Editor: Should a cow be dried off before she freshens or milked right up to calving time? My neighbors advise both ways.—C. A. R., Orange Cove, Cal.

[Answered by Livestock Editor.]

Your cow should be dry for at least six weeks before freshening—eight would be better. When a cow is dry she uses the feed that she previously used for milk to store up flesh to draw upon after she freshens. If she is not given this opportunity to build up a reserve, she will shrink after two or three months instead of keeping up a heavy flow for nine or ten months. While she is dry she should be fed generously. You will find that the extra cost of feed, above the old starvation method, will be paid back to you many times over in the milk pail during the next lactation period.

Suspects Distemper.

To the Editor: I have a collie dog that has some lung trouble. After running a short distance he stops to cough and gag, sometimes bringing up a little frothy matter. His nose is warm but moist, breathing rather rapid, has good appetite but is in poor flesh. Is this distemper?—R. S. M., Hanford.

[Keep the animal's bowels open by giving a two-grain tablet of extract of cascara, rub the chest well with camphorated oil, and apply a jacket over the chest and throat. Avoid much exercise.]

A Quittor.

To the Editor: My horse has a bad foot. He had thrush badly, and the frog continues to keep sore. When I trim it only a little it bleeds. The trouble occurred between the foot and hoof and discharged at the edge of the hair.—E. S., Ukiah.

[Your horse has what is termed a quittor. No treatment you could give will relieve it. Treatment is surgical entirely. Keep it clean. You may inject iodine tincture once every other day.]

Scar Hardened.

To the Editor: I have a horse whose fore foot was cut by barbed wire. The scar has become very hard. Do you know of anything that will soften it?—W. F. H., Kellogg.

[If the fetlock has not enlarged, apply nothing but a bland oil, such as salad oil, once a day.]

BEET PULP GOOD FOR STEERS.

The Colorado Experiment Station recently completed tests which indicate that beet pulp is a valuable feed for beef cattle. One lot of steers was fed alfalfa, cottonseed cake, beet pulp and molasses. Another lot received silage instead of beet pulp. The former gained 1.9 pounds per head per day, the latter 2.3 pounds. Thus the pulp-fed steers gained .4 of a pound daily per head more than those fed silage, and they sold for $1 per cwt. more. Also the gains made from silage were more expensive than those made from beet pulp.

If farmers in the Corn Belt can afford to ship Western steers hundreds of miles east for feeding on a silage ration, then California feeders who can get beet pulp ought to make barrels of money.

But remember, there was not enough beet pulp to go around last year. If you expect to use any this year, you had better place your order right away. Don't put it off.

SAN FRANCISCO MILK PRICES RAISED.

Owing to the increased cost of production and distribution, Commissioner Merritt of the Food Administration has granted an increase from 12c to 14c for grade A pasteurized milk, effective September 1.

It was at first planned to arrange a zoning system for distribution, so that only one wagon would cover each district, and it was estimated that the saving in the cost of distribution would be enough to offset the increased cost of production, so that no raise in price would be necessary. But this method was found impracticable for the present, so the price will be stabilized for the coming year, unless unforeseen emergencies arise which may force either a reduction or an increase.

DON'T FEED HIGH-PRICED GRAIN TO WORMS.

Have you treated the hogs for worms lately? They are particularly bothersome at this time of the year and are in many herds where they are not suspected.

If you do not keep before the hogs constantly a tonic which contains worm preventives, you should use an expellant at regular intervals. To be sure that each pig gets its share, try 2 grains each of santonin and calomel, put up in a capsule. Give after the pig has been without feed for a few hours, and allow one capsule for every 50 pounds of live weight. Watch the droppings and you will be surprised at the worms you will find. There is no worm medicine more effective than this mixture. It is rather high priced, but its effectiveness more than offsets the margin.

GIVE THE HOGS A SCRATCHING POST.

If you haven't a dipping vat or are too busy to use it, give the hogs a scratching post and let them do the work themselves.

Set a fence post firmly in the hog pen, coil a rope around it as high as a hog will stand and fasten the rope on securely with staples.

Then thoroughly saturate the rope with crude oil. Coal tar dips can be used, but they evaporate rather quickly. Crude oil lasts, and with it you will have an ideal scratching post, where the hogs can rub and grunt to their hearts' content and rid themselves of lice and scaly skin.

GOVERNMENT URGES LIBERAL USE OF LIGHT WEIGHT BEEF.

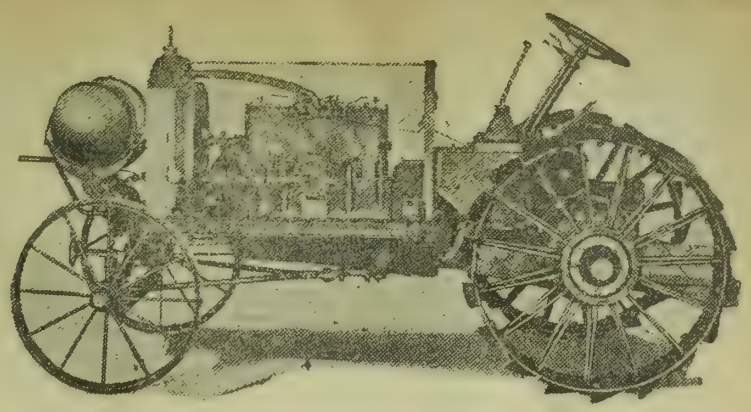
On account of the extreme drouth which is endangering the meat herds in the great cattle producing sections, cattle runs are 50 per cent heavier than last year at this time. Most of the stock is below the normal market weight, and to create a market for it the Food Administration has rescinded the regulation which curtailed purchases, and now requests the more liberal use of beef from cattle which dress under 475 pounds.

This will cause a conservation of the heavier cattle needed for our soldiers and for export to our allies, and at the same time will increase the outlet for cattle raisers in the drouth afflicted areas.

TUBERCULOSIS STILL PREVALENT.

Tuberculosis is still extracting its heavy toll from California hog raisers. The Western Meat Company's records show that the average price they paid for hogs in July was $16.75, while if none had been condemned for tuberculosis they would have been able to pay $17.63—a difference of 88c per 100 pounds.

When tuberculosis can be stamped out of a herd by comparatively simple and inexpensive methods, it seems strange that so many hog raisers remain indifferent and cheat themselves out of their rightful profits.



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Worm Drive Rear Axle of the full floating type and every working part running in oil. Rear wheels only 40 in. high and front wheels 30 in. high, and all carried on **Timken Roller Bearings.** 1½ miles on low; 2½ to 3½ miles plow speed; 6 miles on the road. DIXEY magneto, with impulse starter. It is a 2-3 plow machine, with power to spare all the time—10 H. P. on the draw bar and 20 H. P. on the belt pulley, and it is positively different from all other Tractors; is built for every day hard work, with a minimum cost of upkeep.

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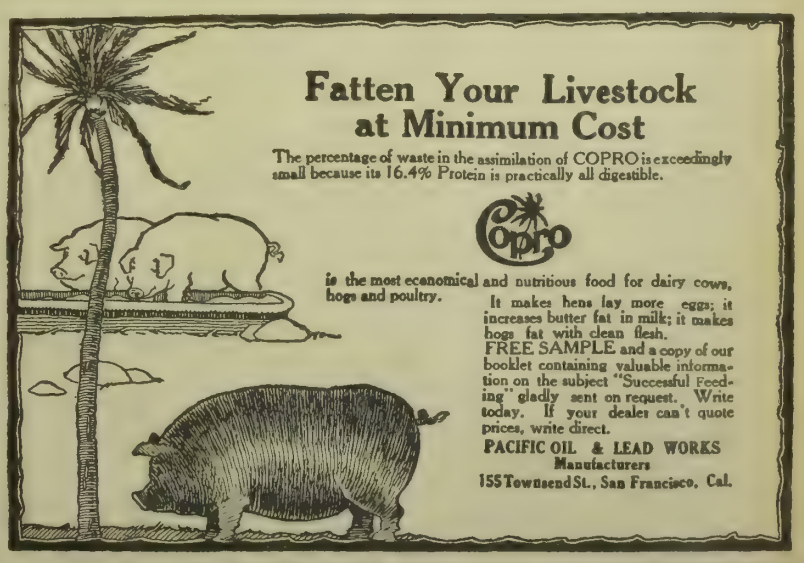

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Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

C. C. Slater of Pacheco recently sold a Holstein bull to Boch Bros. of Pacheco and another to Mrs. Mary Fuchs of Pleasanton. Proof that Mr. Slater's hérd has a good reputation right at home.

Bridgford Company of Knightsen has commenced building on the recently acquired ranch at Patterson and intends to move its noted herd of Holsteins as soon as the new buildings are completed.

W. J. Higdon, owner of the Tulare Holstein Farm, is planning on building a model 16-stall testing barn. In addition to the usual equipment of such barns, he will include electric fans for the comfort of the cows.

Jesebel of Edgemoor, in the herd of registered Guernseys at Edgemoor Farms, owned by Walter H Dupee of Santee, recently completed a year's work of 12,434.9 pounds milk and 748.32 pounds fat, giving her second place in class F.

Green-Hill Caroline, a second calf heifer in the Dairy Shorthorn herd of Alexander & Kellogg at Suisun, has produced 10,000 pounds of milk in nine months and her calf weighs 765 pounds. Convincing proof of the merits of this dual-purpose breed.

The McCloud River Lumber Company of McCloud secured their foundation stock from the leading Eastern herds, and have a large number of animals of excellent blood lines, including young stock sired by Sir Pietertje Ormsby Canary and Sir Bonheur Hengerveld Ormsby.

The annual meeting of the California Holstein-Friesian Association will be held Tuesday evening, September 3, at 8 p. m., in the office of Chas. W. Paine, Secretary State Agricultural Society, Fair Grounds, Sacramento. Every good and faithful Holstein breeder should make a special effort to attend.

Heifers entered in the first yearly futurity stake of the California Jersey Breeders' Association must freshen and start on their register of merit work before January 1, 1919, under thirty months of age. Final payment of entry fee is due at time of starting on test. Kerma of Venadera and Lucile of Venadera, both in the herd of Guy H. Miller at Modesto, are the first to qualify and enter the contest.

Foundation stock for two new purebred herds of Ayrshires have been received in Nevada. W. F. Sauer of Franktown recently received six head of bred heifers and a choice bull from J. W. Clise, Redmond, Wash. The stock is rich in the blood of that famous Ayrshire, Peter Pan. The Dangberg Co. of Minden received 16 head from Mr. Clise and expect to build up a modern dairy herd on their place. Plans are being drawn now for a model dairy barn.

Beef Cattle.

The Berryessa Cattle Co. of Monticello has purchased 23 purebred unregistered Hereford females from W. D. Duke of Likely, to raise bulls for their own range stock, according to Superintendent L. Stoddard.

Clinch & Peters of Chico and Quincy are fitting a carload of great Hereford steers for the Oakland Meat Co. to show at the State Fair. They have a registered Hereford herd at Quincy and a registered Shorthorn herd at Chico.

A meeting of cattlemen will be held at the Travelers Hotel, Sacramento, Thursday morning, September 5, at 10 a. m. The meeting is primarily called for what is known as Zone No. 2, which includes nearly all of the northern half of the State, but it is hoped that as many as possible from other zones will attend.

Shorthorn breeders will have a get-together evening at Sacramento during State Fair week to discuss plans for the ensuing year and to devise ways and means to increase the output in order to supply the demand for more and better beef cattle.

Simon Newman Company of Newman, have 180 registered Herefords, and have raised an 80 per cent calf crop this year. They report a heavy demand for breeders and have already sold all surplus stock. They are among the very few in the State who have plenty of feed.

Swine and Swinemen.

J. E. Thorpe of Lockeford will show 11 head of Durocs, including a futurity litter and two sows that are corkers.

R. J. Yates of Orland is offering Poland-China gilts as special prizes at the Glenn County Fair, to be held at Orland, September 16 to 21.

Anchorage Farms, at Orland, recently shipped Berkshire boars to William Stewart of San Diego, Mrs. Belle Rhodes of Monterey, and A. N. Blacmer of Midvale, Utah.

The Poland-Chinas of P. E. Mitchell of Atwater are in the pink of condition, and 10 head will be shown at the Atwater Fair, September 13 and 14. Mr. Mitchell has recently sold two service boars and two weaned pigs.

Geo. I. Lytle of Perris has had such good results from purebred stock that he is determined to have nothing else on his ranch. He now has about 40 registered Hampshire hogs, and flocks of bronze turkeys and white Plymouth Rock chickens.

Frank B. Anderson of Sacramento reports the sale of a trio of Berkshire pigs to W. D. Howe, a milling man of Oakland, who will use them as a nucleus for a purebred herd that he is establishing at his ranch near Aptos, Santa Cruz county.

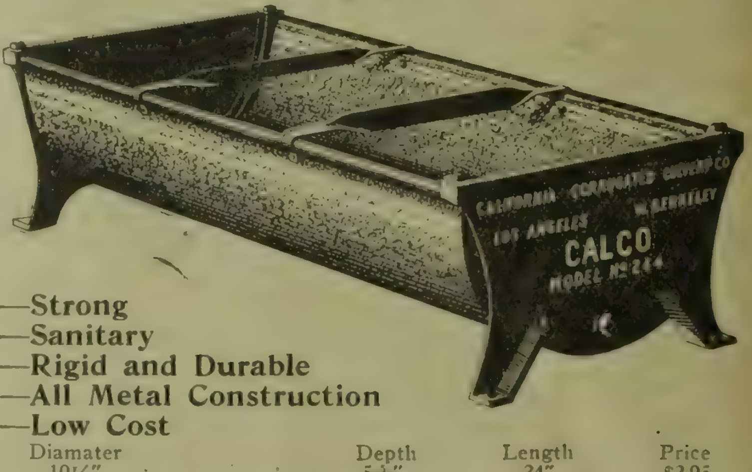
The Western Duroc-Jersey Association will have its second annual dinner at the Travelers Hotel, Sacramento, at 7:30 Monday evening, September 2. An excellent program has been arranged and every breeder of the great red hog is urged to attend.

Red Rock Ranch of Glen Ellen, owned by R. Q. Wickham, has a fine lot of Duroc youngsters and will show a futurity litter at the State Fair that will be hard to beat. The pigs were so uniformly good that Mr. Wickham had the time of his life picking out the best litter.

Sheep.

Bullard Bros. of Woodland will ship 25 head of registered Rambouillet rams and 75 range rams to the annual sale at Salt Lake City this fall.

CALCO Hog Troughs



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Diamater	Depth	Length	Price
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10¼"	5 5/16"	40"	3.70
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14"	7 3/16"	120"	9.60

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Poland-China gilts from stock selected for prolificacy, big show type, from the best blood of Kings county, but now located in Solano county. Also a few service boars. Ask us about their breeding or come and see them.

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Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

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1918

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The Gasoline of Quality

From the woman's department of the U. S. Employment Service 21 young women have already been sent out, with their blankets and pistols, to lead lonely lives for a season in the foothills as sheep herders. This is a new occupation for women.

Livestock Miscellaneous.

A bill amending the war finance corporation law to permit advances to the full amount of security to livestock growers and farmers, instead of only 75 per cent, as at present, was introduced August 1 by Senator Jones of New Mexico.

The Whittier State School has about 100 Berkshires, mostly sired by Ames Rival 117th, a grandson of Rival Champion. They show their royal breeding.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

TWO SPLENDID big bone Poland-China service boars of high class breeding of that most noted Mouw strain; of individual merit, fit to head any herd; less than a year old. Must be seen to be appreciated. Prices right. D. H. Forney, Fresno, Route G, Box 286.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

CLOSING OUT MY ENTIRE HERD of three years' selection. I offer herd boars, bred and open sows and gilts and spring pigs of both sexes. The best blood lines. The big, prolific kind. Write for prices today. J. H. Cook, Paradise, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

BIG TYPE POLAND-CHINAS—President, assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

C. G. DE RAAD — Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts; weaned boar pigs. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

BIG BONE Chester White pigs, either sex; junior or senior yearling sows, either bred or open. S. F. Bonner, Gridley, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

ANCHORAGE FARM, ORLAND, CAL.—Breeders of Berkshires. Write for free booklet describing our herd sire, Star Leader, world's reserve champion. Special offering of weanling pigs.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

FOR SALE—Red Rock Defender, at a very reasonable price; two years old; weighs about 700 pounds; in good breeding condition; have no further use for him. Also a few bred sows and gilts. Come and see them. Red Rock Ranch, Glen Ellen, Cal.

DUROC-JERSEY BOARS FOR SALE—Farrowed October 23, 1917. Sired by Ruckers Model G. Dam Queen Is Rite, Grand Champion 1916 California State Fair. Fine, big animals. A. A. Trueblood, Sacramento.

COMMITTEE CERTIFIED DUROCS — El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROC-JERSEYS.—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

SPRING DUROCS, both sexes, best of blood lines, reasonably priced. D. & H. J. Baughman, Oakdale, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DOS HERMANOS DUROCS—Boars, gilts, and weanlings. Hans Duveneck, Ukiah, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS — Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

TWENTY-FOUR GOOD, FRESH MILK COWS for sale, mostly Holsteins. Address, Albert M. Bemmerly, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morrris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

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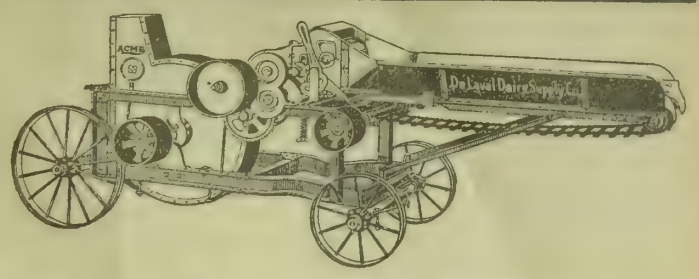

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REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

CHOICE YOUNG JERSEY BULLS—Make selections at the Fair or ranch. Priced right. N. H. Locke, Lockeford, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

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ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

REGISTERED SHORTHORNS—Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

FOR SALE, GOATS—30 grade Angora Nannies, 1 Billy. $200.00 for lot F. O. B. Tres Pinos, Cal. O. P. Hodges, Paicines, Cal.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeedrs and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

SHROPSHIRE RAMS—Some choice registered and grade yearlings. Also some purebred lambs. Call or write, Harry L. Huston, Winters, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. Meet me at the Fair. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

Poultry for Profit

BRINGING THE PULLETS ALONG.

This is another line of the business of making profit out of poultry that is much neglected. Generally the pullets are left to rustle what they can from the feed thrown out to a flock of mixed ages, sizes and sexes. This is all to the bad and means loss both of feed and time. Pullets should all be separated from old hens and from cockerels, and put in separate yards according to size and age. The early pullets can be easily made to lay and bring in a profit by right feed, while if the same feed is fed to immature or younger pullets a good portion of it will be thrown out of the system as waste because they cannot use it economically. When the pullets begin to make comb they can stand good feed until they commence laying, because they need to store up vitality and healthy muscle. Give all grain fed to them in a deep litter, or if none is at hand sow the grain in the earth and let them dig it out. Keep a pan of sour milk and a pan of water in a shady place, not forgetting to scald the milkpan out every day. Keep a hopper with good beef scrap, another of grit and shell handy, and throw granulated bone in the litter with the grain. Sprouted grain is best because every bit of it is digestible, while if barley and oats are fed dry there is a loss in fibre which the hens cannot digest. It is not necessary to buy high-priced mashes in order to bring pullets into laying condition. Plenty of mineral is obtained from plant life. Give plenty of good clean sand when it is possible to get it. Milk contains the proper amount of acids and lime that the system needs. The protein for eggs must be obtained from all these elements both mineral, vegetable and animal; but the main supply of protein comes from the grain or mash fed and the animal food. Put the materials before the pullets and make them exercise, and they will balance their rations themselves.

CHICKS BUNCHING UP.

Chickens, like garden truck, are growing fine since cool weather set in, but there are a few things that need watching. On cool nights chicks are likely to bunch up if left to themselves. This should be prevented by finding out how many are in one coop or house, if they are left to run loose. If too many are rooming together, take part of them away and shut them up in another coop for a few days until they forget the old coop. Young growing chicks are not hard to break in to new quarters. Just a few days' close confinement will reconcile them to a change.

LICE AND MITES.

Another thing to look out for is head lice. If growing chicks are running with older fowls, they will get them, no matter how careful you may be. The only remedy is to go around at night and powder their heads. It is not always necessary to treat each one individually. If you have a good powder, go along at night and dust the bunch. If you use a blower, blow against the feathers and sufficient will penetrate to drive the lice on top, then blow again over the back and once on the floor. If you just shake from the can, rub your hand over the chicks and put extra powder on the floor and backs. Enough of it will get in to drive the lice out. There has been less complaint this year from lice and mites than ever before, so I am flattering myself that my continual harping on one string is really doing some good.

CLEAN UP.

This is the best time in the year to attend to leaky poultry house roofs, cracks in the walls, dirty, foul floors—everything that, if neglected now, may be forgotten later, until the mischief is done. Sometimes a small crack or a dripping roof will start a whole flock with catarrhal colds that may not be noticed; then the change from colds to infectious roup is so quickly and easily made that one wonders how it all happened. The roof or crack caused it. There's a cause for everything; nothing merely happens. The observing farmer and poultryman looks for the cause and stops it. Filth in a poultry house or yard, draught striking a hen or two that has been weakened by a season's heavy laying are causes that start lots of things. Chickens coming out into the cool morning air and bunching up cause trouble. Why not have a little grain covered up in a patch of soft ground and let them dig it out for exercise. This scatters them, warms them up, and as soon as the blood begins to circulate they forget all about bunching up.

OLD-FASHIONED ROUP.

To the Editor: My chickens' faces swell and their eyes close. They live for about a day or two, then die.—B. M. C., Templeton.

[This sounds like old-fashioned roup. Get a box of bromo-quinine pills from druggist and give each bird affected one pill. Then dip her head in a can of coal oil and water, two-thirds coal oil to one of water. As you withdraw the head from the can there will be sufficient oil adhere to the head and face to do the work. Clean up your pens, separate the sick from the well ones, and scald out all feed and drinking vessels. Two or three treatments with pills and coal oil will suffice.]

BUMBLE FOOT OR RHEUMATISM.

To the Editor: My chickens get lame and sit around on their haunches or right flat on the ground. If they try to walk they limp along. I can't find anything wrong with them. What can I do for it?—O. C. L., Tulare.

[If your chickens are heavy and the roosts are high, they probably have got bumble foot. The remedy is to lower the perches. Heavy fowls should never perch over three feet from the ground, and two is better. If they do not roost high, it is rheumatism. Give them a teaspoonful of iodide of potassium, the dry powder, in one quart of water. Give this once a day and see that the chickens drink it before giving any more water. Keep it up about a week, when they will be better.]

POULTRY NOTES.

At the approaching Land Exposition the Coast breeders are making preparations to make an epoch in rabbitdom. The show will be represented by the best and biggest collection of rabbits ever held.

It is estimated by poultry specialists of Cornell University that poultrymen this year will receive profit only from the eggs which hens lay in excess of 108. It will take all returns from the latter number to pay expenses.

THE KEENEY SCHOOL

Boarding and Day School for Girls, 2200 21st Street, Sacramento, Cal., will reopen Monday, Sept. 16th. General and College Preparatory Courses. Exceptionally fine courses in French, with especial attention given to Conversation. Physical Training, Aesthetic Dancing, Tennis and other out-of-door Sports. School accredited by the Universities and Colleges of California. For catalogue address

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Visit this big school any business day or night—or check what you want to be—Write your name on this ad—mail it to us now—Catalog and information will be sent you at once—Don't delay—Do it now.

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Name.....

Address.....

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The largest and best equipped Engineering and Automobile School on the Pacific Coast—42 instructors—over 2000 students annually.

Poultry Breeders' Directory

PRUSSIAN HILL POULTRY RANCH—To October 1st will ship six pullets and one cockerel, Barred Rock or Black Minorca, at $10 per pen; six pullets and one cockerel, Blue Andalusian, at $12 the pen. Fine pure-bred stock. Geo. I. Wright, Mokelumne Hill, Cal.

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

"EASTMAN'S BRED-TO-LAY" Hogamized and trapnested Barred Plymouth Rocks. September chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hogamized) stock $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

FOR SALE—Eighty pair mated "White King" pigeons. Gibbux strain; all young birds and guaranteed very fast breeders. Box 1240, Pacific Rural Press.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

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The evenin's that your're spendin'
Makin' blessin's for our boys,
In your thoughts—in years that's comin'—
Will come back to you as joys,
And the glory that you're gainin'
Will be yours forever more
Fer the hands that's windin' bandage
Is a-helpin' win the war!

And our boys what's goin' over
Won't feel bad when they git shot
Fer there's lots o' nice white bandage
An' a nice hos-pi-tal cot
Where they'll dream about the girlies
Who are windin' more an' more—
Fer the hands that's windin' bandage
Is a helpin' win the war!

You are givin' every moment
That you can—It don't seem much
But your bit you sure are doin'
Fer to help to whip them "Dutch."
While we hope they won't be needin'
What's already in your store
We will always know your windin'
Is the thing that won the war!

—Alfred J. Saunders.

ANNIE AND THE MOCKING-BIRD.

"It's too bad you've sprained your knee, Bobby," said Mrs. Brown, as she seated herself in the little living-room, after doing the supper dishes. "I wanted you to run over to Aunt Sarah's and get a skirt pattern for me so that I could cut out my work tonight and be ready to begin on it early in the morning." Bobby was sorry, too, and he said so, though he added bravely: "I could go anyway, mother. I could hop along and it won't hurt very much, besides it isn't far, you know."

"No, it isn't very far," answered his mother, quite positively, "but you are not going to run any risks with that sprained knee." Then she added thoughtfully, "I would go myself only I'm expecting your father to call me up over the telephone just any minute, and I don't want to leave the house at all for fear I might miss him."

Nobody looked at Annie Lee all of this time, and nobody made any signs at all of expecting anything of her, but still she felt sort of uncomfortable.

Her knee was not sprained, she was not expecting any one to call her over the telephone, and she was almost as old and as tall as Bobby Brown; besides, it was neither very far to Aunt Sarah's nor yet very dark outside.

Annie Lee was learning how to read, and she could read stories in story-papers when she tried very hard. She was trying quite hard now, and I am sure would have succeeded only that she couldn't keep her eyes fixed on the page. Her sight kept wandering to the open doorway, and through it, out into the gathering dark outside.

Annie Lee did not like the dark at all. It gave her a queer feeling, as if something big and soft and smothery were closing in all around her so that she couldn't get out at all.

She understood just how queer it made her feel, but maybe other people might think she was afraid, for she noticed that they never asked her to run out in the dark any more.

She didn't at all like people to think that she was afraid, but she was more and more sure every minute that some people did thing that.

Everything was quite still and nobody in the room said a word, and yet Annie Lee thought she could feel them thinking, "Don't ask Annie Lee to go; she's afraid of the dark!"

It isn't at all pleasant to feel that people are criticising you in their minds, and Annie Lee couldn't get interested in the story she was trying to read, so she sat quite still and did nothing at all.

Then she heard a noise outside,—a strange, wonderful, beautiful noise.

"Oh!" she gasped, and leaning eagerly forward in her chair she asked, "What is it, aunty?"

"What is what, child?" said Mrs. Brown, not looking up from her reading.

"She means the mocking-bird," said Bobby. "They don't have mocking birds where she lives."

"Where is he?" asked Annie Lee, gazing with a new interest out into the darkness.

"Oh, he's outside in the trees somewhere," answered Mrs. Brown, carelessly, as she went on with her reading.

Now where Annie Lee lived they were not used to hearing birds sing outside at night.

"Who's out there with him?" she asked at length.

"Nobody, goosy," said Bobby, "they sing at night lots of times."

"I sh'd think he'd be afraid," breathed Annie Lee, in a whisper.

"Why should he be afraid?" asked Mrs. Brown, laying aside her paper at last.

"Afraid of the dark," answered Annie Lee, so softly that you hardly could hear her.

Then Aunty Brown laughed merrily. "Why, child," she said, "there isn't anything to be afraid of. The dark isn't anything—it's just nothing at all—nothing but a big kind shadow that comes over the world to rest our eyes, and why should any one at all, even a little bird, be afraid of a shadow?"

That was a new thought for Annie Lee, and she sat very still while she thought about it, and listened to the brave little singer outside in the shadow.

Then she jumped up and said brightly, "I'll run and get your pattern, aunty."

Then before any one could say a word against it her willing feet were running down the path to Aunt Sarah's house, and all the way she was saying to herself, "Thank you, little bird, for not being afraid of the dark, for not being afraid of a shadow!"

Pretty soon she came safely back into the lighted room with the wished-for pattern in her hand.

"Thank you, dear," said Mrs. Brown gently. "Were you afraid?"

"Course not," answered Annie Lee, smiling brightly. "I'm a good deal bigger than a little mocking-bird.—Francis McKinnon Morton in the Sunday School Times.

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Agricultural Summary

Resume of State's Crop Conditions.

Barley, wheat and oats harvest is practically completed, with yields fair to good. Corn is making good progress, especially the sorghum varieties. Potatoes and truck crops are good, and excellent where irrigated. Ranges are poor to fair, but stock are in good condition considering the feed shortage. Rice and grapes are excellent crops, Muscats being especially heavy; Thompson seedless are going on trays. Hop picking is progressing. Almonds and walnuts are good crops. Deciduous fruit yields are fair to good; drying is progressing. Oranges and lemons are improving. Beans, sugar beets and tomatoes being harvested; tomatoes are an excellent crop, and beans are fair only owing to drouth. Sugar beets fair. The cotton crop is good to excellent; picking and ginning is progressing.

Curious Comparison About Tomatoes.

Approximately 75,000,000 cans of tomatoes were purchased by the Quartermaster Corps, U. S. A., from the 1917 pack. They are packed in what are known as No. 3 cans, which are 4⅞ inches in height, and it is the basis of these cans that the total length of the cans placed end to end was computel. From these figures it is elicited that this purchase was so large that if the cans were placed end to end the line would extend from the army on the Marne to Linda Vista, Cal. They would stretch from Seattle to New York City and back to San Francisco, thence to New Orleans, extending across the continent two and one-half times.

Packer and Country Hides.

A correspondent wants to know why "packer" hides command a premium over "country" hides. Well, it is due mainly to the fact that hides are more skillfully and carefully taken off the animals at the packing concerns and to the superior facilities these concerns have for curing and storing the hides when removed. The skinning knife wielded by the hand of an inexperienced person usually damages and detracts by so much from the value of the skin.

The Boom in Butter.

The movement of butter out of storage continues, which indicates that current production is not meeting the requirements of current consumption. A carload of butter from the Middle West was recently received and readily disposed of. Further shipments from the same source are expected. The forecast is, therefore, for much higher prices later in the year.

Some Outside Egg Markets.

A correspondent of the Rural Press sent in one day this week this survey of a few of the interior egg markets. He says: "Farmers were getting (August 24) 42c a dozen at Healdsburg, 51½c at Santa Rosa, 52c at Fulton, 41c at Woodland, 56c at Sacramento. We cannot reconcile the wide variations between nearby points."

California's Peach Production.

The importance of the peach growing industry in California is emphasized in the final Government estimate of the crop for 1918, which places it at 11,000,000 bushels—2,500,000 below that of last year. This is well over half the peach production of the country.

Sugar Crop Short.

It is announced from Los Angeles on good authority that there is a shortage of 25 per cent in California's sugar crop. The crop will amount, it is claimed, to 3,115,000 bags, while the normal crop is 4,700,000 bags.

Milk at High Tide.

Milk in Portland now costs the consumer $4 a month for a quart delivered. Butter is $1.15 a two-pound square. See notice of rise in San Francisco milk prices elsewhere in this issue.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, August 28, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard........$2.20
No. 2........2.17
No. 3........2.13
No. 1 soft........2.18
No. 2........2.15
No. 3........2.11
Club or Sonora, No. 1........2.16
do, No. 2........2.13
do, No. 2........2.09

BARLEY.

The barley market continues dull and unchanged.

Choice feed, per ctl........$2.40@2.47½

OATS.

Oats are inactive and prices are nominally unchanged.

Red feed, per ctl........$2.50@2.65
Red seed........2.75@3.25

CORN.

Business in corn is nominal. Dealers say there is occasional inquiry but no sales.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked........$4.20@4.25
Milo maize........3.95@4.05
Egyptian........4.05@4.10

HAY.

Receipts of hay for the past week were 2067 tons. The larger part of the receipts were by boat from points about the bay. The congestion noted during the past few weeks was not so much in evidence. The Government placed orders during the week for its September requirements, most of which will be furnished by San Francisco dealers. The range of prices prevailing in this market are still lower than that of the country districts, considering the additional charge of freight. Warehouses in the city are practically full and all receipts must necessarily be moved direct to the consumers. This has had a tendency to keep values from any higher level for the present at least.

Wheat No. 1........$23.00@25.00
do, No. 2........20.00@22.00
Choice tame oat........24.00@26.00
Wild oat, new........19.00@23.00
Barley, new........19.00@23.00
Alfalfa, first cutting........16.00@20.00
do, second cutting........22.00@24.00
Stock........18.00@21.00
Barley straw........50@80c

FEEDSTUFFS.

Rolled barley and rolled oats were the only two active feedstuffs this week. The former sold off 50c and the latter showed an advance of from $3 to $4.

New alfalfa meal, per ton........$33.00@34.00
Coconut cake or meal........44.50
Cracked corn........86.00@88.00
Oilcake........$75.00@76.00
Rolled barley........52.00@52.50
Rolled oats........58.00@60.00
Bran, carload lots in S. F........23.75
Mixed feed, do, do........25.00
Middlings, do, do........25.75

POTATOES, ONIONS, ETC.

Both potatoes and onions showed a decided weakness this week and were sold at times at a somewhat lower figure than today's quotations. No more Merced tomatoes are coming into this market and the price of the bay description stiffened somewhat. Sweet potatoes are coming in in larger quantities and their price and range were lowered. Rhubarb and summer squash showed weakness and green corn and garlic showed strength.

Peas........6@8c
String beans, per lb........4@5c
Wax beans, per lb........4@5c
Carrots, per sack........50c@$1.00
Rhubarb, San Jose, per box........$1.00
Summer squash........35@50c
Cucumbers (hothouse), per box........50@90c
do, Alameda, lugs........50@90c
Eggplant, per box........50@65c
Lettuce, Sacramento, crate........75c@$1.00
Lettuce, Sacramento, crate........Nominal
Tomatoes, per crate—
Merced........Nominal
Bay........85c@$1.25
Potatoes—
Garnet Chile, on street........None
Whites........$2.25@2.60
Sweets, per lb........4¼@4½c
Onions—
River Reds........None
Yellows........$1.40@1.65
Australian Browns........1.40@1.65
Garlic, new........16c
Green corn, Alameda, per sack..$2.50@3.00
Okra........5@7c

BEANS.

There was very little demand and light sales are reported.

Bayos, per ctl........$ 7.50@ 7.75
Blackeyes........6.75@ 7.00
Cranberry beans........10.25@10.50
Limas (south, recleaned)........12.50@12.75
Pinks........6.75@ 7.00
Red kidneys........Nominal
Mexican Reds........7.50@ 7.75
Tepary beans........8.00@ 8.50
Garbanzos........8.00@ 8.75

POULTRY.

Hens continue the feature of the poultry market and the demand is expected to continue for at least another week. Choice hens will undoubtedly bring a somewhat higher price next week. Broilers and fryers are both strong and quoted at slightly higher prices. Spring turkeys have not been in large demand and the price was lowered 2c. The entire poultry market is in good condition.

Turkeys, live, young spring, lb....38@40c
do, old........30@32c
do, dressed, old........32@34c
Broilers, 1½ to 2 lbs........38@40c
do, 1¼ lbs........42@45c
do, ¾ to 1¼ lbs........45c
Fryers........38@40c
Hens, extra, per lb., colored........35@36c
do, Leghorn........33@34c
Smooth young roosters, per lb. (3 lbs. and over)........37@40c
Old roosters, colored, per lb........22@24c
Geese, young, per lb........22@23c
do, old, per lb........21c
Squabs, per lb........45c
Ducks........25@27c
do, old........23@24c
Belgian hares (live)........15@18c
do, dressed........19@23c

BUTTER.

Butter has had another week of slightly varying prices. For the present not much activity in butter is anticipated.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	53½	53½	52½	53	—	52½
Prime 1st	49	51½	51	51	—	51
Firsts	49	49	49	49	—	49

EGGS.

Extra eggs and extra pullets continue stronger and each shows an advance of 3½c, which is even greater advance than was recorded the previous week. Prices continue high in New York and shipments to that market have been made during the week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	58	58	59½	59½	—	61
Extra 1sts			Nominal			
Firsts	46	46	46	46	46	Nom.
Extra pullets	53	53½	53½	54	—	56½

CHEESE.

As a usual thing the members of the San Francisco Produce Exchange do not deal to any extent in the First California Flats, as most of the retail trade demands the fancy description. However, when cheese advanced to its recent high price last week a demand developed for the Firsts. This transfer of demand had a weakening effect and when a call was made for California Y. A. Fancy the Fancy Flats began to recede and the price was reduced to 31c. Oregon Triplet Fancy was advanced to 31½c, thus becoming the leader in price in the list.

Fancy California flats, per lb........31c
First California flats, per lb........Nom.
California Y. A. fancy........30c
Oregon triplets, fancy........31c
Oregon Y. A. fancy........27½c
C. S. Oregon triplets fancy........30c
do, Oregon Y. A. fancy........28½c
do, Long Horn fancy........29c
Monterey cheese........23@25c

FRESH FRUITS.

Apricots are now at about the end of their season. Cantaloupes also are nearing the end of their season. Some flats sold as cheap as 35c, but most were held to sell from 40c to 60c. The ponies and standards were also sold under last week's quotations.

Apples........$1.50@2.50
Apricots, per crate........Nominal
Peaches, 4-box crate........75@1.00
Figs, black, per box........None
do, double layer........$1.00@1.50
do, Single Row Whites........65@75c
Strawberries, per chest........7.00@8.00
Blackberries, per chest........5.00@7.00
Raspberries, per chest........10.00@13.00
Loganberries, per chest........None
Plums........$1.00@1.50
Cantaloupes, flats........40@60c
do, ponies........75@90c
do, standard........$1.25@1.50
Watermelons, per lb........1½@2c
Pears, Bartlett, per box........$1.50@2.25
Grapes, seedless........$1.00
do, Malaga........1.25
do, Fountainbleu........90@1.00
do, Tokay........1.25@1.50

CITRUS FRUITS.

Oranges and grapefruit were unchanged this week, but the prices of lemons were lowered all along the line. While the best oranges are held at $8, dealers say that it is difficult to get this price.

Oranges:
Valencias, fancy........$7.50@8.00
Valencias, choice........7.00@7.50
Lemons:
Fancy, per box........5.50@6.50
Choice........4.50@5.50
Standard........3.00@4.00
Lemonettes........3.00@4.00
Grapefruit, fancy, new........5.00@6.00

DRIED FRUITS.

Buyers are now paying driers' prices for both apples and pears and much larger quantities are being bought. Apples continue at 13c and enough sales have been made to establish this as a quotation, at least for the present. Pears are being bought all the way from 10½c to 13c, depending on the section they come from and their condition.

Apples........13c
Pears........10½@13c
Prunes, graded, price to growers: gain in dip........11c
Prunes, graded prices to growers:
20-30, inclusive, per lb........15c
31-41, inclusive, basis........10c
42-51, inclusive, basis........9½c
52-61, inclusive, basis........8½c
62-71, inclusive, basis........8½c
82-91, inclusive, basis........8c
92-101, inclusive, basis........8c
102-121, inclusive, per lb........4½c
122 and up, per lb........4c
Apricots........12@19c
Figs........12@16c
Raisins—
Muscats........5½c
Thompsons........6¾c
Sultanas........6½c

HONEY.

More honey is being used in this city than in the past few months on account of the rigid enforcement of the sugar rules. Prices are maintained steady. Some Nevada honey is expected in this market in the near future. Most of the product of that State goes East direct.

White, extracted........21c
Light amber........18@20c
Amber........15@18c

RICE.

Paddy rice, 1918 crop........$4.32
Clear No. 1, 1918 crop at mill........7.00

LOS ANGELES

BUTTER.

Los Angeles, August 27, 1918.

Receipts were somewhat better this week, 322,100 pounds against 365,200 pounds the same week last year. More or less sweet butter, however, is included in the receipts, and this is going into cold storage. Demand fairly good for all extras at steady prices. There was taken into cold storage during the week 19,423 pounds, making the cold storage holdings now 500,039 pounds against 291,762 pounds this time last year.

We quote—

California extra creamery........50c
do, prime first........49c
do, first........48c

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	50	50	50	50	50	50
1917—						
Extra	42	42	42	42	42	42

EGGS.

An active and rather snappy market was had the past week. The receipts by rail for the week were 761 cases, against 857 cases the same week last year. Receipts by truck continue to run about four times as heavy as the arrivals by rail, making the supply for the week 3806 cases, against 4285 cases the same week last year. There was withdrawn from cold storage during the week 3275 cases, against 2451 cases the same week last year.

Daily quotations:

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	53	53	53	53	53	53
Case count	49	49	49	49	49	50
Pullets	47	47	46	47	47	48
1917—						
Extra	43	43½	43½	43½	43½	43½
Case count	39½	42	42	42	42	42
Pullets	38	38	38	38	38	38

POULTRY.

Receipts fairly good, but high prices caused light consumption. Broilers in good demand, but fryers were dull; so were light hens and roosters.

The following prices were agreed upon last Friday, August 23, and hold good until the coming Friday:

Broilers, 1@1¼ lbs........33c
Broilers, 1½@1¾ lbs........33c
Fryers, 2@3 lbs........29c
Roasters (soft bone), 3 lbs. and up....29c
Stags and old roosters, lb........19c
Hens........20@27c
Tom turkeys........30@33c
Ducks........22@28c
Geese........15c
Squabs, live, per lb........30c
Squabs, dressed, lb........40c

VEGETABLES.

Market was well supplied the past week and fresh stuff was in fair demand. Cabbage is still scarce and high. Potatoes coming in more freely; market less firm. Onions are off under freer offerings, but demand is fair. Summer squash a little firmer, but slow. Cucumbers steady. String beans and corn steady and in fair demand. Peppers low sale.

We quote from growers—

Potatoes, local, per lug........75c@$1.00
do, do, per cwt........$2.25@2.70
do, northern, per cwt........3.00@3.10
Sweet potatoes, per lb........4@5c
Garlic, per lb........8@9c
Onions, Stockton Yellow Danvers, cwt........$1.75@2.00
Onions—White Globe, per cwt... 2.00@2.25
Onions—Small Bermuda, per crate..80@90c
Cabbage, per 100 lbs........$3.50@4.00
Bell peppers, per lb........3@3½c
Chile peppers, per lb........3@3½c
Summer squash, local, per lug....30@35c
String beans, per lb........6@7c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb....4@5c
Cucumbers, home-grown, per lug..30@45c
Corn, per lug of 3 doz........65@75c

FRUITS.

Receipts were fairly liberal the past week and prices ruled a little lower. Demand fair for all fancy stock, but stale and off conditioned hard to move. Plums sell fairly; market a little lower. Peaches and pears both off under freer offerings. Figs coming in freely and a little lower. Quinces dull and also lower. Grapes coming in freely and market off all around.

We quote from growers:

Figs, Black Spanish, 7-lb. box........50@75c
do, White, 7-lb. box........50@60c
Peaches, freestone, per lug........75c@$1.00
do, clings, per lug........$1.00@1.50
do, Northern, freestone, lb........3@3½c
do, do, clings, lb........3½@4c
Pears, local, per lb........2@3c
Pears, Mountain........3½@4c
Crabapples, per lug........$1.00@1.25
Satsuma, per lb........4@4½c
Nectarines, per lb........5@6c
Grapes—
Imperial Valley Malagas, per lb..2@2½c
do, Muscat, per lb........2@2½c
do, Thompson's Seedless, per lb..2@2½c
do, Tokay, per lb........5c
Banana apples, 4-tier........$2.25

Apples—Alexanders, 4-tier..... 2.25
do, 4½-tier 2.00
Plums, per lb.....5@6c
Quinces, per lug.....60@75c

BERRIES.

The market was full of other fruit and berries were cheaper.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate.....$2.25@2.50
Poor to choice, 30-basket crate. 1.80@2.00
Blackberries, 30-basket crate.... 1.80@2.00
Raspberries, 30-basket crate..... 2.75@3.00

MELONS.

Watermelons coming in freely and market weaker. Hot weather encouraged demand and they sold very well at last week's low prices. Cantaloupes coming in less freely and bring a little more money. Casabas slow sale and weak. Honeydew melons coming in more freely and bringing good prices.

We quote from growers:

Cantaloupes—
Tip Top, home-grown standard crate .....80@85c
do, do, pony crate.....50@65c
do, do, jumbo crate.....$1.75@2.00
Columbia, jumbo crate..... 2.00@2.25
Casabas, per lb.....2@2½c
Pineapple, standard crate .....80@85c
do, jumbo crate .....$1.75@2.00
do, Paul Rose, standard crate. 1.00@1.25
Watermelons, per 100 lbs..... .75@1.00
Honeydew melons, 16-inch crate. .90@1.00
do, jumbo crate..... 3.25@3.50

BEANS.

Beans are now being harvested. Buyers are holding back. Bids on limas were lowered to 11c.

We quote from growers:

Limas, per cwt.....$11.00
Large white, per cwt. 10.00
Small white, per cwt. 10.00
Pink, per cwt. 7.50
Blackeyes, per cwt. 7.00
Tepary, per cwt. 8.50

HAY.

The market is dull. Receipts the past week were good and demand light for all alfalfa and barley hay. Barley was especially hard to move and clearances hard to make. Oat hay is scarce and in steady demand.

We quote f. o. b. Los Angeles—
Barley hay, per ton .....$24.00@26.00
Oat hay, per ton ..... 26.00@28.00
Alfalfa, northern, per ton.... 21.00@22.00
Alfalfa, local, per ton..... 22.00@24.00
Straw, per ton ..... 9.00@10.00

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, August 26, 1918.

Continued heavy receipts during the past week, coupled with the fact that about half of the offerings of Bartletts were ripe, resulted in all markets showing a sharp decline. Northwestern pears continued in fair supply and had a noticeable effect upon the sale of California stock.

Receipts of plums were not as heavy as the week previous and consequently the demand was in keeping with the supply and prices ruled steady.

There was a noticeable increase in the sale of California Elbertas in quite a few of the auction markets, due to the fact that speculators had bought several cars in the Middle West at a premium, hoping to re-sell in the Eastern markets at a profit. Their judgment, however, proved to be in error, as the prices realized showed that someone was facing a heavy loss.

The market on Malagas showed a slight decline, due to increased offerings, but as the stock is arriving in fairly good condition we anticipate that the market will be affected only by the proportion of offerings, but we look for an active demand throughout the season.

Few Tokays have reached the East, but shipments en route are fairly heavy. The stock is not up to standard as a whole, except from the Florin district. We look for an unusual demand for Tokays this season and predict unusually high prices.

The supply of refrigerator cars has been in keeping with the shipments, though it is predicted that there will be a temporary shortage for the next ten days. There is quite a supply of empty refrigerators en route West, but these will not be available until the latter part of next week. As there are about 12,000 cars of fruit and grapes yet to be marketed from California, we anticipate there will be plenty of cars to move the crop, though a shortage may develop intermittently during the season.

Averages for the week:

New York: Pears—Bartlett, $2.77; B. Hardy, $2.87. Peaches—Elberta, $1.05; Crawford, 98c; Tuscan, $1.11; Lovell, 80c; White Free, $1.10; McDevitt Cling, $2.15. Plums—Diamond, $1.69; Gros, $2.05; Giant, $1.76; Grand Duke, $2.19; Kelsey, $2.32. Grapes—Malaga, $2.21; Thompson Seedless, $1.43; Muscat, $2.75; Rose Peru, $2.15; Cornichon, $1.97; Tokays, $2.98.

Boston: Plums—Gros, $2.32; Giant, $1.91; Kelsey, $2.83; Hungarian, $2.05; Grand Duke, $2.29; Diamond, $2.11; Gros, $1.99. Peaches—Crawford, 90c; Susquehanna, 80c; Wheatland, 73c. Pears—Bartlett, $3.37; B. Hardy, $2.75. Grapes—Muscat, $3.17; Malaga, $2.04; Thompson Seedless, $1.36; Cornichon, $2.75; Tokay, $3.47. Peaches—Tuscan, $1.11; Elberta, 92c; Lovell, 69c.

Chicago: Pears—Bartlett, $2.47. Peaches—Elberta, $1.18; Crawford, $1.18; Lovell, $1.16; Tuscan, $1.03; Wheatland, 89c; Susquehanna, $1.30; Wiley Cling, $1.40. Grapes—Malaga, $1.83; Thompson Seedless, $1.38; Tokay, $2.85. Plums—Hungarian, $2.23; Italian, $1.53; Grand Duke, $2.12; Gros, $1.94; Giant, $1.82; Kelsey, $1.89; Diamond, $1.85; Satsuma, $1.32.

Total shipments, by cars, from August 17 to 22, inclusive: 227 peaches, 181 plums, 412 pears, 799 grapes, 65 mixed. Total shipments to date, 1918, 10,290 cars; total shipments to date, 1917, 9447 cars.

Special Livestock Market Report

San Francisco, August 28, 1918.

CATTLE—The cattle market is weak, especially on cow stuff, with which the market is heavily overstocked. Heavyweight steers, however, are still scarce and hold up much better than the lightweights. Last week's quotations hold.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11@11½c
No. 1, weighing 1200 to 1400 lbs..11@11½c
Second quality .....9@10½c
Thin .....7½@8½c
Cows and heifers—
No. 1 .....7½@8c
Second quality .....6@7c
Common to thin.....3½@5½c
Bulls and stags—
Good 6c
Fair .....5@5½c
Thin .....4@4½c
Calves—
Lightweight 11c
Medium 10c
Heavy .....8@8½c

SHEEP—Sheep and lambs are firm. The supply is scarce and not of the best quality. Most of the stock reaching this market comes from northern points, Nevada and Arizona. The wool market is still a factor in holding supplies back. Quotations stand.

Lambs—
Yearlings .....12@12¾c
Milk .....12@14½c
Sheep—
Wethers .....11@11½c
Ewes .....8½@9½c

HOGS—A sharp advance in all grades of hogs is noted, and supplies are coming in more freely at the advance. Strong prices may be expected to rule for some time to come. Some California hogs are moving to the Portland market, where higher prices rule. One prime lot sold there for $20 per cwt.

Hogs—
Hard, grain-fed, 100@140.....7½@17¾c
do, do, 140@300 .....17¾@18c
do, do, 300@400.....17½@17¾c

Los Angeles, August 27, 1918.

CATTLE—The market situation here remains unchanged from a week ago.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs.....$9.00@12.00
Prime cows and heifers..... 7.50@ 8.50
Good cows and heifers ..... 7.00@ 7.50
Canners, per cwt. ..... 5.00@ 5.50
Calves, per cwt. ..... 8.50@ 9.50

HOGS—There is a scarcity of choice, well finished hogs. Light hogs here were advanced. Receipts light and meet with ready sale.

Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225@275 lbs. ..... 16.00@17.00
Light, 175@220 lbs. ..... 16.50@18.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Demand fair and killers had to reach out to get what they wanted. California, Arizona, Nevada, and Utah all contributing to the receipts the past week.

Per cwt. f. o. b. Los Angeles—
Prime wethers .....$9.00@10.00
Prime ewes ..... 8.50@ 9.50
Yearlings ..... 9.50@10.50
Lambs .....15.00@16.00

No. Portland, Ore., Aug. 26, 1918.

Twenty-two hundred head of cattle and 150 calves were counted in the cattle division over Sunday. Cow stuff is showing considerable strength, some weighing around 1000 pounds sold up to $9.80. The quality of cattle today runs heavy to fair and medium; however, the market is strong for all grades as quoted. Prime steers, $12.50@13.50; good to choice steers, $11.00@$12.00; medium to good steers, $9.75@11.00; fair to medium steers, $8.75@9.75; common to fair steers, $5.75@8.25; choice cows and heifers, $8.25@9.25; medium to good cows and heifers, $6.25@7.75; fair to medium cows and heifers, $5.25@6.25; canners, $3.00@5.00; bulls, $5.00@7.00; calves, $9.00@$12.00; stockers and feeders, $6.00@8.00.

The run of hogs over Sunday is 1300 head. The quality is generally good. The number of light unfinished hogs is comparatively light. The market is steady at quotations, as follows: Prime mixed, $19.50@20.00; medium mixed, $19.00@19.50; rough heavies, $17.50@18.50; pigs, $16.75@$18.00; bulk, $20.00.

The count in the sheep division over Sunday is 1200 head of sheep and lambs. There is little or no change in prices, all grades selling steady as quoted. Prime lambs, $14.00@15.00; fair to medium lambs, $11.00@13.00; yearlings, $10.00@11.75; wethers, $9.00@10.50; ewes, $7.00@9.00.

A WORD TO THE WISE.

Our good friend, H. A. Munger of Santa Paula, writes: "Enclosed find check for $5 to renew my subscription for five years. One year seems so short on a farm that it is no time until my subscription has expired; and to be without a good farm paper, and not able to keep in touch with the market prices and new ideas, is like trying to farm without tools."

Yes, the Rural Press is an absolute necessity nowadays. Farmers need help in overcoming the many new difficulties that are arising, and in our columns they find their troubles anticipated and their problems solved.

We are giving aviation quality, but at submarine prices. The various costs entering into the publishing of the paper have gone up tremendously, yet our subscription price has remained at rock bottom. How long it will continue at $1 we cannot tell. The white paper situation is acute; prices jump up over night. Consequently, we may have to increase the price to $1.50 any minute.

You intend to take the paper for years. You know how bothersome it is to renew for a year at a time. So why not settle the matter for several years, not only to be sure of receiving the paper but also to be sure of getting it for the whole term at the present price?

Right now we will accept renewals for from two to five years at the present low price of $1 per year. You cannot invest money to better advantage; the farther ahead you renew the more you make. Don't wait for your present subscription to expire. Send in your long-term renewal now. Better to be safe than sorry.

Don't miss next week's issue. It will be devoted largely to tractors on account of the third annual tractor demonstration at Los Angeles, September 17 to 21, and Mr. Hodges will answer those questions that have been coming up in your mind about the advisability of using mechanical power.

But the other departments will not be crowded out. Mr. Fox has been down in the peach and grape sections, getting first-hand information for you about these crops, and Mr. Whitten will tell you how to handle the sows and their litters this fall so as to get more and better pigs. It will be a fine issue.

Classified Advertisements

MISCELLANEOUS.

REMANUFACTURED PIPE. All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works,** 160 Eleventh street, San Francisco.

OWING TO THREE of my men leaving for the front, will not be at State Fair with potato exhibit during the week, but will meet any of my friends or customers on the grounds Monday or Tuesday, the opening days. H. A. Hyde, Watsonville, Cal.

CANADA—A Rancher's Life in Canada and Guide to Rural Industries. Fruit-growing, poultry-keeping, ducks, geese, turkeys, pigeons, hares, goats, bees, etc., 25c., postpaid. By C. H. Provan, Langley Fort, British Columbia.

TRACTORS FOR SALE—Two Moline tractors, new, at substantial reduction, with drawbar and two-point plow attachments each; under clearance 30 inches. Address A. B. Harris, 181 Vernon Terrace, Oakland.

SURFACE IRRIGATION PIPE for sale; 10-foot lengths, 20 gauge, 10 and 11-inch, new, at substantial reduction; have 4000 feet. Address Ramsey Probasco, 2436 Virginia street, Berkeley, California.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

HAY FOR SALE—200 tons number one oat hay baled; sale to consumer at reduced rates. Address A. B. Harris, 181 Vernon Terrace, Oakland.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

$5.00 A DAY—Gathering evergreens, roots and herbs. Ginseng $14 lb. Belladonna seed $64 lb., or grow it yourself. Book and war prices free. Botanical 82, New Haven, Conn.

TRACTOR ENGINEER WANTS WORK—Four years experience on caterpillars, also wheel tractors. Does own repairing. C. J. Schack, Stacy, Cal.

FOR SALE—At a sacrifice, Beeman Garden tractor and implements. Good as new. P. Bouery, R. 3, Merced, Cal.

FOR SALE—A deep well pumping outfit, complete; 100 feet 7-inch discharge pipe. Box B, Menlo Park.

FOR SALE—Sandwich power hay press, 17x22 bale; practically new; $400 takes it. Ceres Hardware and Implement Co., Ceres, Cal.

COUNTRY LANDS.

FOR SALE—Forty-acre ranch, seven miles from Modesto, Stanislaus county, on main highway, paved to within one-fourth mile; 35½ acres fine alfalfa, 1½ to be planted this season; two acres mixed bearing orchard; one acre buildings and corrals; dairy barn for forty cows, separator room, etc., all complying with new dairy laws; house, barn for five horses, calf shed, etc., etc.; on main irrigation lateral; very near modern school; fine drinking water; one-third cash, balance long term, 7 per cent mortgage; deal with owner; no agents; will be glad to have friends show intending buyers the ranch. Write Carl G. Meiners, Meiners' Ranch, Ojai, Ventura county, Cal.

ALFALFA RANCH IN FRESNO COUNTY—50-acre alfalfa ranch, subirrigation, with substantial improvements, work stock and implements. Price, $20,000, $6,000 cash, balance long time. J. Hargeshimer, Sanger, Cal.

FOR SALE—Best cattle alfalfa ranch proposition in San Joaquin Valley. Half section, 220 acres, A1 stand of alfalfa, 25 acres corn. Abundance of electric pumped water, 300 tons alfalfa in stack. S. P. main line siding on ranch. State highway passes through ranch. Will give terms; deal direct with owner. J. S. Going, Quail Ranch, Pixley, Cal.

FOR SALE—20-acre irrigated ranch, with improvements and growing crop; team and farming implements; a bargain. William Paulsen, Chowchilla, Cal.

WANTED.

WANTED—A good married man for a stock farm; able to milk and do general farm work; wife to cook for two men; state experience, wages and reference to Thomas Harrison, Glen Ellen, Cal.

HYLAND BAG COMPANY

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Cleveland Tractor

NEW MODEL

$1,600.00

F.O.B. BERKELEY

Distributors Northern California and Western Nevada

F. H. STOW

2076 Center Street BERKELEY, CALIFORNIA

SEE ADVERTISEMENT ON NEXT PAGE.

A Little "Tank"—for Farm Work

The Cleveland Tractor is built on the same principle as the wonderful European battle "tanks."

It travels on its own tracks, laying them down and picking them up as it goes along.

This efficient type of construction makes the Cleveland *specially* valuable to farmers, as it enables them to work practically *anywhere*—over almost *any kind* of farm land.

They are being operated over gullies, ruts and ditches, through soft soil, wet clay, sand and gumbo—without sinking or floundering. *They do not pack the soil.*

They are working under and among small trees, close up to fence corners, on hillsides and over rough ground with much better results than can be obtained with horses or with any other type of tractor.

And they are working much *faster*.

Thousands of Cleveland Tractors are helping to increase the production of food demanded by war conditions.

The Cleveland, pulling two 14 inch bottoms—which it will do under average conditions—plows 3½ miles an hour—eight to ten acres a day. This is equal to the work of *three* men and *three* good three-horse teams.

The Cleveland steers by the power of its own engine; it requires but slight effort on the part of the driver. Only one man is required to operate it. 12 horsepower is developed at the drawbar and 20 horsepower at the pulley. It is a constant source of tractive and stationary power for twelve months in the year.

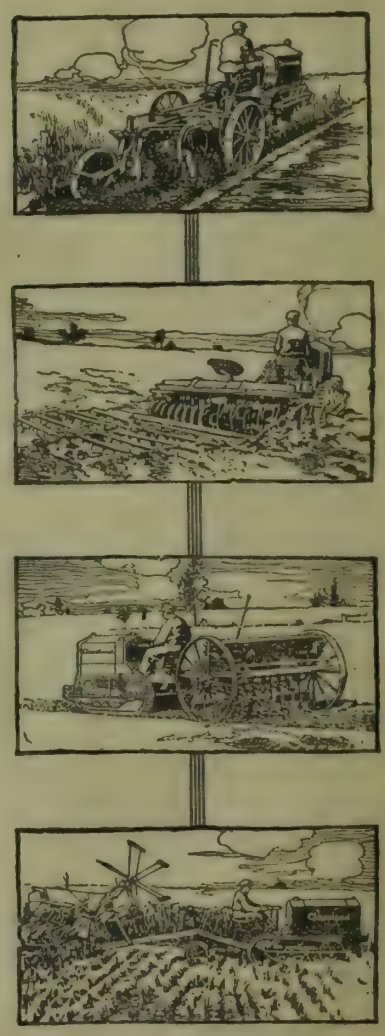
It plows, harrows, plants, reaps, cuts ensilage, runs saws and pumps, drags logs, pulls road machinery, hauls manure spreaders and does practically all the work formerly done with horses or stationary engines.

The Cleveland Tractor produces food but consumes none of it. It conserves man power, horse power, time, energy, and effort—and produces greater returns.

The Cleveland Tractor was designed by Rollin H. White, the well-known engineer. It is manufactured under his supervision. Gears and tracks are protected from dust and dirt. Materials throughout are of the best. The whole machine weighs only about 3200 pounds. It can be housed in less space than is needed for a horse.

Take advantage of present produce prices. Raise *more* food *now*. Help the nation and incidentally make more money yourself by using one or more Cleveland Tractors.

Write for complete information and the name of the nearest Cleveland dealer.



The Cleveland Tractor Co.

The largest producer of Crawler-type Tractors in the World

19079 Euclid Avenue **Cleveland, Ohio, U. S. A.**

Cleveland Tractor

Vol. XCVI—No. 10

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO | SEPTEMBER 7, 1918 | LOS ANGELES

7-1-20
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The Latest in Tractors and Implements

Written for Pacific Rural Press by R. E. Hodges

MOTHER, with a heart bursting full of pride, was watching Johnny's regiment parade gaily up Market street. As Johnny's company passed, she exclaimed excitedly, "Look, father, there's Johnny. He's the only one in the company that's keeping step!" About four years ago, when California gave birth to an awkward baby called Tractor Demonstration, even the fond mother and the baby's godfathers themselves would scarce have been so proud of the infant nor so hopeful of his future as events have justified; for now, if you aren't in step with this lusty youngster, you are likely to find yourself behind in the parade and out of step with the progress of the times.

That baby in 1914 had a lot of things to learn. It was striking out somewhat like our baby kicks and waves his arms with great force but with little real knowledge of what its own strength would be or would become if properly directed. The tractor youngster kept kicking a couple of years without gaining a great deal of attention from the public, but his lustiness deserved recognition and he deserved a chance to perform on a public stage. In fact, it is his peculiarity that the more he performs in public the bigger he grows, and the more popular are his performances.

"Tractor Demonstration" has adopted a brother, who performs with him. They are really inseparable. Neither makes a good show by himself, but together their performances in the past two years have attracted crowds which have increased from 800 or 900 people per day to an attendance estimated at a great many thousand per day at the last one, held at Davis, and the one before that, held a year ago at Los Angeles. The adopted brother has proved as lusty as the first baby. His name is "Modern Farm Machinery."

The amazing growth of both in power and popularity has been due not alone to their inherent excellence and the extraordinary necessity for their services, but quite largely to the organization within the past two years of the Traction Engine and Implement Dealers' Association of Southern California and the California Tractor and Implement Association. Under their auspices each of seven or eight demonstrations has excelled the last one in magnitude and value and in value received by both exhibitors and visitors. The performance and exhibit which will be staged just out of Los Angeles on the Whittier boulevard, September 17 to 22, will be far more representative and of more value to visitors than even the mammoth demonstrations at Los Angeles last fall and at Davis last spring. The management proclaims that 150,000 visitors are expected. Three hundred and fifty acres have been secured for elbow room. Sixty acres of this have been assigned to tent exhibits, but since over 100 outside firms have applied for space the chances are that you will have to walk over more than 60 acres to see the machinery exhibits alone, besides the other greater area devoted to working tractors and implements. Over fifty different tractors will work side by side and simultaneously in the public plowing demonstration and many more will be working in individual demonstrations every day from 8 a. m. till the crowds disperse.

"Bearcat" tractor pulling 8-foot double disk in Southern California walnut grove.

Yuba 12-20 ball-tread tractor pulling four two-row bean planters on second speed.

Monarch "Neverslip" tractor pulling three-gang plow, with rolling coulters, turning up old pasture.

Keep Up to Date on Machinery.

In this year, when some of the nation's food in California has been lost for lack of labor, and when the use of many acres has been lost for the same reason, and when half of the crops on many other acres have been lost because operations could not be performed well enough or at the right time, it behooves every man to keep up to date on every kind of machinery that promises to help one man do more than one man's work. The labor situation is good this year compared with what it will be next year, so far as anybody can foresee. The tractor delivery situation cannot be expected to improve, but is likely to get worse. Every man who delays buying a tractor until he needs it for immediate use is

(Continued on page 253)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

LESSONS OF LABOR DAY.

THE national holiday known as Labor Day was observed throughout the length and breadth of the country on Monday last, with unusual interest and enthusiasm. Processions in full bloom with flags and banners threaded the streets of all the larger towns; brass bands blared most stirring melodies; orators burst forth with burning tributes to industry—"and all the people said Amen." The observance of the day throughout was a most significant demonstration that the American people believes in work, honors workers and decrees that workers deserve and shall receive the reward of their labors for their own enjoyment and for their upbuilding to the standards of American citizenship and to the quality of American life. And all this is a lesson to the world, for this nation has already learned it well and credits the chief part of national progress and development to national recognition of debt to the laboring man and to the return to him of just reward and honor for his labor.

In this country the chief lesson of Labor Day is one which labor itself must learn and that is that honors and rewards in a republic impose upon those who receive them an obligation which they should sincerely assume and loyally discharge—even at the cost of sacrifice. Of course, this is not more the duty of labor than of other factors in the development of true democracy, but is the same duty which rests upon all who labor with heads, hands, purses or only with their tongues. All must learn that the obligation rests upon everyone to bring his job through to its completion and not to forsake his job, if it is worth doing, and he remains in possession of his capacity for work, and his employer lives up to his obligation as understood when the job was entered upon. Petition and protest are, of course, the right of a man and no decent employer will refuse to fairly consider and adjudicate them, but to throw down a job because the employer is in a pinch and can be unfairly squeezed is equivalent to desertion from an army or to slacking in a public obligation for completion of service.

HOW A LESSON IS ENFORCED.

THIS seems to be the most significant lesson of Labor Day and the fact that the public honors the day and adequately interprets its significance should convince those who enroll themselves under the banners of Labor that it is their duty to requite the public for its honor and confidence—just as others feel themselves patriotically impelled to do. Let us put the matter more concretely in the words of those who stand high in public service and in the nation's respect—words which were spoken to Labor on Labor Day. An announcement on the part of the War Department is this:

The Government will brook no profiteering by labor. It is ready for a fight if labor insists on having a fight. It declares President Gompers and the other American Federation of Labor leaders have done all within their power to have organized labor support the Government. But some of the local leaders have not the same patriotism. Meantime, department heads have been framing methods of handling labor in the new draft. Exemptions will be granted to skilled workers engaged on war contracts. And "industrial furloughs" will be in effect to help fill up certain lines of labor. That means that a man inducted into the military service may be furloughed to go back to industry. If he strikes he must go back to the army. Where labor is free from the responsibilities and dangers of fighting service, it shall keep at its work. If it has grievances, it can submit them to the Federal War Labor Board for adjustment.

Ex-President Theodore Roosevelt, in his address at a launching at an Eastern shipyard, said this:

I am convinced that, generally speaking, there is a fine spirit of patriotism in shipbuilding labor in all parts of the country. Yet it has been alleged that in certain yards unions have actually limited the output so as to limit the number of rivets driven in a day, or the number of days that men work, or in other ways to prevent the development of our utmost speed. Such men are traitors to the country. If I had my way, I would take any such men and any men who aided or abetted them, put them in the army at once, and send them across the water to do the hardest work in the most dangerous position, and I would not give them rifles until they had learned the spirit of patriotism.

And Secretary Daniels, speaking of the conditions to follow the return of peace, said this:

The people will take on new dignity. New conditions will impose new duties. Statesmanship of vision of will create new opportunities for American commerce and guarantee to labor the bread it has earned. This war is fundamental. Its effect will be to change everything. Trade and commerce and finance will seek new and broader fields and men and standards. There will be a more equitable division between capital and labor. But no Bolshevikism, no failure to protect alike property and labor, no class domination that lends itself to injustice or wrong can flourish on this continent.

These are the lessons of Labor Day which are of utmost importance to this country and to the world. Every citizen should patriotically ponder them and every alien should obey them or be interned. For what are we sacrificing life and treasure if it is not for a better world and how can we populate and preserve a better world unless we have better men?

IS THE STATE FOR CROPS OR GAME?

WE SHARE Secretary Daniels' confidence that there is a better world coming and we shall expect to find in it a better relation of crop growers to the protection and preservation of their crops. For a long time the chance of getting a crop has been determined by a combination of nature-lovers and nature-killers known as sportsmen. We have no objection to either and no hard words for either if it will ever be content to enjoy its love and its licensed murder without practicing its emotions and arts at the expense of those who are trying to produce the food which will win the war. This is the present aspect, though it is a very old question. Before the war nature-lovers and sportsmen placed all the farmers under subjection by forcing them to allow their fields to go unprotected from wild marauders: constituting farm property a State-wide game preserve—thus transforming a country which claimed to protect any man in the enjoyment of his property into a class hunting ground of the most ancient European type. We have always claimed that such treatment of farm property was kaiserliches and wrong. We have always urged that if science and sport needed wild things they should provide for them in state or national preserves and not turn the whole countryside into a "zoo" and a shooting range and oblige the farmers to feed their pets and targets—and to keep the shooting range stocked with their own farm animals for shooting when wild game was scarce or when fool hunters could not tell a farmer or his calf from a grizzly!

A HUN-LIKE MENACE.

THIS old question is now becoming intense and aggravated because it is impossible to grow rice and wild ducks on the same land and get anything but ducks which cannot be killed and sold when the crop is ripe because of the game laws. Naturally the rice growers are excited and are making strenuous efforts to determine whether they have any rights which anybody is bound to respect. They lost a million dollars last year feeding ducks so sportsmen could shoot them some weeks later, and they are in it to lose more this year unless they themselves have some rights in relation to the ducks which are feeding on a greatly increased acreage of rice. Though they have been appealing for weeks to all the governmental gods at once, they do not yet seem to have gained anything but threats and insults. At a meeting held at Willows on September 2 they decided to go over the head of the California Fish and Game Commission and to appeal directly to the State Food Administration, and then to the Department of Agriculture at Washington, to secure immediately relief from loss to their rice crops due to the depredations of ducks. This relief can be had by opening the shooting season for ducks earlier instead of waiting until October 15, by which time the rice will be largely eaten up by the vastly increased duck census.

It was shown by Assemblyman Poisely of Red Bluff at the Willows meeting that if the rice growers did not cease their effort for this earlier opening of the shooting season a member of the Fish and Game Commission has threatened to change the trespass laws to prevent the farmers protecting themselves from hunters. This is a fine Hun-like proceeding on the part of the authorities surely: if the farmers try to protect themselves from the ducks, the authorities will allow the pot hunters to swarm over the rice fields and destroy the crop that way. Relief should be immediately granted and farmers should be allowed to kill ducks before the crop is destroyed and to sell them to pay the cost of crop protection. Secretary Daniels believes the world will be better after the war. We hope this corner of it will be better after this duck war is over, for we believe the coming Legislature will not allow our agricultural areas to longer remain an ornithological museum and a sporting emporium.

MORE LIGHT ON MARKETING.

THE PUBLIC conscience is being quickened and the public head illumined on the subject of fair marketing in ways which were inconceivable before the war dropped its depth bomb into the murky caverns of common commerce. The illumination of the great gulf which lies between producers' receipts and consumers' payments continues to flash new light into the public mind. The Bulletin, to whose incisive action we gave much attention in our last issue, is continuing its crusade against the petty profiteers who burglarize the back gates and area entrances of our city homes, and is winning much favor not only from victimized consumers but from retail dealers who wish to trade on the square. How many quick conversions there may be from back alley bandits to boulevard square-dealers we do not know—and it does not much matter perhaps, providing conversion is really turning from evil ways. There does not seem to be such a thing as tainted money in trading: commercial ethics recognize both large profits from small sales and small profits from large sales as commendable, and it is all right to repent and turn from the one—if you can do it smoothly and quickly enough to get the other. However, we leave all that to the Bulletin: the ethics of retailing are not in our repertory.

Another matter is cropping out of the agitation of municipal retailing which is very much in our line, and that is doing private business with consignments which are entrusted to commission houses to be sold for the benefit of consignors—a line of business in which the commission merchant accepts a trust as the honorable agent of the producer and loots his property by selling it to himself as a jobber for retailers. We do not know how much of this is being done or who is doing it, but there has always been a conviction that it has been a considerable phase of urban robbery of farmers and efforts have been made at many Legislatures to enact a law which would make it possible for a shipper to know whether his produce was really sold by his commission merchant as an agent or whether the merchant sold it to himself at his own price and then re-sold it on his own account at some other price. Legislators have always been convinced by someone that efforts to give shippers such information were impracticable.

A HINT FROM THE FOOD ADMINISTRATION.

POSSIBLY the next Legislature will not find it so impracticable as its predecessors have done, because the U. S. Food Administration has all commission merchants under its license and is reading them the riot act as to how they must behave. The following is extracted from the Food Administrator's rules:

Licensees act in either one or the other of two capacities. They are agents who sell for the shipper on commission or they are actual purchasers for their own account. Some of them are engaged in both lines of business, and the shipper is often at a loss to know whether the receiver has bought the goods for his own trade or sold them to someone else. In such a case there is the possibility that the price realized would not be so high as when sold on a competitive market.

The Food Administration now requires a receiver to give detailed information to the shipper regarding the disposal of his consignment so that he may judge whether or not he has received the best treatment possible. When he buys the goods outright he must not use any expression in reporting to the consignor that would tend to give the impression that the sale had been a commission transaction. The expression "net return basis" is not to be used in connection with purchases. It can be used only in reference to an agency transaction.

In this regulation of the Food Administration we have the basis upon which to proceed to get the information which the consignor must have. The coming Legislature should see to it that such regulation of the commission trade as is now enforced by the Food Administration shall not lapse with the close of the war!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Half-Baked Americans.

To the Editor: I have just read your so-called editorials in your issue of August 24 and would like to ask you where you get the "half-baked" stuff? Has it come to such a pass that people can't go back home or to hell if they want to without having some hop-head calling them "half-baked"?—H. D. Gerken, Modesto.

A man has no right to fit himself to go to hell because he cannot do that without outraging his moral and religious nature and without doing wrong also in his relation to his fellowman. To fit himself for hell a man must unfit himself to live upon the earth, and of course no man has any right to do that. As for the right of "half-baked Americans" to go to their old homes we do not question that—unless they do something which necessitates internment. On the other hand, it is our notion that any alien who does not appreciate the advantages which this country has given him should "go back home" as soon as he can. If he has no deep and sincere longing to become a full-baked American, he should never have been admitted to this country—except as a traveler. We have thousands of foreign-born citizens and millions who are only one generation from foreign birth, and both of these classes are as good Americans as there are, but the dough-faces who are in this country merely to imperil the principles and practices which make it great while enjoying the same privileges and opportunities which the country affords to those who really love it and support it—such persons should be allowed to "go back home" as soon as it can be safely permitted.

A Grand Old Cherry.

To the Editor: I have a cherry tree that is 103 inches in circumference and the limbs measure 24 feet. Some of the ends are dead. Do you think I had better prune it back after cutting off the dead ends? The cherries are black. The ground is sandy loam and no hardpan. I irrigate it after picking the crop.—J. H. G., Lakeport.

You are fortunate in having one of the grand old cherry trees which survive from pioneer plantings in different parts of the State. They have an outlook for much longer life when they are on good deep soil and are not allowed to suffer for lack of moisture. On a deep light soil they are apt to lack soil moisture late in the summer and even large old trees may die outright if the lower soil gets too dry through lack of retentiveness—especially, of course, in years of scant rainfall. You have done the best thing possible for the tree by your irrigation after fruit-picking. Keep that up and you will have less die-back in the future. An old cherry is revivified by pruning. Cut below die-back to good, lively wood. Remove branches which seem weak and failing for lack of sap flow. We should not cut back simply for the sake of doing it, but always to get rid of weakness or defects. Keep the good sound wood with good spurs and the old chap will give you large crops for another generation or more, if the trunk is free from sunburn and decay. Unless the land has been recently manured, give the tree a good underspread from a few feet away from the trunk outward beyond the overhang of the branches.

Caterpillars on Oaks.

To the Editor: Can you help us rid this town of the tent caterpillar? This year we suffered more than in previous years. The holly oak trees were wrapped with masses of the pest and almost denuded of leaves. We are inflicted with the small green caterpillar on these trees also, but the tent caterpillar is in far greater numbers and does much more damage. We have been told that there is a green beetle which is the enemy of the worm, but we do not know the details, etc.—Reader, Belvedere.

The defoliation of oaks by both the caterpillars you mention has been in fitful progress ever since creation, perhaps, because the insects are native Californians, just as the trees are. There is, therefore, no danger that the worms will kill the oaks. They have always been saved from destruction because the invading insects have their own enemies, which reduce them when they multiply too greatly. But while these friendly allies of the oak lovers are catching up, the enemies of the oaks destroy their beauty and weaken them, no doubt. During the last twenty years the oak lovers have been making a counter-attack by spraying and have reduced the distress of the trees very much. The treatment consists in thoroughly spraying the foliage with lead arsenate, which is a simple process but requires power-spraying outfits to be used from scaffolding mounted on wagons, so as to reach the tops of the trees and to move easily from one to another, and the spraying requires much labor. Of course, orchard-spraying outfits are serviceable if rigged for use on trees of the height and spread of an oak.

The "green beetle" to which you refer may be one now on trial by State Horticultural Commissioner Hecke. We are not aware that its serviceability has yet been reported upon.

Stocks for Peaches and Apricots.

To the Editor: In choosing the stocks for peach trees wouldn't either the almond or apricot be better on account of the peach stock being short lived? For light soil, which is the better stock for the apricot and why? What variety of peaches do the nurserymen use as stocks for peach trees? How may the seeds be kept from harvesting time to planting?—H. M., Caruthers.

The peach root in California cannot be said to be short-lived in a free soil carrying adequate and regular moisture. There are peach trees planted in the '50s which are still thrifty. The peach tree generally goes to pieces in the top, not in the root. Still, the almond and apricot may have greater longevity. For a fine, light, deep soil, adequately moist by rainfall or irrigation, the peach is well suited for the peach, the almond and the apricot. For a coarse, deep soil, liable to become somewhat dry, the almond is best for the almond and for the peach, but not for the apricot, because the union is apt to give way even when the trees are of considerable size. The apricot root is good for the peach and the apricot on soils more retentive but not liable to long saturation. Peach seedlings grown from thrifty, strong-growing yellow peach varieties, both frees and clings, are preferred, but all our commercial varieties are largely used. Pits may be sandwiched with sand to advantage, but pits dried sufficiently to prevent molding and stored in sacks or barrels in a dry, cool place are largely used.

Gummosis in Fruit Trees.

To the Editor: Kindly give information on the treatment of gummosis. I have quite a number of almond trees, planted this year, affected with the disease, if it is a disease.—A. B., Paso Robles.

Gummosis of fruit trees is not a disease but is a symptom of disorder and derangement. In some cases it has been shown to have as a direct cause a parasitic organism and is an indication of its aggressive work and is subject to cure by the use of Bordeaux mixture of bluestone and lime, which kills the causative organism. In most cases, however, it is a dried exudation of sap extravasated because of some interference with normal sap supply and movement. This may be local, at or near the place where the gum appears, and may be a resultant of injury to the tissue by sunburning, by the work of an insect or some other mechanical cause. In such cases the gum and adjacent dead bark should be removed and the wound treated with Bordeaux mixture to kill decay germs which may approach. In very many cases, however, gumming is an indication of injury to the whole circulatory system of the tree by root trouble caused by destructive substances in the soil, or by root-rotting caused by standing water or by root-atrophy caused by excessive drouth or excessive soil temperature. In these cases correction of soil conditions must be undertaken. Gumming of the almond is generally due to sunburn or to borers or to irregularity in soil moisture.

WORK THAT PAYS

The war has depleted our field staff to such an extent that we need a few red-blooded men to attend to our renewals and secure new subscribers. It is real, necessary, war-time work, for we are helping Uncle Sam to increase food production by showing our readers how to raise more and better crops.

We can use elderly men, and lack of experience is no barrier. No investment necessary, except that you must have an automobile. Straight salary; permanent work, with advancement.

Write for full particulars and tell us a little about yourself. You will be glad you investigated

What Alfalfa Does in Rotation.

To the Editor: I read what you said in the Rural Press of August 3 about plowing under alfalfa fields which had become weary. I had nine acres of alfalfa which was not very good, so I plowed it under in the spring of 1917 and planted corn for silage, getting a good crop. Last November I put it into barley and got 369 sacks (about 110 or 112 pounds to the sack). On July 2 last I irrigated and planted Lady Washington beans and now have a fine stand—a little better than 28 sacks to the acre.—N. H., Hughson.

Your experience is a demonstration of the value of alfalfa in rotation, and the fact that one should not be content to keep on a poor stand of it too long, for, like some poor men perhaps, it can serve the community better under ground. Of course, your experience shows that you have good land, for good land is not only suited to grow good alfalfa but to benefit most by the turning under of the wreckage of it.

Bean Rust.

To the Editor: I send a leaf which I find in my field of Bluepods today. There are a number of plants with leaves like that I send and it seems to be spreading. It looks like bean rust, but no one here seems to know just what it is or what to do with it.—A. M. J., Lompoc.

It is bean rust (uromyces appendicu latus), but it is not yet in sufficient amount to seriously reduce leaf action and, appearing so late, is not likely to spread sufficiently to interfere with the crop. This is the way it usually acts in this State.

Sunburned Figs.

To the Editor: Our Adriatic figs are sunburned; there are a lot of black wasps and web on the trees. Are they the cause and how can I control it?—H. M., Caruthers.

We cannot see what the wasps have to do with it: they are probably after the spiders which make the webs, for the wasp family is about the only one which has an appetite for spiders. The only discoloration of figs we know of is due to souring or to lying too long on the hot ground before gathering for the trays.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 3, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.43	.24	76	48
Red Bluff	...	.12	.05	110	66
Sacramento	...	...	.01	104	54
San Francisco	...	...	.01	76	54
San Jose	...	...	.05	96	54
Fresno	...	...	...	106	64
San Luis Obispo	...	.01	.05	92	56
Los Angeles	...	.11	...	86	62
San Diego	...	.04	...	78	66

The Brood Sow Pleads for a Square Deal

Overheard in the Hog Field and written for Pacific Rural Press by R. H. Whitten

I WONDER if the boss has forgotten that I am due to farrow in a couple of weeks. I don't believe he keeps any record of farrowing dates. He seems to think that he can tell from a sow's appearance about when she will farrow, but he gets fooled lots of times.

For instance, there's Orion King A Wonder Grand Leader's Princess over in the next pen. She's looked like a balloon for weeks, and the boss has been feeding her dandy chow, although she isn't due to farrow until long after my time. But poor me—just because I don't look so heavy with pig and don't develop my udder until the last thing before I farrow, why I get nothing but alfalfa pasture right up until farrowing time, and the result is that my pigs are not so strong at birth and I am not in good enough condition to nurse them properly.

The boss doesn't seem able to get it through his bean that a pig well born is half raised; that the larger and more vigorous it is at birth the more rapid its development will be and the cheaper it will put on its gains; and that even if he believes in carrying his brood sows through most of the gestation period on alfalfa alone, it will pay him to give us some grain during the last six weeks in order to furnish sufficient nourishment for the rapidly developing pigs and to build up a reserve which can be drawn upon in nursing our litters.

This isn't extravagance. It's right in line with the present policy of conservation. If the boss would only post himself a little, he would find that of all young pigs that die 40 per cent are lost before they are 12 hours old, many coming dead or so weak that they cannot nurse, and many more killed by thin sows that are so restless that they jump up every few minutes for something to eat.

GOOD CARE REDUCES MORTALITY.

Somebody said that a season's crop of pigs could be increased 15 per cent without increasing the number of brood sows. I believe it, for I know I could give my boss fully 15 per cent more pigs at weaning time if he would only put me in better condition for farrowing, help me at farrowing time, and give me and my pigs better care during their babyhood. So he ought to keep a record to tell him when to begin to feed me for the benefit of my unborn pigs, and when to put me in a pen to get me in shape for farrowing.

I guess he means all right, but generally he forgets to free me from lice before putting me in a pen. Of course, I'm too heavy to dip at such a time, but he ought to spray me thoroughly with some good disinfectant.

And he ought to spray the pens, too. Whew, how they generally smell! I guess he never cleans them out. There are layers upon layers of filthy accumulation, making a great breeding ground for disease germs. And still he expects me to raise healthy pigs. I wonder if he makes his wife raise her children in such quarters.

How I would welcome a little attention while penned up! When I am farrowing the boss expects to be in the pen with me, yet before I farrow he doesn't do anything to make me confident that he will not hurt me or my pigs. If he'd only scratch my back and rub my udder a little, I'd soon lose my wildness and crossness, and I'd welcome him with a satisfied grunt instead of a growl.

How thirsty I get while I am kept in that pen! Just before farrowing I seem to want more water than ever, as it helps to keep my fever down. If the boss would only keep water before me all the while, I could help myself to it when I want it. I seem to crave minerals, too, and wish he would keep tonic before me. And when there isn't enough skim milk to go around he ought to give me a little tankage, as it will help to overcome any tendency to pig eating.

SIGNS OF FARROWING.

The boss watches for us to make a nest, but a more reliable way to tell when we are going to farrow is to watch our udders. When a colorless liquid appears we generally will farrow within 24 hours, and when the udder becomes feverish and the liquid turns milky white our pigs may be expected within 12 hours.

I wish the boss wouldn't feed me so heavily just before I farrow. Of course, I'm true to my name and I eat all he sets before me, but if he would feed me very lightly for 48 hours before farrowing it would prevent a surplus of milk from being forced into my udder. The udder wouldn't be so liable to cake, nor the pigs to have scours. The grain should be fed me in the form of a thin slop, and the ingredients should be regulated so that I will be kept free from constipation. Bran is laxative; so is oil meal. If these are not effective, two or three tablespoons of Epsom salts should be added to my slop.

BE ON HAND WHEN THE PIGS COME.

The old man kicks because we sows kill so many sows at farrowing time, but he does very little to help us save more pigs. Of course, he has a guard rail around the farrowing pen, but until a pig is 48 hours old it doesn't have enough sense to beat it for the rail when it sees its mother move around, and that 40 per cent "infant mortality" record could be reduced a whole lot if the boss would only stick around awhile and look after our pigs, at least until we finish farrowing.

As each pig comes he should take it away from the sow, wipe it dry, and remove the mucus from the nose to allow easy breathing. The pigs should be put in a clean box with bedding in the bottom, and it should be warmed with bricks or a jugful of hot water if the weather is cold.

Strong, husky pigs like these can be raised only when the best of feed and care is given.

Before the pigs are put back with their mother they should be ear-notched, as a cut made at this time will not bleed. Also, those long, sharp tusks should be removed. I don't see why in Sam Hill they were ever given to new-born pigs. They start canker sore mouth, cause injuries when pigs are fighting, and hurt us sows so much when the pigs are nursing that we sometimes roll over on our bellies and won't let them nurse at all.

If the boss is on to his job, he will keep all pigs away from a sow until she is through farrowing, unless she requires more than two hours and the pigs get very hungry. In such a case he will take two at a time, hold them and let them nurse until satisfied; then put them back and get two more.

When the afterbirth has been removed and the bedding freshened, he will put all pigs with the sow and superintend the allotting of positions to see that each pig gets a fair chance. He will be on hand the first time the sow gets up, and if she is very uneasy he will remove the pigs until she is quieted down again. He will stick pretty close to the farrowing pen for the first 48 hours, until the pigs become more wide-awake and learn to run under the guard rail. After that they will keep out of the sow's way and will have little trouble.

FEED THE SOW SPARINGLY.

Generally the boss is pretty hard hearted, but he weakens in one case where he ought not to. He gives us slop soon after we finish farrowing, while we should not have anything but fresh water for 24 hours. And even then we should get only a small amount of a thin slop, because it is necessary to retard the flow of milk and prevent it from being too rich until the pigs are old and strong enough to take it all.

The first day two pounds of whatever mill feed is being used, and six pounds of skim milk, is plenty. Then each day the grain should be increased a little, with the proportionate increase of skim milk, allowing ten days to bring a sow to full feed, which will require about 12 pounds of mill feed per day. If skim milk is not used, tankage should be substituted, and should be used in the proportion of one part to ten of the grain mixture.

The amount stated for a full feed is only approximate. We should be given enough so that our pigs will have all the milk they want, yet none will be left in our udders. If our pigs nurse well and then lie quietly and sleep, it's a pretty safe bet that they are just getting enough. But if they keep tugging away and squealing, and their hair stands up, we need more milk-forming food.

EXERCISE NECESSARY.

Somebody ought to beat the whey out of the boss for keeping us cooped up the way he does. Sows need exercise just as much as food, and if we are to be kept for several days in a central farrowing house we should be given exercise daily. Yet he never thinks of taking us out of our pens until he moves us out into the fields.

Fortunately, he doesn't like to clean our pens, so he gets us out on alfalfa as soon as possible. How the pigs do enjoy romping about! And how much better they thrive! The exercise makes them eat more, and you can almost see them grow.

Pretty soon—when they are two or three weeks old—they begin to eat with us at the trough, and at this time they should have a separate trough inside a creep so that they will get plenty. We old sows eat so much faster than they do and are so greedy that they do not get enough unless they are fed separately. It's all right to give them the same slop that we receive, but if you are feeding ground barley be sure that it is finely ground, as otherwise the sharp, coarse hulls are apt to cause trouble. Keep the troughs clean and do not let the slop sour.

If possible we should be put in a field where there is green alfalfa. Our young pigs will begin to eat it when three or four weeks old, and nothing is better for their development. But they won't eat the stemmy growth, and should have an abundance of green, tender shoots.

Sanitary quarters, good food, close attention, kind treatment—members of my race never fail to respond to these things. And I'll bet a good big bucketful of rich slop that if my old boss would pay more attention to such things his profits would be just about doubled.

TO SUCCEED WITH SHEEP.

Never keep them on low, marshy land.

Have good fences. If they are not dog-proof, keep the sheep in a corral at night.

Keep fresh water and salt before the sheep at all times.

Avoid internal parasites, such as stomach worms, by changing pastures frequently.

Be on the lookout for maggots in hot weather and fly time.

Don't allow the ram to run with the flock after all of the ewes are bred.

Be careful about driving pregnant ewes through narrow gates or doorways. A very slight injury may cause them to abort.

Tractor Demonstration Location Changed

[Written for Pacific Rural Press.]

On account of the list of entrants for the Third Annual Tractor Demonstration being far in excess of all previous calculations, and the demand for hundreds of additional acres of demonstration land growing greater each approaching day of the meet, the big tract of land selected for the site on Whittier boulevard has been abandoned for larger acreage on Wilshire boulevard at La Brea avenue, at the western city limits of Los Angeles. The Whittier boulevard site would have been ample for a demonstration of a size similar to last year's meet, but the officials in selecting that location never dreamed of having to accommodate so many exhibitors as have already signed up. Entries have been so heavy during the past week that every estimate on construction and other necessary work has had to be practically doubled.

THE NEW LOCATION HAS MANY ADVANTAGES

over the original one. It is several hundred acres larger and no matter how many exhibitors enter there will be ample room for all. At the old location only 350 acres were available for a demonstration field, with 60 acres for exhibitors' tents. At the new location spectators can more easily witness the demonstration of the scores of models and the operators of the many machines will not feel crowded.

The Wilshire tract is more easily accessible from points in Los Angeles and surrounding country, being connected with the boulevard running direct to the heart of Los Angeles, with smooth paving all the way. The Santa Monica red car line via Sherman, leaving the Hill street station of the Pacific Electric, runs past the tract and special car service will be had during the five days of the demonstration.

It is the desire of the general committee of the Traction Engine and Implement Dealers' Association of Southern California that everybody tell his neighbors and friends about the change in location, so that there will be no misunderstanding and all visitors will go direct to the Wilshire boulevard site.

REMEMBER THE NEW LOCATION.

It's right at the western city limits of Los Angeles, on Wilshire boulevard, the main artery of travel to the beaches. The new site makes it possible for several score additional entrants to be accommodated and visitors will be able to enjoy a bigger, vaster array and demonstration of tractors, tractor implements, farm machinery and ranch necessities.

The demonstration starts Tuesday at 8 a. m. and runs every day, September 17, 18, 19, 20 and 21, closing at 5 p. m. on the final date. No admission will be charged and there will be parking space for over 10,000 automobiles free. A restaurant on the grounds will serve dinner at attractive prices.

Free Lectures by Tractor Experts

[Written for Pacific Rural Press.]

Particular emphasis is being laid on the importance of proper care and upkeep of tractors. The initial cost of a tractor occupies the mind of the tractor buyer usually more than anything else—until after he has used his newly purchased machine for awhile and begins to give consideration to the operating expense and cost of upkeep. The necessity of the steel steed is recognized by every up-to-date food grower as the most important factor in forcing food production to the highest pitch. Any effort in securing greater efficiency from a tractor naturally results in more intensified work in helping lick the kaiser on the American farm and ranch.

In bringing about this increased efficiency every tractor buyer or prospective buyer is interested in practical tractor instruction. Over a year ago the National Automotive School, claimed to be the largest and oldest mechanical and technical trade school in the West, inaugurated a course in tractioneering and scores of trained men have graduated, having greatly profited by the thorough instruction received.

Realizing that thousands of tractor owners and prospective operators will attend the big Third Annual Tractor Demonstration, September 17-21, the school has decided to do some very commendable work. It has arranged a course of free lectures, two to be given each day during the meet. These lectures will be worth a good many dollars to any man interested in tractors. They will be one hour long, one to be given in the forenoon and one in the afternoon, and will be scheduled so as not to interfere with the regular demonstrations. Various instructors headed, by M. G. Coles, chief instructor, will lecture on various phases of tractioneering, and the talks will not be dry and deeply technical but rather will be practical and instructive, so that anyone can understand. There will be demonstration models of various parts of tractors, so that the lecturers can actually demonstrate their talks.

SCHEDULE OF LECTURES.

September 17.

Morning—Principle of the 4-stroke gas engine. Single, twin and 4-cylinder types Cylinder design and cooling methods.
Afternoon—Tractor ignition.

September 18.

Morning—Carbureters and mixers. Handling heavy fuels.
Afternoon—Magnetos.

September 19.

Morning—Bearings and lubrication. Oils and greases.
Afternoon—How to avoid ignition trouble.

September 20.

Morning—Breaking in a new tractor.
Afternoon—Repairing magnetos without the help of a service man.

September 21.

Morning—How to succeed with tractor farming.
Seating arrangements have been made to accommodate a large audience.

Visalia Tractor Course

The man that's not drafted has to feed the man that is. A tractor helps on the farm job and drivers are scarce. The drafted tractor driver has better work in the army than a private and has more pay, better conditions, and higher rank. San Joaquin men have an opportunity to go far toward qualifying for tractor drivers by working at the "Emergency Tractor Short Course" at Visalia, September 23 to 28, to be taught by University instructors and by factory men who will accompany the nine or ten different tractors, each of which is to be driven by every student. Plenty of land is available at the high school grounds for the practice work. Every day of the course will be full of lectures and work. These include fuels, carburetion, ignition, magnetos, governors, lubrication, valve timing and grinding, adjustments, repairs, implements to be used with tractors, belt lacing, babbitt pouring, pipe-fitting, etc. The course will be practically the same as those held at Davis and Riverside. It is promoted by Farm Adviser C. M. Conner, Visalia High School Agricultural Director R. J. Baker, and a committee of tractor owners. Tractors used will be Bean, Samson, Best, Moline, Holt, Case, I. H. C., Wallis, Fordson, and probably Cleveland. Students will pay a registration fee of $2 to cover expenses, but the general public is invited to the evening lectures on "Tillage Methods and the Best Tools to Tie to a Tractor." Detailed program will be sent on request addressed to Mr. Conner or Mr. Baker at Visalia.

LOCATION CHANGED

Mammoth Tractor Demonstration

¶ Owing to the absolute necessity for several hundred additional acres of land to accommodate late entries, the location of the 3rd Annual Tractor Demonstration has been changed from Whittier Boulevard to

WILSHIRE BOULEVARD

Corner La Brea Avenue
at western city limits of Los Angeles

GATES OPEN TUESDAY, SEPT. 17, 8 A.M.

Third Annual Tractor Demonstration

September 17, 18, 19, 20, 21

NO ADMISSION FREE AUTO PARKING

¶ Tell all your friends about the new, better location. Easily accessible by Santa Monica red line running from Hill Street Station, Los Angeles, and motor boulevards.

Traction Engine & Implement Dealers' Association
of Southern California
220 H. W. Hellman Building LOS ANGELES

The FAMOUS HARDIE JUNIOR SPRAYER

We believe this is the greatest small power sprayer ever manufactured. And placed on the market with phenomenal success in every fruit section in the United States, and vouched for by thousands who own the FAMOUS HARDIE JUNIOR. Equipped with 1½ h. p. engine, battery ignition, 150-gallon tank with mechanical agitator, capacity of 4 gallons per minute with a steady working pressure of 200 pounds, and two 25-ft. of the best spray hose, fitted with spray rods and nozzles; 4-inch tire truck with pole or shaft.

ALL FOR $275.00, DELIVERED ANYWHERE IN THIS STATE.

If truck is not needed, deduct $45.00.

These prices are subject to change without notice. The wise buyer will place his order now for future delivery.

This low price is made possible by big production.

If you are interested in other types and sizes of the HARDIE POWER SPRAYER, write us for the big spray catalog, and learn why we can offer more spray pump value than any other spray pump manufacturer. Hardie Spray Hose is the Safest Hose to Buy.

The Hardie Manufacturing Co.
200 N. Los Angeles St. LOS ANGELES, CAL.

FOR HARVESTING
EGYPTIAN CORN

You can use both hands and cut twice as much in a day with the

DAVID HEADING KNIFE

as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers. Pair (right and left) $2.50, from your dealer. *Dealer; order from any jobber.*

David Mfg. Co., Dept. C San Jose, Cal.

FACTS ABOUT THE TRACTOR DEMONSTRATION.

Third annual event.
Over 100 firms taking part.
Over 50 types and makes of tractors.
Hundreds of farm implements and machines.
Exhibition tents cover 60 acres.
Demonstration field covers 350 acres.
Estimated attendance, 150,000.
Location — Whittier boulevard, half mile east of city limits.
Duration—Five full days, September 17-21.
Gates open at 8 a. m.
Gates close at 5 p. m.
Estimated valuation—$1,000,000.00.

ALFALFA GROWERS ORGANIZE FOR CO-OPERATION.

[Written for Pacific Rural Press by J. C. Johnson, Fresno.]

The Alfalfa Growers of California Inc., the farmer's co-operative organization, which is designed to banish the hay profiteer and encourage the greatest development of California's great alfalfa industry, is now on a working basis. At a recent meeting in Fresno the 25 organizers, who have been working under the supervision of State Market Director Harris M. Weinstock, decided to incorporate the big project and commence active work in the interest of the alfalfa industry.

The association hopes to market its first hay by December 1. The state is now divided into seven districts and solicitors are working with the aim of reaching a goal of 60,000 acres by December 1. The organization is now represented with 25,000 acres stretching over California, from Tehama county to the Imperial Valley.

One of the greatest forms of helpfulness will be the jobbing feature of the association. It is hoped to effect a great saving for the membership through the purchase of tractors and other farm implements for the alfalfa grower in lots.

Taking as a nucleus the California Alfalfa Growers' Association, the State Market Director has enlisted members of the industry in one of the most powerful forces for the betterment of the farmers and California. The grower receives multifold returns for his small investment. At the time of signing up the grower pays 50 cents cash, or half in cash and half in sixty-day note for each acre of alfalfa cultivated by or for him prior to signing up and during 1918; and also $1.50 an acre additional for each acre of alfalfa cultivated by or for him prior to signing up during 1918 where the alfalfa has been or is intended to be marketed or sold. The balance is payable in two equal promisory notes, due in one or two years and bearing interest at the rate of six per cent per annum.

In return the organizers set forth the following aims: "To promote, foster and encourage the business of growing alfalfa, and aid in marketing, processing and warehousing and distributing it; to market on a co-operative basis; to deal in accessories; operate plants; establish offices; to finance the handling of crops, and the business; buy property needed and to furnish to all its members and growers its facilities at reasonable cost; to be a non-profit organization, and to be supervised by the State Market Director."

WHERE IS THE IDLE LAND?

[Written for Pacific Rural Press.]

Is there any waste land in your neighborhood—any good land that is not being used? Any land belonging to you or your neighbor, or to an absent owner that is capable of yielding a crop but now idle? That land ought to be in crop—it should be producing food. Will you aid in putting it to work? Write to the University of California and tell them about it. Tell them where it is and who owns it, and they will take steps to see that it is used.

The R and P tractor drawing a three-gang plow in heavy ground.

Last year 23,825 acres of land was leased through the efforts of the University. Much more might have been leased if good land had been available. Many people wrote that there was land near their ranch, but failed to give the location of the land or the name of the owner, making it impossible to get data on the land or to negotiate for a lease. This year the demand for land is even greater and every available acre of land should be reported and an effort made to get it into crop.

There are many retired farmers in California, men who have years of farming experience behind them, and who have available capital to farm a section or half section of land. These men want land, they are asking for acres to till. They are writing to the food administration in Washington and in San Francisco; they are writing to the State Council of Defense, and to the University. Their experience and their dollars can be put to productive work if the land is made available. There is an abundance of good land for these men. Will you help to locate it for them by sending the information to Prof. Chas. F. Shaw, College of Agriculture, Berkeley, and help to increase the production of food.

PACIFIC COAST LAND AND INDUSTRIAL EXPOSITION.

Thomas B. McGinnis of the San Francisco Board of Supervisors has been placed in charge of the city's municipal exhibit at the Pacific Coast Land and Industrial Exposition, which will open in Oakland, September 9, and continue until October 6.

"The exhibit will be a very beautiful one in cyclorama effect," declared Mr. McGinnis today. "Everything that this city is doing and intends to do—its interest in every department will be shown. There will be a background of the plaza, the Auditorium and the City Hall and the exhibits will all be placed under the direction of their various heads."

San Francisco, San Benito and Sacramento are already on the Exposition grounds preparing their space for the forthcoming event.

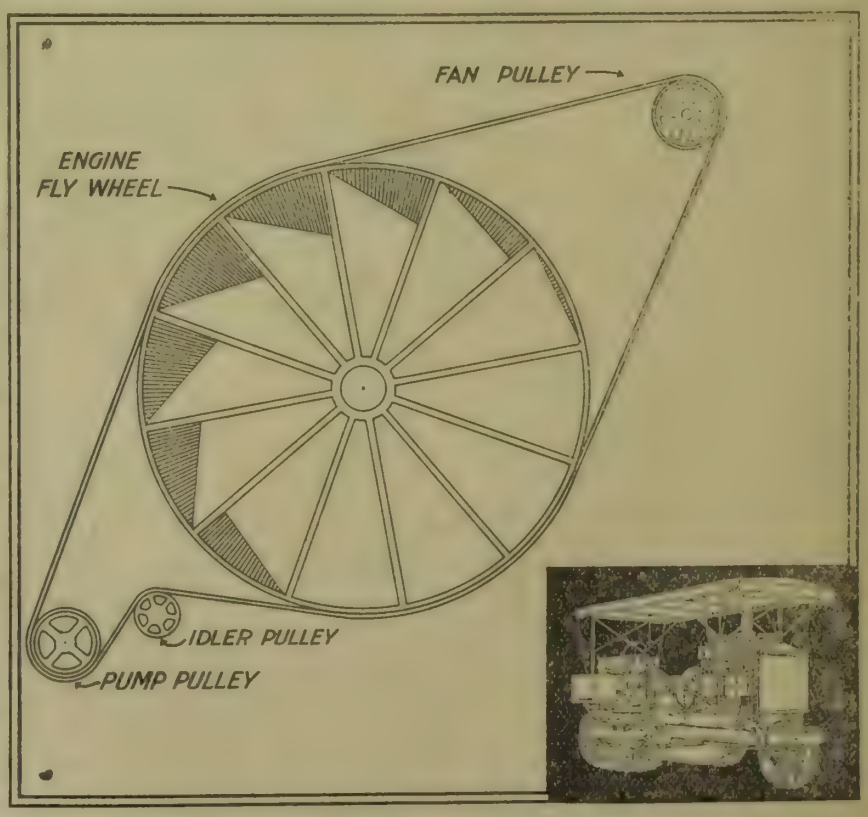
Farmers who have orchards or raise potatoes on a large scale are rapidly adopting tractor power to do their work. Those who already have them say that the tractor makes it possible to cultivate an orchard much better than it can possibly be done with horses.

To HOLT Tractor Owners

¶ The fan and pump belt on your Caterpillar Tractor performs a most important function. When it gives way the machine stops, maybe holding up operations for a day. That is why it is so important to have the right kind of a belt—one that won't slip, and that **lasts.**

Read what a Holt tractor owner writes about his "TEST SPECIAL" rubber belt: "It is the longest-life belt I have ever used for this purpose, not excepting any. Have used leather belts of different tannings, and different makes of canvas stitched belt, etc. Three weeks ago I tried another kind which is no good."

W. M. SHAW,
Artois, Cal., August 5, 1918.



You can obtain this belt through the Holt Manufacturing Company, Stockton, California. Or send your name to us and we will see that you are supplied.

New York Belting and Packing Company

519 MISSION STREET - - - - SAN FRANCISCO

FALL PLOWING CATCHES MOISTURE.

[Written for Pacific Rural Press.]

Better results generally follow deep fall plowing because it has longer to weather and it reservoirs more moisture. Many crops such as corn, sorghum, beans, etc., have no rain or irrigation during the growing season. Their supply must be stored in the soil from winter rains. Fall plowing left rough all winter catches most of the rain and enables it to seep slowly into lower soil. Burned-over stubble often puddles with the first rain and later rains run off. During an experiment in Utah a two-inch rain fell in 12 hours. Burned stubble land absorbed only 10 per cent of it. Land that had been plowed eight inches deep absorbed 70 per cent of it. If there had been a plowsole under the eight inches, it could have absorbed only what the plowed layer would hold.

DRY PLOWING RECOMMENDED.

Dry plowing has been carried out on University Farm six or seven years and the ground is in better shape than at the beginning.

Fall plowing for winter grain seeding does not require so good a seed bed because winter rains wash dirt around the seed and tend to fill air spaces. It leads to better crops because it gives the plants that much longer growing season.

DEPTH OF PLOWING.

The economically profitable depth to plow varies with soil and crop. Generally it will pay to plow seven to nine inches, deep for cereal crops, 12 inches deep for sugar beets and potatoes, 8 to 10 inches deep for beans, according to Prof. B. A. Madsen of University Farm.

Heavy soils normally pack together more, so water penetration and aeration are not good. They will respond to deep plowing better than sandy soils which are already aerated.

NEVADA NOTES.

Mason Valley, Nevada, like a good many other places, feels the effects of the dry year.

The second cutting of alfalfa is just about up and will average just about half a crop, the first cutting being a larger one.

The greatest shortage will be in the fall feed. Other years a great many cattle and sheep are fattened on the stubble and alfalfa fields in the fall season. This year it is estimated that there will be less than half the usual amount of feed. There is little prospect of being able to send much stock to Mason Valley to winter this year. One man was offered a half interest in 1500 head of cattle if he would supply feed for the winter. He had to refuse.

C. G. Swingle of Hazen, Nev., tried out a couple of acres of Mexican and Lady Washington beans last year. He netted about $175 per acre. This year he has eight acres in the two varieties. The warm weather of the last week insures a good crop. Mexicans seem to do the best. Teparies also do well.

MR. SHAMEL'S WORK PUBLISHED.

Increase in production and more uniform grade of fruit are secured by propagating only the most desirable strains of oranges. These facts have been emphasized by A. D. Shamel and other specialists of the United States Department of Agriculture who have been conducting investigations since 1909 in citrus fruit districts of California. The primary objects of these investigations were to ascertain the variation which has taken place; to determine the extent to which the different variations have been propagated; and, if possible, to control the extent to which undesirable variations shall enter the population of commercial groves. The data collected have been published in Bulletin 623, "A Study of Bud Variation in the Washington Navel Orange," and Bulletin 624, "A Study of Bud Variation in the Valencia Orange."

Avery Tractors Helped to Raise It
Avery Threshers Helped to Save It

THE crop this year has been a big one. It would not have been possible had it not been for modern motor machinery. Avery Tractors supplied a large amount of the power back of this big national crop. Avery Tractors and Plows turned thousands of acres of ground, prepared the seed bed and planted and harvested the grain crops. Avery Motor Cultivators planted and cultivated thousands of acres of corn, cotton and other row crops. Avery Separators threshed and saved millions of bushels of grain.

The Avery Company Will Exhibit at the Los Angeles Tractor Demonstration Sept. 17 to 21

An Averyized ranch means success. Tens of thousands of Avery machines are in successful operation throughout the world. There is a size Avery Tractor for every size ranch, an Avery Plow for every size Tractor and an Avery Thresher for every size run. With one of these outfits in the size you need and an Avery Motor Cultivator, your power requirements are taken care of.

Motor Machinery Specialists

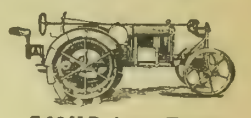
The Avery Company are motor machinery specialists. Avery machines are built complete in the three big Avery factories and backed by prompt and permanent service through the Avery Branch Houses and Distributors covering every State in the Union and over 60 Foreign Countries.

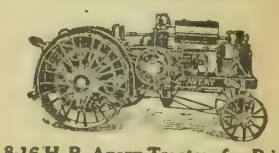
When you get an Avery you get a Tractor with renewable inner cylinder walls, adjustable crankshaft boxes, patented sliding frame, patented gasifiers that turn kerosene or distillate into gas, and a tractor that you can attach instantaneously to any machine, either for belt driving or pulling at the drawbar—the coupler is automatic and the belt pulley is always in place.

All the special features in Avery Tractors as well as in Avery Threshers, Motor Cultivators and Plows are shown in big free Avery Motor Catalog. See nearest Avery Dealer or write direct for catalog.

AVERY COMPANY, 3819 Iowa Street, Peoria, Ill.

F. H. POSS COMPANY, Distributors, San Francisco, Calif.


5-10 H.P. Avery Tractor


8-16 H. P. Avery Tractor, for Price Write Us Direct. Fully Warranted

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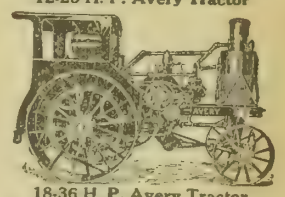
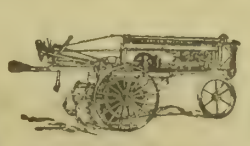

18-36 H. P. Avery Tractor

25-50 H. P. Avery Tractor

40-80 H. P. Avery Tractor


Avery Motor Cultivator

Light and Heavy Tractor Plows for all size Tractors

There's a size Avery Thresher for every size run

AVERY

Motor Farming, Threshing and Road Building Machinery

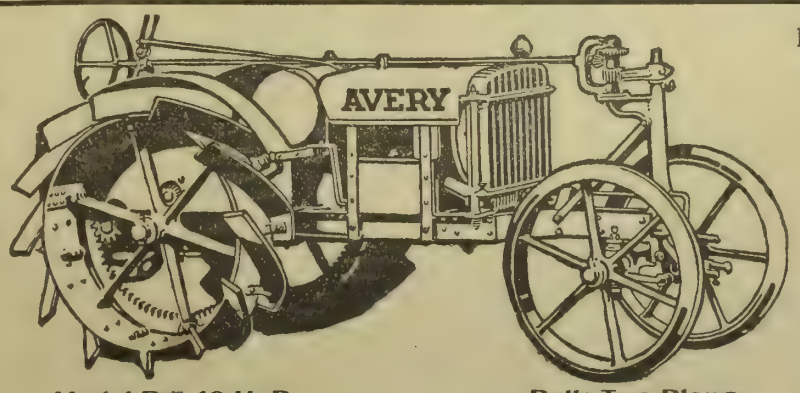
4 Cylinders

Selective Gear Drive

3 Speeds

Plowing Speed 2⅛ miles per hour

High Speed 4½ miles per hour



Model B-5-10 H. P. Pulls Two Plows

Hyatt Roller-Bearings

LOW

SHORT

DURABLE

Price: $650.00 F.O.B. California

The Ideal Tractor for Orchards and Vineyards of Small Acreage

Come and see all sizes of Avery Tractors perform at the Los Angeles Demonstration, Sept. 17-21st.

F. H. POSS CO., Distributers

67-69 BEALE STREET - - - - - - SAN FRANCISCO

Increasing Crops with Less Labor

[Written for Pacific Rural Press by R. E. Hodges.]

If a man raises ten sacks of anything per acre and it costs him the price of nine sacks, he has made a sack per acre profit. If the yield is increased 10 per cent, the profits are increased about 100 per cent.

Everybody has lots of money except "ye writer." Most everybody has a shortage of help. Everybody who has a right to live in America is ambitious to increase the production of essentials for winning the war and keeping up the morale of the allies. Not everybody realizes how best to spend his pocketful of money in a way that will enable him to carry out his patriotic ambition with the shortage of help.

Most of the reading and thinking farmers have, however, proceeded some distance along a road marked clearly so that "he who runs may see." The sign post reads: "To Greater Production via Machinery." We have exhorted much in regard to tractors, engines, electric motors, automobiles, and motor trucks, but there are a multitude of other machines investment in which will fill the gap caused by labor shortage and at the same time increase the yield per acre.

Among the great problems of agriculture are the maintenance of fertility and humus. Among the great wastes of American agriculture is that of the fertility in manure. As we visit farmers up and down the State, we are amazed at the decrepit manure piles we see in almost every community.

At present prices of nitrogen, potash, and phosphoric acid in commercial fertilizers, the nitrogen in a ton of fresh horse manure, including straw, is worth about $4.50; the phosphorus is worth about 36 cents; and the potash is worth about $3.30, making fresh horse manure worth about $8.16 per ton, and it is already on the farms. Similar figures for cow manure are $3.60 for nitrogen, 39 cents for phosphoric acid, and $2.10 for the potash, totaling about $6.09 per ton. These figures are based on the average plant food contents of many samples of average manure analyzed at several experiment stations. Additional value of manure lies in the humus, in which most California soils are particularly deficient.

But not all of its value is seen the first year of application. At the Rothamstead Station in England, barley was manured thirty years and then half of the lot was left unmanured for twenty years. At the end of that period it was still producing twice as much barley per acre as unmanured plots with all other conditions equal.

DRYING OR SOAKING MANURE.

Comparatively few farmers get full value from their manure. Only those get full value who save both the liquids and solids, and who spread them fresh in a finely pulverized, thin, even layer on fields where they will not be washed off nor leached beyond reach of roots. Drying in the sun does not appreciably reduce the value of manure, but drying on the outsides of piles alternated with wetting does reduce the value. A well-aerated, loose, moist pile of manure rapidly loses more than half its value by fermentation and escape of the nitrogen into air as ammonia gas. This happens to piles of manure left in field or in barnyard. A well-compacted pile kept perpetually soaked with water has very little chance to lose value by fermentation, but on the other hand the coarse material in it rots and makes better manure. The tramping of stock is a good way to preserve it from fermentation if enough water is supplied to exclude air. But with excessive water the phosphoric acid and potash are leached away unless held by a water-tight floor. A number of farmers in California have provided such floors. As that part of the plant food which leaches out is the part that is most readily soluble, what remains is less valuable pound for pound than what is lost. Director C. E. Thorne of the Ohio Experiment Station says that fully half of the fertilizing value of manure as it is voided from the animal is found in the liquid portion, so when this is allowed to run away through cracks in the floor we have lost half the value of the manure and have made the place insanitary. Plenty of bedding, not of wood shavings but of almost anything else available, absorbs the liquid and makes it readily handled. Drying out simply takes away the water, but the plant food is left ready to be used whenever it shall be soaked up by soil moisture.

THOROUGHLY MIXED IN SOIL.

Last fall we were taken to task because we recommended mixing manure with dirt around fruit trees planted where others had been taken out. Though we had said "mix well," the nurseryman who objected to the practice did so on the grounds that people would not "mix well" and that a great loss of trees resulted from using manure which was

AUTO TRAILERS $85 AND UP

2 or 4-wheel type—any capacity. Why not let us figure with you on making over your old touring car into a 2 or 3-ton truck? It pays! Reliance Truck Attachments $350 and up. Made for any automobile up to 3-ton capacity. Made right here in San Francisco. Write today for illustrated booklet. Territory still open for agents.

RELIANCE TRAILER & TRUCK CO., Inc., 30 Eighth St., San Francisco

You Sit Where You Always Sat On the Seat of the Implement

MOLINE UNIVERSAL TRACTOR

It Solves The Farm Help Problem

YOU wouldn't think of riding on the back of one of your horses while at work in order to guide your team. If you did you would require another person to operate the implement, because implements require constant attention.

Then why attempt to operate a tractor in a manner which your experience has proven impractical? It is just as illogical to ride on a tractor in front of the implement and expect to operate the implement from that position as it is to operate the implement from the back of your horse.

Any way you look at it you are working at a disadvantage with the ordinary tractor. To do the best work two operators are required, one on the tractor and one on the implement. In these days of extreme labor shortage this is a tremendous handicap. With the operator on a tractor in front of the implement it is manifestly impossible for him to give the implement attention and make adjustments for varying field conditions without losing time.

Just Like Driving Horses

With the Moline-Universal Tractor you sit on the seat of the implement and have perfect control of both implement and tractor. You are in the best position to observe the work, make adjustments and manipulate both tractor and implement. This holds true regardless of the work being done—plowing, discing, harrowing, planting, cultivating, mowing, harvesting, both grain and corn.

A Time Tried Principle

There is nothing new about this, we simply apply a principle which millions of farmers have demonstrated to be sound. The Moline-Universal gives one man control of greater power than is possible with horses, with the same method of handling and as much versatility. With the Moline-Universal one man can farm more land. It is a six-horse unit—easier to control than one horse and capable of doing the work of from 6 to 8 horses.

Works Day and Night

The One-Man feature is just one of many advantages the Moline-Universal has over other tractors. It is the only tractor which will do all farm work, *including cultivating.* It is the only tractor regularly equipped with self starter and electric lights. Non-robust labor can operate the Moline-Universal successfully, and it can be worked day and night.

No detail has been overlooked to give the new Moline-Universal Model D Tractor positive reliability. The perfected, overhead-valve 4-cylinder engine develops unusual power, and is economical in operation. It is conservatively rated at 9-18 H. P. Oil is forced to crankshaft bearings under 35 lbs. pressure. Gears are steel cut, drop forged, and heat treated. All shafts are splined. Every working part is easy to get at, and every moving part is enclosed.

Valuable Information for You

Our catalog tells how you can operate your farm with less help and expense by using a Moline-Universal Tractor. A post card will bring the catalog to you.

Since 1865 we have been making farm machinery, and now offer a complete line of both tractor and horse drawn implements. Information on any of the Moline implements listed below will be gladly furnished on request.

Address Dept. No. 97

MOLINE PLOW CO.
MOLINE, ILLINOIS

Manufacturers of Quality Farm Implements Since 1865

Plows, (steel and chilled)	Hay Rakes	Scales
Harrows	Hay Loaders	Grain Binders
Planters	Hay Stackers	Corn Binders
Cultivators	Grain Drills	Wagons and
Mowers	Lime Sowers	Moline Universal
	Manure Spreaders	Tractor

not thoroughly mixed with the soil before planting. Trees and plants cannot use chunks of manure. Such chunks are as bad or worse than dry clods of dirt. The manure to be of value must be in fine particles so its elements may be dissolved in many times their bulk of water before plant roots can take them up. It follows that the finer the chunks of manure are when applied to a field or orchard, the sooner the plant foods may be dissolved out of them, the sooner the remaining materials can decay into humus.

Few farmers have enough manure for all of their fields. It has been shown that a thin, even, finely divided dressing is much more economical than a thick one, especially if the latter is distributed in chunks.

HOW DO YOU LIKE TO PITCH IT?

But there used to be no worse job on the farm than to pitch heavy manure into a high box wagon and then pitch it off again while the team rambled along, not always in the line we wanted them to go. It was the job always left for the hired man. Its disagreeableness led to the toleration of fly breeding manure piles and foul barnyards on some farms year after year, while time, cultivation, harvesting, and expense all the way through were applied to crops that could as well have yielded 100 per cent or 500 per cent greater profits if the manure had been properly spread on the fields.

MANURE SPREADERS, LABOR, CROPS.

Some farmers in California are dumping each day's accumulation of manure onto a manure spreader and hauling it directly to a field which will be benefited. When no fields are available or the weather and soil do not permit, they dump into tanks, where the manure is kept soaked and improving in texture without loss by fermentation and heating. They spread a ton of manure over 50 per cent more ground than could by any reasonable attempt be covered with the same amount by hand. Every bit of its plant food is put where crops can use it. No chunks are dropped to poison plant rootlets that might attempt to grow into them. A finely divided thin carpet is laid out to be quickly incorporated with the soil when plowed under or to leach directly to root feeding ground if rains come before plowing. The job is not dreaded and postponed, for there is no pitching onto the wagon, no pitching off, no wading around in foul mud. Manure and a spreader can increase crops with less labor.

DON'T OVERLOAD YOUR TRACTOR.

"What a tractor will do and what it should do are two different propositions," said W. J. Burt of the W. J. Burt Motor Car Co., in replying to a question regarding the performance of the Bearcat Tractor, for which the W. J. Burt Motor Car Co. are distributors for California and Arizona, at a demonstration last week in a walnut orchard at Santa Ana, where the photo shown on first page was taken.

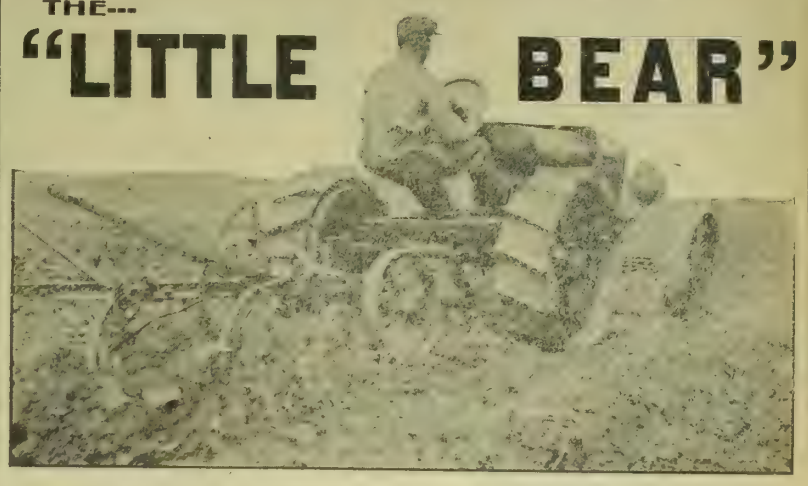
The Bearcat was pulling an 8-foot double disc with four large bags of sand as ballast which weighted the discs all down to the center, making an extremely heavy load for six large horses. The Bearcat pulled this load at a speed of about three miles per hour without any trouble and would go up one side of the row and down the other side of the same row, making the turns under load without any difficulty, and it will take the load of six horses and travel one-half faster than the horses, and at the end of 10 hours have done more than 10 good horses will do and with much less damage to the fruit and the trees, as the highest point of the Bearcat, under the load, is only 4 feet 4 inches.

Not satisfied with this test, in the same orchard W. J. Burt placed three men weighing 170 pounds each on the disc, in addition to the sand ballast, and still made the turn around a tree in second gear under this enormous load without difficulty.

The former is what it should do, and the latter is an overload, and any tractor working with an overload will not give as good results or accomplish as much as one working under normal conditions. Nearly every rancher's first desire is to see how much the new tractor will actually pull, and his next inclination is to keep it at its full capacity, while if they would keep its load where it is doing its work easily and work it a little faster, as the Bearcat's second name is "Speed," he will have accomplished more at the end of the day and will last much longer without repairs when working under normal conditions than when drawing an overload.

The number of recruits for our army that have been rejected on account of defective teeth is surprisingly large. In the majority of cases the blame for this condition is put upon the parents.

THE---
"LITTLE BEAR"



The "LITTLE BEAR" is a surprise to the orchardist. Every wearing part is enclosed and dust proof. The Bull Driving Gears are ENCLOSED and kept dust tight by a NEW DEVICE used on no other tractor. A DUST FILTER is furnished to clean the air entering the cylinders, keeping the cylinders and pistons free from grit and sand.

The "LITTLE BEAR" with 45-inch track and 50-inch wheel base, will turn in a 11-foot circle. For orchard work it has no equal.

Fenders are provided to protect low lying limbs and fruit for orchard work.

You Don't Have to Go to a Tractor School to Learn to Operate the

LITTLE BEAR

The same control used in the FORD is used in our TRACTOR. No experienced mechanic or Tractor operator required to handle it.

The "LITTLE BEAR" weighs but 1600 lbs. and does the work of four horses in less time and at one quarter the expense.

See the "LITTLE BEAR" in action at the Tractor DEMONSTRATION, SEPT. 17th to 21st, LOS ANGELES.

Manufactured under the FOUCH Patents by the

L. A. AUTO TRACTOR CO. 52nd and Santa Fe Ave. Los Angeles Cal. Tel. South 1600

California Fruit Growers Exchange Members can purchase the Little Bear Tractor from the Fruit Growers Supply Co., who are official representatives.

Power Shortage is Fuel Waste

Don't think you're saving by letting your engine, tractor or automobile motor run along short of power. The shortage is probably due to gas escaping through leaky piston rings—and you have to pay for it anyhow.

The surest way to get — and keep — maximum power and save fuel is to install a set of

McQUAY-NORRIS
LEAK-PROOF
PISTON RINGS

The piston ring which is properly designed and constructed to give perfect bearing on the cylinder walls —save friction and undue wear on cylinders.

Your dealer can get you any size or over-size quickly. Over 300 jobbing and supply houses in all parts of the country carry complete size assortments. If you have any difficulty getting them, write us.

McQUAY-NORRIS
Superoyl
RINGS

A special ring for engines that pump oil. Used in top groove only of pistons to control excess oil, with McQuay-Norris LEAK-PROOF Rings in lower grooves to insure maximum compression and fuel economy.

SEND FOR FREE BOOKLET

"To Have and to Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

Made by McQuay-Norris Mfg. Co.
2838 Locust St., St. Louis, Mo.

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6F

WATERLOO BOY
The Original Kerosene Tractor
For War-Time Speed in All Farm Work

Thousands of Waterloo Boy tractors are drafted into service to speed up farm work—standing the most drastic service tests in field and belt work.

Its three-plow pulling capacity and 25 horsepower at the belt, easy handling and dependability give it the widest range of usefulness on the average farm.

1 Man
2 Speed
3 Plow

Stands on the Bedrock of Over 4 Years Proven Success

The Waterloo Boy has long since passed the experimental stage. It has the confidence of the farming world because of exceptional performance in the hands of users.

Powerful, quick-starting motor, perfect kerosene-burning manifold, automatic lubrication, complete and easy accessibility of working parts, are some of the features you will appreciate.

Illustrated catalog, sent free, shows detailed construction and numerous photographic views of Waterloo Boy tractors at work on farms. Write for it.

Waterloo Gasoline Engine Co.
6002 W. 3rd Ave. Waterloo, Iowa

Belt Power for 24 to 26" Thresher or 17" Silage Cutter

The Killefer heavy engine chisel.

Home Vegetable Drier

[Written for Pacific Rural Press.]

At a time when tinplate for canning is way up in price and when it is so highly desirable to have vegetables the year around to displace breadstuffs, the drying of vegetables offers the most satisfactory way of saving them. Among the outfits that have recently been tried out is one that the writer has seen in operation, the "New-Way Vegetable Drier." Vegetables generally are peeled and sliced on a sauerkraut cutter, or in case of spinach, etc., they are cut up on a Sterling slicer. Potatoes are peeled in a cylinder with a roughened inner surface and a rapidly rotating bottom, while a spray of water plays over them. Deep-set eyes and imperfections are cut out by hand. After slicing, potatoes for potato flour are sulphured. For eating in the sliced form, most vegetables are merely blanched. The sulphuring is done on the drying trays, stacked 12 deep and covered with a lath frame on which building paper has been tacked nearly airtight. A handful of sulphur is placed in a pan under the trays and lit. About 30 minutes in the fumes are enough. The blanching is accomplished by dipping sliced vegetables in boiling water long enough to warm them through but not to cook them on the outside.

The drying trays are 2½ feet square, being simple frames over which is stretched a wire screen of three meshes per inch. Such a tray holds five to ten pounds of vegetables and is easily handled by a woman or boy.

The drier is a fireproof corrugated iron affair, the drying vault being 2½ feet wide, about 11 feet long, and 4 or 5 feet high. Angle irons, sloping slightly upward from the front along the side walls about 3 inches apart furnish supports for the trays. To avoid loss of heat in putting trays in or removing them, each is shoved through a lattice swinging independently of all the rest and dropping back closed as soon as the tray has passed into the chamber. The trays here also are 12 deep. Each one as it is inserted shoves the previous one farther along, so that the fourth stack is shoved out through similar swinging

KILLEFER QUALITY

The Killefer Manufacturing Co.

KILLEFER EFFICIENCY

Real Tractor Implements

Built For Western Conditions

We will be pleased to see you at the big Tractor and Implement Demonstration to be held at LOS ANGELES, SEPT. 17th to 21st

Our full line of Tractor Implements, 32 in all, will be shown in operation.

Some New Developments in Tractor Tools:

Automatic Lift Subsoilers
Automatic Lift Gang Plows
Automatic Double Disc Harrows

This Disc Harrow is the greatest development in Tractor Implements of the day. The only automatic shift disc on the market. It is a wonder. If you need a disc harrow, you will buy this one when you see it.

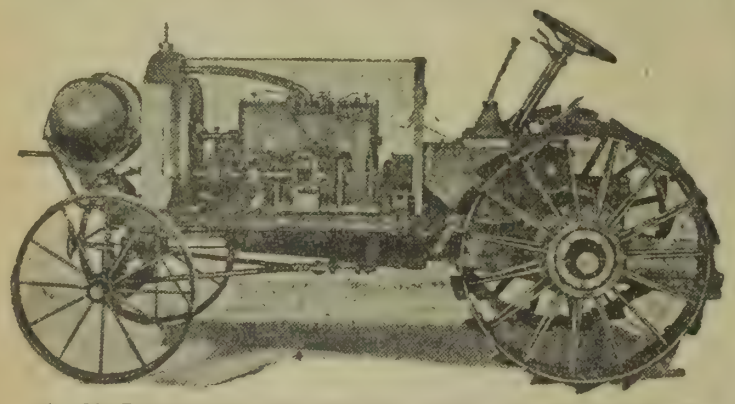
Do not miss seeing these tools; make yourself at home at the Killefer Tent

The Killefer Manufacturing Co.

2209-21 Santa Fe Ave. Box 156 Arcade P. O. Los Angeles, Cal.

WATCH FOR IT

at the Tractor Demonstration



As this Tractor looks with Hood, Seat, Fenders and Bonnet removed

THE BEAR CAT

Worm Drive Dust Proof Orchard and Farm Tractor

—its Power and Speed will astonish you.
—its Construction and Performance will convince you that it was named after seeing it work.

W. J. BURT MOTOR CAR CO.

Distributors for California and Arizona

Pico and Hope Streets, Los Angeles, California

C. L. DAVIS, Santa Ana WALTER L. HAIGHT & CO., Hanford

Monarch NEVERSLIP Tractor

The Sensation of The Tractor Demonstration

Los Angeles, Sept. 17-18-19-20-21

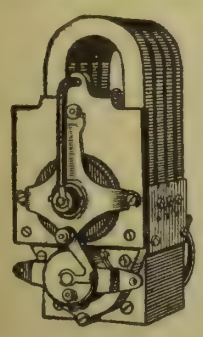
W. L. CLEVELAND CO. 213 No. Los Angeles St. LOS ANGELES, CAL.

The Appleton 14-28 tractor is the latest to arrive in the State. It is handled by C. S. Anthony, Los Angeles.

lattices at the other end. Sixty trays are used in order to push the fourth stack out with the extra set of 12 when the right time comes. The 48 trays furnish about 250 square feet of drying surface.

The vegetables are dried by free circulation of pure air heated without contact with the flame. A furnace under the front end uses either wood, coal, or a kerosene burner such as we saw. The fumes, smoke, and heated air from the flame passes through a smoke chamber sloping slightly upward lengthwise of the bottom of the dryer and full width of the bottom. Thence they pass up through flues and back through a similar chamber in the top of the drier to the front end, where they are drawn off through a smoke stack and patented roller-bearing ventilator. Above the smoke chamber is an air chamber of the same size, etc., opening by regulated doors to the outside air. The floor of this chamber is the roof of the smoke chamber, and, being of metal, it quickly heats the air and starts it toward the rear, which opens about 18 inches wide into the drying vault, where the sliced vegetables lie on the trays. Here it spreads all through the vegetables and finally goes out through the ventilator. Dampers regulate the heat and amount of air admitted. The ventilator is 12 inches in diameter and is supposed to exhaust about 20,000 cubic feet of cold air or 60,000 cubic feet of hot air in an hour with a four-mile wind blowing. Temperature in the drier is 125 to 150 degrees, the rear end being hotter because it is higher, because more heat is desired at the finish. Potatoes sliced three-sixteenths inch thick stay in about five hours—other vegetables a varying time as they need. The kerosene burner we saw running the drier burns a gallon per four hours.

Fruits also are sulphured and dried in the same way. The finished product is tempting and sanitary in every way.



Owners of tractors equipped with K-W Magnetos find they can fire thinner mixtures and cheaper grades of fuel and still develop full horse-power, than they could by any other system of ignition.

The intense hot spark that a K-W produces gets all the power out of every drop of fuel. It turns the ordinary wasted fuel into extra work *without* cost. A

TRADE K-W MARK High Tension MAGNETO

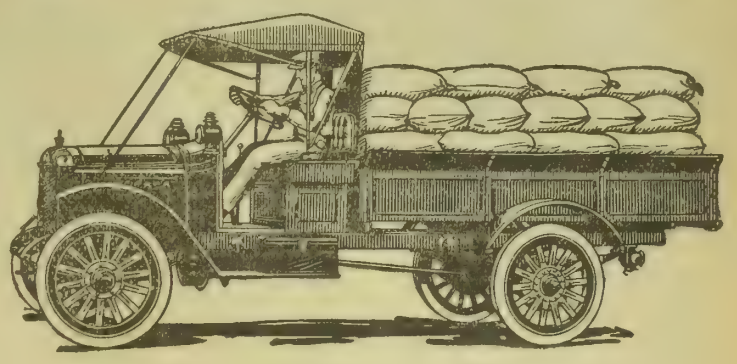
will start your tractor quickly and easily regardless of weather conditions and will operate on all the low grades of fuel. It gives continuous—no trouble ignition.

Forty tractor manufacturers pay more for K-W Magnetos because they want their users to have the best. K-W Ignition is one of your guides as to quality in your selection of a tractor. Insist that your new Tractor be K-W equipped.

If you are not using a K-W on your present tractor and wish to cut fuel cost — write us. There is a type of K-W Magneto that will do this.

TRADE THE K-W MARK IGNITION Co.
2889 CHESTER AVE. CLEVELAND, OHIO, U.S.A.

REPUBLIC
Internal Gear Drive
MOTOR TRUCKS
Built by the Largest Manufacturers of Motor Trucks in the World



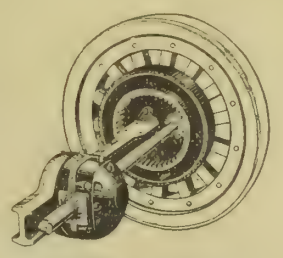
Republic Trucks on the Farm

Republic Trucks are particularly adapted to the special requirements of farm work.

Republic Trucks have an Internal Gear Drive with I-beam load-carrying axle of solid forged steel. The driving mechanism is entirely separate from this axle and has nothing to do but drive the truck.

The power is applied near the rim of the wheel, gaining greater leverage for hard pulls. And this Internal Gear Drive permits 45% greater load clearance, a big advantage for country roads.

There is less unsprung weight which means important savings in tires, gasoline and all upkeep expenses. Every part is simple in construction, easy to get at and easy to adjust when necessary. 1300 Service Stations, distributed all over the United States, stand back of Republic Trucks to see that they give continuously satisfactory service.



The Internal Gear Drive gets extra power for pulling over bad roads and up hard grades by applying power near the rim of the wheel.

Dependable — Economical Trouble Proof

Republics are easy riding and easy to drive. And they have proved so dependable and given such superior service to owners that it has been necessary to build more than twice as many of them as any other motor truck in order to supply the demand.

There are seven different Republic Models —¾ ton to 5 ton. One of these models will exactly fill your requirements.

See the nearest Republic dealer and send for latest booklet.

Republic Motor Truck Co., Inc.
Alma, Michigan

IRRIGATING PUMPS

AWARDED PANAMA PACIFIC GOLD MEDAL INTERNATIONAL EXPOSITION AWARD RIBBON GOLD MEDAL MACHINERY HIGHEST AWARD GIVEN

Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever.
Also DEEP WELL TURBINE PUMPS for bored wells 10 inch diameter and up
Write for Bulletins
KROGH MANUFACTURING COMPANY 149 Beale St., San Francisco, Cal.
Branch Sales Office at LOS ANGELES

List of Tractor Exhibitors Grows

[Written for Pacific Rural Press.]

Every day new exhibitors are being added to the already large list of prominent concerns which will be represented at the Third Annual Tractor Demonstration, September 17-21. The latest revised list includes the following well-known firms: Advance-Rumley Thresher Co., Arnott & Co., Bean Spray Pump Co., C. L. Best Gas Traction Co., E. P. Bosbyshell Co., F. T. Briles, W. J. Burt Motor Car Co., California Moline Plow Co., Sam C. Carter, J. I. Case Threshing Machine Co., W. L. Cleveland Co., Community Mfg. Co., Dauch Mfg. Co., Dixon & Griswold, Fageol Truck and Tractor Co., A. F. George Co., William Gregory & Sons, B. Hayman & Co., Holt Mfg. Co., William L. Hughson Co., International Harvester Co., John Deere Plow Co., Killefer Mfg. Co., L. A. Auto Tractor Co., Motors Equipment and Tractor Co., Oliver Chilled Plow Co., Republic Tractor and Truck Co., Samson Sales Co., Smale & Waterbury, Union Tool Co., Wallis Tractor Co., A. H. Averill Mfg. Co., F. H. Poss Co., Doak Tractor Co., Belt Rail Tractor Co., Homer Laughlin Co., American Engine and Aeroplane Company, Garford Truck Company, Inc., Denby Truck Company, Valvoline Oil Company, United States Spring Company, Ensign Carbureter Company, Barney Oldfield Tire Company, Norwalk Tire Company, Panama Lubricants Company, Nelson & Price, Weinstock-Nichols, R. W. Sparling, Standard Oil Company, Fairbanks-Morse Company, Starr Piano Company, Keaton Tire Company, Kleiber Motor Truck Company, National Automotive School, Rural World, Pacific Rubber Company, Splitdorf Electrical Company, Southern California Wrecking Company, Platt Music Company, Riverside Portland Cement Company, Sierra Chemical Company, Smith-Booth-Usher Company, L. Sonneborn Sons, Inc., Service Truck Co., McFie Supply Company, Clark & Wells, Weber Showcase Company, Union Oil Company of California, J. A. Masterson & Company, Puente Oil Company, Strong & Turner, Moreland Truck Company, Sandusky Tractor School, Chas. A. Hadley Co., Hauser Packing Company, Woodward Truck Company, Delco Ignition and Lighting Company, Farm and Tractor (L. A. Times), Imperial Valley Farm Lands Association, A. B. C. Oil Company, F. E. & W. F. Keyes, Chevrolet Motor Company, Monamobile Oil Company, Harron, Rickard & McCone, Marie L. Rimpan, and Sunset Fruit Products Company.

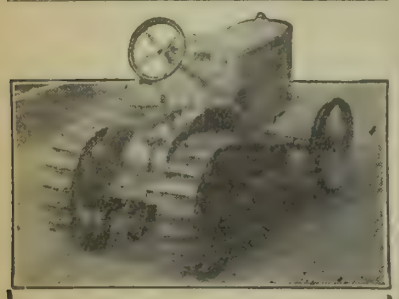
State Fair Farm Machinery

[Written for Pacific Rural Press.]

The largest, most representative, most concentrated and comfortable display of tractors, motor trucks, farm and dairy machinery ever shown at the State Fair was in place on the opening day, August 31, 1918.

Between 45,000 and 50,000 square feet of floor space under tents is occupied by farm implements and tractors exhibited by members of the California Tractor and Implement Association. About 4500 square feet in a nearby tent are occupied by additional tractors and farm implements, engines, irrigation equipment, etc. About 1500 square feet near the dairy barns is occupied by dairy machinery, including four milking machines, engines, pumps, silage cutters, etc. A tent with about 15,000 square feet is comfortably filled with motor trucks and trailers, while the space intended for automobiles has a smaller tent containing three makes of automobiles and several additional makes of motor trucks and trailers. At least 18 different makes of trucks and half a dozen of trailers are shown. Automobiles are not there in numbers because the association voted to stay out on account of doubled rates for floor space, as we heard.

To the man who wanted to compare the virtues of tractors, a two-row motor cultivator and over 70 machines of 25 different makes were there the first day, many of them with transmissions, differentials, and crankcases exposed for detailed inspection and many having tables spread with replacement parts to show what they are like. Several feature tractor exhibits deserve mention, but space forbids adequate description. Farmers who are prospective recruits in the increasing army of those who use disk harrows to save moisture and to work down plowed ground had the opportunity to compare at least 16 machines of various sizes and about 10 different makes. Of pulverizers there were samples of two or three makes. Of land levelers three manufacturers exhibited sizes from 4 feet to 10 wide and from scrapers to power lift machines. Two grain binders were shown, including one to be pushed ahead of a tractor, onto which it is fixed by a framework. Six grain or grain, rice and bean threshers of three different makes were there to be investigated. At least 18 moldboard gang plows of eight or ten different makes and of all sizes up to one with 14 bottoms, and 13 disk gang plows of perhaps seven different makes were there to illustrate the answers of attendants to questions put by visitors. Six or more different makes of pumps were pouring water back into tanks they drew from, being run by electricity or gas engines. Several kinds of gas engines and electric motors were there and four different systems of generating your own electricity on the farm were displayed, generally with electric washing machines, pumps, lights, storage batteries, etc. Irrigation equipment, pipe, tanks, and metal grain bins were shown by several companies and a ditching plow for tractor use was shown by another. A ditch scraper was shown by another. Silage cutters were represented by only four or five makes, three different bean cutters were there, three makes of grain drills, two makes of spray pumps, two auto and tractor schools were represented, and there was an additional farm machine of one sort or another in several of the displays. Farm machinery has come to be one of the leading features of the State Fair, as befits its importance at a time of world hunger and man shortage.



Bates Steel Mule Model D

Entered in Tractor Demonstration Sept. 17 to 21

Wilshire Boulevard at Labrea Ave. Los Angeles, Cal.

F. T. Briles, S. Cal. Distributor

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WITTE Kero-Oil Engines

Twice the Power at Half the Cost

Sizes 2 to 30 H-P.—Select Your Own Terms—Direct-from-Factory prices. Write your own order—Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE by return mail. Postpaid.

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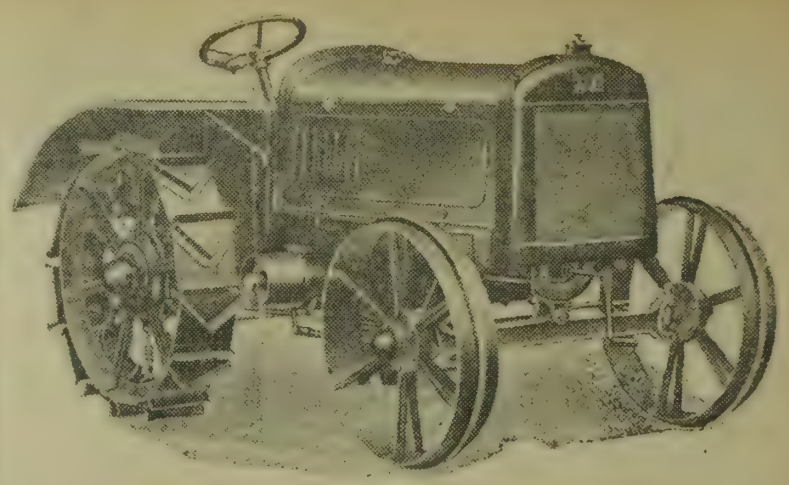
Money Back If not satisfied on my New 90 Day Engine Offer



ACCESSIBILITY SIMPLICITY AND STRENGHT

IS THE SOLID FOUNDATION OF

THE R & P TRACTOR

A PLAIN STATEMENT

The R & P Tractor is right because it embodies the design, workmanship and materials that make it right.

There is nothing experimental in its makeup—proved out under abnormal tests—trials that no practical user could or would possibly make—The R & P tractor bears the stamp of approval placed there by men who know every phase of tractor needs.

Every statement—every estimate—every specification regarding R & P Tractors is literal and means exactly what is stated. There is no need to mislead or employ extravagant terms.

The work that R & P Tractors perform—the hard use to which they may be subjected—will prove to any buyer that he made a wise choice when he purchased the R & P.

The R & P Tractor is an Investment, not a Speculation

Keep your eye on the R & P Tractor at the one big Tractor Demonstration

LOS ANGELES, SEPTEMBER 17-18-19-20-21

Republic Truck Co. of California

4800 SANTA FE AVE. LOS ANGELES

Irrigate at Less Cost

Save the land that's wasted by ditches
Save the water that's loss through seepage
Save money all around by the use of

AMES-IRVIN SURFACE IRRIGATION PIPE

—the pipe with the heavy lock-seam, which possesses the full strength of the metal. Note the outline. It's a smooth seam, too—no rough projections

Send for Folder "P I"

It describes our entire line of surface pipe and pipe equipment.

AMES-IRVIN CO.

Surface Irrigation Pipe, Orchard Heaters, Etc.
EIGHTH AND IRWIN STREETS, SAN FRANCISCO, CAL.

Most complete stock of surface pipe and equipment on the Coast.

THE LATEST IN TRACTORS AND IMPLEMENTS.

(Continued from first page.)

inviting disaster to one year's crops. Every man who buys a tractor for which he has not enough use to make it profitable is not only hurting himself but also hurting the other fellow, whose delivery is delayed on that account. But every man who can use a tractor to replace man- or horse-power will act well and patriotically in getting and sharing a suitable tractor and the expense of it with a neighbor or operating it himself for neighbors if his own ranch work alone does not justify the investment. Every man who buys a tractor not suitable for his work and soil is likely to knock not only that tractor but to lose confidence in all tractors. This is not fair to the tractor industry, for tractors are about as well standardized and dependable as the automobiles which we see at almost every farm shack and mansion.

There is only one really satisfactory way to select a suitable tractor. It is not an easy way at best, but is intensely interesting. The Demonstration is provided to make it as easy as possible. Do not be satisfied with one machine just because it works well and looks well. There may be one that works better and looks better in ways that you do not imagine. Go to the Demonstration and see all of them together. Talk on the quiet with the exhibitor of each machine that might possibly suit your conditions and make notes about it. Do not inquire the price—you will be in a far more intelligent condition to think about prices after you have asked each exhibitor to tell you wherein his machine excels others. He will tell you of things you did not dream were in existence. He will be glad of a chance to do it and will not reasonably expect you to buy his machine until you have talked with the rest and until you have seen them all plowing together in the daily hour-long public demonstrations. Your observations of the tractors at work together and in individual demonstrations, coupled with your knowledge of the strong points in the make-up of the other tractors, should enable you to satisfy yourself in the five days of this Demonstration just which tractor will save you most.

FEWER MEN NEEDED BY TRACTOR USERS.

Farmers in the corn belt are surely not getting the benefit from tractors they own as compared with California tractor users. The Research Department of the Standard Farm Papers recently received 167 answers to certain questions sent to tractor users of four States. Of 131 who answered the question, "How many days in the year do you use your tractor?" 26 used it between 31 and 40 days, 21 between 21 and 30 days, 19 between 41 and 50 days, and 17 between 51 and 60 days. Nearly two-thirds of them use their tractor less than 60 days in the year. That is partly because they have not yet adapted tractors to row cultivation, but not mostly so. They have not learned the various uses to which tractors are commonly put in California. Of 139 who answered the question, "What proportion of the time do you use your tractor for belt work?" 24 farmers said 33 1-3 per cent, 22 said none at all, 18 said 50 per cent, 16 said 10 per cent, 12 said 25 per cent, 11 said 20 per cent, and 11 said 5 per cent. Sixty-nine per cent of them use their tractors for belt work less than one-third of the time they are in use for all purposes. Two-thirds of the 167 who answered whether tractor farming enabled them to farm with fewer men said "yes."

Potatoes dug while the vines are green are likely to be injured in handling because the skin slips easily and blackens. A frost is needed before digging, to kill the vines so the skins will set.

See That Hitch!

THE Nilson Patented Lever Hitch is the greatest improvement in Tractor Design in recent years.

By hitching the plows to a swinging drawbar attached considerably above the rear axle, the pull of the plows is automatically converted into downward pressure, thus giving the drive wheels "GRIP" or traction, without a pound of useless weight.

It enables us to build a tractor with BIG TRACTION, LIGHT WEIGHT, FUEL ECONOMY.

Found Only On

The Nilson

Because of the Lever Hitch the Nilson Junior, weighing only 5,000 pounds, has 3,000 pounds drawbar pull at plowing speed, while the Nilson Senior, weighing only 6,400 pounds, has 4,000 pounds drawbar pull at plowing speed.

Nilson Tractors employ three driving wheels keyed on the same axle, making in effect a **WIDE DRUM DRIVE.** They do not pack the soil. They stay **ON TOP.**

It is the Lever Hitch and Drum Drive that enable the Nilson to easily outclass any tractor ever sold in California,—even those equipped with the same Waukesha Motor used in the Nilson.

Nilson Tractors have been thoroughly tried out, and "made good" in California.

See them at the Los Angeles Demonstration, September 17th to 25th.

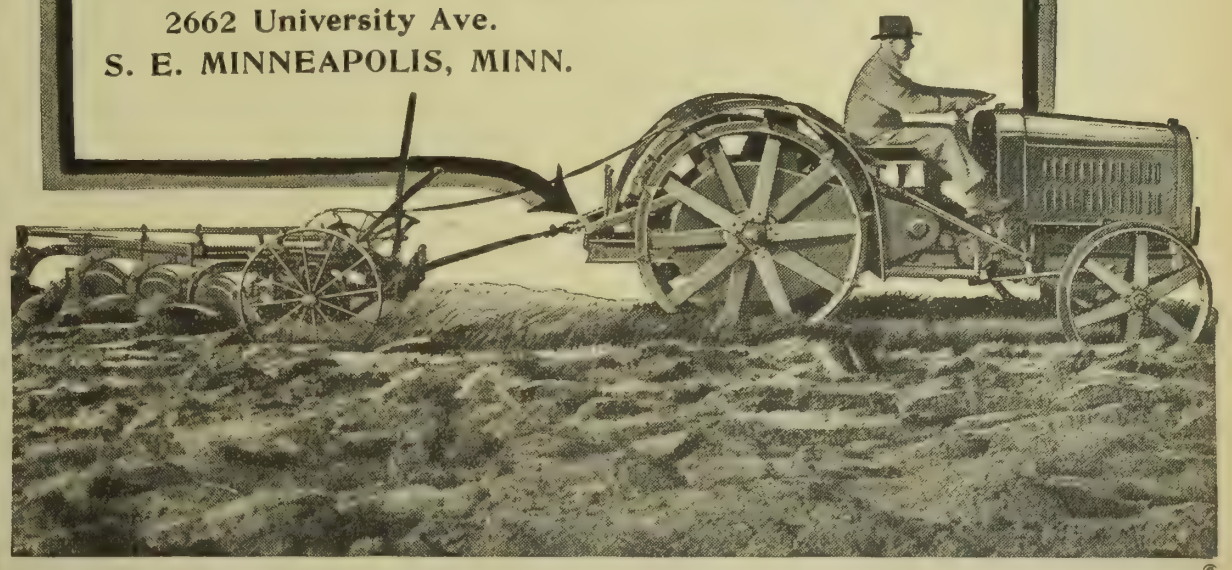
Distributors, with Repairs and Service, at Los Angeles and Stockton.

WRITE OR WIRE US.

NILSON TRACTOR CO.

2662 University Ave.

S. E. MINNEAPOLIS, MINN.



Cleveland Tractor

$1600 f. o. b. Los Angeles

Entered in Tractor Demonstration SEPT. 17 TO 21

Wilshire Boulevard at Labrea Ave. Los Angeles, Cal.

F. T. Briles, S. Cal. Distributor

214-216 No. Los Angeles St., Los Angeles, Cal.
Branch House—110 Main St., Porterville, Cal.

Forward-looking farmers are making necessary repairs on their machinery before putting it away for the winter.

You Must Help Solve the Skilled Labor Problem

Do YOUR Part

Train the RIGHT way for greater efficiency

Highest Wages in History Being Paid

for highly skilled automobile and tractor mechanics, ignition experts, tractioneers, vulcanizers, machinists, welders. Let the biggest, oldest, most practical and best equipped school on Pacific Coast train you.

Over 5000 successful graduates. Established 1905. Competent instructors. Big, new building. Most modern equipment, including Holt Caterpillar, International Titan, Sampson G. M. C. Tractors. See booth at Tractor Demonstration.

Send for Big Descriptive Catalog.

National Automotive School

805-23 S. Figueroa Street - - LOS ANGELES, CAL.

Practical Courses

in

Tractioneering
Machine Shop
Auto Repairing
Ignition
Lighting
Starting
Battery Work
Vulcanizing
Welding
Driving

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

Development of California's Fig Industry

[Written for Pacific Rural Press by John J. Fox.]

Tradition informs us that the first body covering of man to hide his nakedness was composed of fig leaves. I have often thought that in a fig climate such garments must have been rather short-lived and uncomfortable unless the ribs were trimmed down. Anyway, the fig is one of the earliest mentioned fruits in the Bible; and as it, together with the grape and the apple, were staple articles of food in Adam's day, so has California made the dried products a staple for world consumption in these latter years of grace through the study and sturdy co-operation of growers, nurserymen, and scientists—not only in production, but in processing and now, in marketing. Co-operation and the associations of growers have combined to lift our fruit men out of distress and uncertainty to a dignified status of stability, and an assurance that their members, if loyal to their brothers and their calling, will keep up the standards they have striven so hard to obtain. This applies to all the associations—raisin, prune and apricot, peach, pear, et al. Nowhere in the world has horticulture attained so high a pitch of perfection as in California, or where its products are more carefully standardized and inspected. Many of our most successful growers have had the advantage of a university education in horticulture and kindred subjects, which gives them the broadest knowledge possible to begin on.

A view of the Henry Markarian Calimyrna fig orchard near Fresno, one of the finest in the San Joaquin Valley.

The fig and the raisin are peculiarly adapted to the San Joaquin Valley, where there is ample heat and moisture, and a climate sufficiently hot and dry to mature and cure the crop in the sun.

VARIETIES CAREFULLY STUDIED.

In different sections of the San Joaquin Valley one meets with a well-defined difference of opinion as to the relative merits of the White Adriatic and the Calimyrna. But the Calimyrna man perhaps seems the most positive of the superiority of his product and believes that, given the same age trees and proper attention, the Calimyrna will bear as heavily as the Adriatic, in addition to the fruit being of superior size and quality. Men who are making a careful study of this young industry are well aware of the intricacy of their subject. That location, rainfall, temperatures, soil and water table all have to be taken into account. As an earnest of the equal division of opinion as to the relative merits of the chief varieties. I find that the nurseries are providing for an equal demand—half Calimyrna and half Adriatics.

THE WHITE ADRIATIC POPULAR.

The first large Adriatic orchard we visited was at the Bald Eagle Ranch at Modesto, which is now managed entirely by Robert McHenry—his brother having been called to the colors. This orchard consists of some 40 acres of 23-year-old trees, growing on land varying in character from a heavy loam to a sandy loam. The fruit was ripening (ready to pick September 1st) and we saw no split fruit. This orchard (part of which consists of border trees to other fields) produced last year 135 tons of dried figs, and the owner expects the same amount this year. Mr. McHenry thinks well enough of the White Adriatic to plant out 90 acres more, which are now two years old. He has just installed a new scrubbing machine. The figs are dumped into the hopper and sprayed with a sousing douch of brine—25 lbs. to 100 gallons of water. The figs are carried down on to trays, which are placed on trucks and run direct to the sulphur house while still moist, and are sulphured on the trays. They are kept in the sulphur house only four hours and then go to the drying ground. The sulphur house holds about seven tons to a charge and is in fourteen divisions. A tractor is used as power for running the washing machine and its tray carrier.

The trees are large and wide-spreading, as is natural to the character of the tree. They are pruned up only sufficiently to give passage through the orchard with the tractor. They have one irrigation and then the ground is kept well stirred. The outside and border rows carry about twice the amount of fruit that the inside of orchard bears. Mr. McHenry likes the White Adriatic because it gives him results, is a very regular producer and is the least trouble to take care of. The Hatch orchard at Fresno, of twelve and one-half acres of Adriatics, produces an average of three tons to the acre.

THE CALIMYRNA FIG.

Henry Markarian of Fresno has 160 acres of bearing figs sixteen years old, one-half of which are Calimyrnas and one-half Adriatics. He is resetting completely with Smyrnas and has recently planted out eighty acres more. He irrigates twice a year and attributes the splitting of fruit chiefly to soil conditions. A heavy moisture retaining soil, an excess of alkali, subirrigation are the chief causes. He says that over-pollination has nothing to do with split fruit. In 1913 he had the highest per cent of splits, culling 10 per cent. The year after he culled only 4 per cent, and last year less than ½ per cent. Lime seems to have helped overcome splitting in the heavier ground, and Mr. Markarian uses as high as two tons to the acre of hydrated lime not oftener than once in five years. He put 200 lbs. of lime around one tree where all the figs were split and left another, in similar condition, without lime. The effect observed the following year was, no split fruit on the limed tree while the unlimed one's fruit was all cracked.

Two hundred to 300 Capri figs to a tree are used for pollenization. Mr. Markarian says it is the greatest mistake to thin out the wood on figs, as it exposes the limb to sun burn and may result in the death of the tree if exposure becomes too great. They are just trimmed back at the tips. He is using more and more fertilizer year by year, and in addition to alfalfa or other humus

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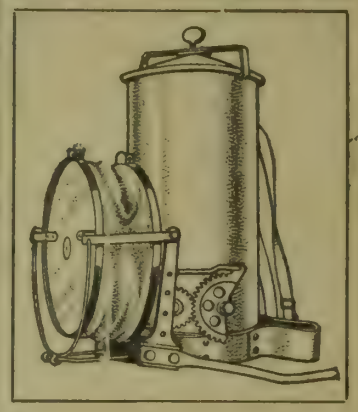

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hauled on he applies 1,000 lbs, of bone phosphate to the acre one year and ¾ of a ton of superphosphate the next. Twenty acres of fruit thoroughly cared for and kept to its highest pitch of fertility and production, pays better than double the area with no care in fertilizing. His Smyrna figs average 18 to the pound, and he showed us one tree that he estimates will produce 500 pounds of fruit. Also one of his Adriatics that he estimated carried 600 pounds.

PICKING AND CURING.

The cost of picking and curing averages from $9.00 to $12.00 a ton. The figs are dried on stacked trays for one week and the Adriatics are then run into the sulphur house for five hours, using a quart of sulphur per ton. After they are washed in cold water containing one per cent of lime and five per cent salt, in which solution they are left for one hour or less. There are six pickings of this fruit and the harvest season lasts about six weeks. There are heavy plantings of figs now in project and of recent setting. J. C. Forkner is setting out 4,500 acres of Calimyrnas, and Cobb Bros. 700, to mention two of the largest individual plantings. All the way from Merced to Bakersfield figs are being set out on the eastern side of the valley and, in these young orchards, summer crops are being grown to pay for the cost of production, as figs should be set not less than forty feet apart.

Even without the large orchards now being set out, it seems that the fig in the above named sections would soon become a staple if only border trees were planted. The Smyrna fig is a leader because of its magnificent size and high sugar content. The Adriatic grower claims that his fig is less liable to split, is a sure bearer, does not sour so readily, and does not require the attention and expense attached to pollenization. That as a border tree it bears far more heavily than any inside orchard tree. On the other hand the Calimyrna (or Smyrna) grower says, "If you are in the business, why not produce the highest quality of fruit obtainable?"

STANDARDIZATION AND INSPECTION IMPERATIVE.

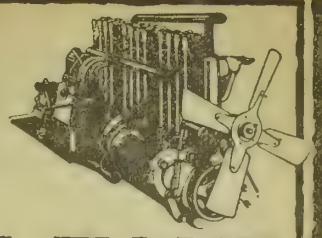
One thing is certain. If the fig industry is to grow and thrive, standardization and careful inspection will have to be practiced and the small figs used for jam or in some other way. If the fig growers of California expect to build up extensive markets they will have to see that no small or sour fruit goes out of the state. The present high price of the fruit is going to induce a heavy planting, and it means a long wait before the trees are large enough to produce a heavy crop. Mr. Markarian has expressed his intention of jam making, and this will probably give a very large outlet for the fruit in the future. The fig industry has come to stay and is being very carefully studied by men who are commercially successful in it. And in the section to which it is suited, the more these growers keep in touch with one another regarding not only the production, but the handling and marketing of their fruit, the sooner will it come to be classed among the staples of this great Inland Empire of California.

FUMIGATION FOR CITRUS TREES.

"Fumigation with hydrocyanic acid gas is the most satisfactory treatment for the control of scale insects on citrus trees. The dense foliage, together with the fact that it is evergreen, makes the citrus tree particularly unsuitable for spraying. It is not permissible to use a spray of sufficient concentration to kill all of the stages of scale insects, because of danger of injury, and the great difficulty in spraying is to hit all, or even a sufficient number of the scales to insure clean trees and fruit the following year. In the foregoing objections lies the failure of spraying citrus trees for scale."

The above quotation is from Prof. Quayle, who is probably one of the best authorities in the State on this subject, and Horticultural Commissioner C. F. Collins of Tulare county says that his experience (which is very extensive) convinces him that the above statement is correct in every particular. In the case of young trees or trees about dooryards, where fumigation is impossible or inconvenient, kerosene emulsion should be used, and the best thing to use with the kerosene is a washing powder. The time to spray is soon after the scale begins to hatch freely—about June 1st in Tulare county—and again early in August. This is also a useful spray for red spider and will remove moss. Fumigation is practical only in the hands of experienced operators and its beneficial effects should be good for two or three years.

A strong movement is on foot to have the Government build a storage dam on the head waters of the Walker river. This is the largest river in Nevada, and every year thousands of acre-feet of water go to waste. The crop loss this year in the valley would have paid for a big part of the cost of the dam. Then, too, there are large tracts of land that are desert wastes now that could be made to produce good crops with the use of water.



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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Tulare County Notes.

Tulare county is second in the State in citrus acreage. Horticultural Commissioner C. F. Collins reports 38,260 acres planted or in bearing, with navels in the lead. Last year there were 1366 cars of Washington navel oranges shipped and about an equal number of Valencias, besides grapefruit and tangerines. The orange crop here is proving more disappointing this season as time goes on. The estimate now stands at 45 per cent for Valencias and 25 per cent of a crop of navels.

The peach crop will be about 65 per cent of normal and prunes 60 per cent, while table grapes and raisins will be 100 per cent.

Commissioner Collins tells us that in his campaign against squirrels this year his men have put out 110 tons of poisoned bait, besides using some thousands of gallons of carbon bisulphide and over a million cans of rodent exterminator when carbon bisulphide ran short. In addition to this, many farmers bought and used their own material and now squirrels are conspicuous by their absence. This campaign will result in untold millions of dollars of saving in the State and is an achievement of which the Horticultural Commission may well be proud.

Storm Water Protection.

A storm water protection district for the prevention of overflows from Bear Creek has been petitioned for in Merced county. The purpose is to keep the channel free from trees, brush and trash which arrest the flow of water in flood time and cause it to inundate the adjacent fields. The channel is to be opened, widened and straightened and any necessary dykes put in. The territory embraced in the project totals over 16,000 acres.

Until the district plan is adopted the County Supervisors will have the administration of the project, with the assistance of three honorary commissioners, who are to assess damages and benefits.

Salt Water Kills Orange Trees.

Death of a number of orange trees in the well-known Taylor orchards in the Lindsay district north of Porterville has been traced, according to orchard experts of that district, to irrigation water. Analysis made of the water pumped from the well on the property for irrigation of the trees is said to have shown a large percentage of salt. When the soil was impregnated with this sodium salt the trees began to die. Whether any remedy for the condition can be obtained is doubtful.

Fruit Pits for the Government.

It is claimed that charcoal from peach and other fruit pits has 600 per cent greater neutralizing effect than wood charcoal. The Government seems very anxious to secure all the pits available and the price set for the grower for peach pits is $7.50 per ton f. o. b. shipping point. When necessary the Government has agreed to furnish sacks for the accommodation of the farmer.

Pears Planted in Alfalfa.

Pear trees planted in alfalfa by L. B. Dutton of Santa Clara county in the spring of 1917 are fully as thrifty as others adjoining, which have been cleanly cultivated. The land is sediment adobe over adobe and so moist that it had to be tile drained before alfalfa would thrive. Each tree was hoed for a foot or two around the base.

Bees Profitable in Orchards.

H. Gunnarson of Kingsburg has 30 stands of bees for pollenization of his fruit trees. He says they are the best money-makers on the place. He has already sold 23 5-gallon cans of honey and expects to take off 23 more this season, contracted at $12 per 5 gallons. This will net him $400 for the season.

Imperfect Pollination.

In the peach districts around Dinuba and vicinity the larger number of split-pits is attributed to the action of frost by some growers. There were also a great many small, undeveloped peaches containing empty seeds, apparently due to imperfect pollination.

Unripe Melons Condemned.

Three thousand dollars' worth of unripe melons were recently condemned at Turlock by Horticultural Commissioner Rutherford, and several shippers were arrested for violation of the State law.

General Notes.

Fig growers are paying pickers from 14c to 15c a box for harvesting.

The Libby, McNeil & Libby olive plant at Nimbus, Sacramento county, is being doubled.

Day wages in Fresno run from $2.25 to $2.50 a day with board, and teamsters $3 and found.

Many peach growers are preparing to irrigate their orchards again when they have pumping plants or are able to obtain water in any way.

Mildew is reported from various grape sections and it is being pretty well controlled by the persistent use of sulphur. Wine grapes have suffered most.

The Eckstein Nurseries at Modesto report a large sale of Corey's thornless blackberry last year, sending a great many plants to Oregon and Washington and some to Texas and Florida.

Atwater, Merced county, is to have a district fair on September 13 and 14. There are a lot of grapes shipped from here, also it is the center of the sweet potato district. Atwater has six packing houses and one cannery.

J. Anderson, near Jackson road, Acampo, sold his Tokay crop last year at $125 an acre on the vine. We saw a crop of Tokays and Muscats that was reported to have been sold this year for $250 on the vine, not far from this, and it looked like a good buy, barring accidents.

Arthur E. Beers, Horticultural Commissioner of Merced county, reports a very busy season with the State-wide squirrel campaign, which has been added this year to the County Commissioner's duties. Mr. Beers also appointed a grasshopper inspector in one of his districts to take care of an infestation and provide against its recurrence.

The grape-leaf hopper has been so very busy this summer that it may not be out of place to mention that clean culture in the vineyard and all around the edges will assist in control of the insect. For, although this hopper lives entirely on the grape-vine leaves in summer, he lives during the winter on legumes, grasses and weeds and in the spring living also on berry vines and creepers till the vines are ready.

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Plant More and Better Wheat

[Written for Pacific Rural Press.]

Farmers who have become interested in the State-wide campaign under the slogan above, and who are planning to sow in accordance with the suggestions being made by the agricultural department of the Sperry Flour Company, which has launched the drive, will be interested in the following data on the history of Early Baart wheat. The information is contained in a letter received at the Sperry headquarters in Stockton from George F. Freeman, plant breeder of the University of Arizona, Tucson, who has followed the development of this variety for 12 years or more:

"With regard to whether the high rank of Arizona as a wheat producing State is due to Early Baart wheat, will say that it is so indirectly in this way. In early days Arizona grew a large quantity of wheat. It was principally of the variety known as White Sonora. This is a soft wheat, which is very suitable for the making of pastries and white biscuit, but with insufficient gluten for the production of first-class baker's bread. With this variety a number of flour mills were built in the State, but when the Southern Pacific railroad was put through and finally freight rates from the Middle West became reasonable it was found that the stronger flour from Kansas and Oklahoma wheats were so much better for bread making purposes that the flour from Arizona mills was practically driven off the market.

"With this condition of affairs one after another of the mills closed. The price of Arizona-grown wheat dropped, and the whole wheat-growing industry was on the verge of being abandoned. As a matter of fact, nearly all of the wheat that was still grown in the State was used as chicken feed, and the two or three mills which continued to run ground wheat, which was shipped in from the Middle West.

"About twelve years ago the Arizona Experimental Station, realizing the loss to the farmers by the gradual dying of the wheat industry, began to cast about for wheat varieties which would make grain of sufficient quality that the flour from it could to a certain extent compete with that shipped in. As a result, Early Baart, introduced at that time from Australia, was found to be very promising. It was turned over to Mr. Peters of Tempe Milling Co., who liked it so well that he urged that all the farmers in that vicinity grow this variety.

"From this as a beginning it has spread all over Arizona, then through Southern California, and is now well established in the Pacific Northwest. We might say, therefore, that the introduction of the Early Baart wheat was the means of saving the wheat industry in Arizona, and hence indirectly the cause of our high standing today in acre yields of this commodity. As a matter of fact, however, the peculiar soil and climatic conditions in Arizona are favorable to the high yields of any variety. One has no trouble on good land in growing 50 to 60 bushels per acre and I see no reason why the State as a whole should not average at least 40 to 45 bushels. I have grown as high as 67 bushels per acre in field plots of an acre or more."

EARLY BAART IN IMPERIAL.

With regard to commercially-grown varieties in Imperial Valley, where wheat acreage is supplanting barley acreage, partly on account of the campaign for more wheat, Robert A. Todd of Los Angeles writes that last fall, when he bought a carload of seed wheat, he accepted the suggestion to include enough for 50 acres of Early Baart because Arizona experience had shown that this variety withstood either wet or dry weather better than White Australian, which comprised the rest of the carload.

"If I had planted all of the acreage to Early Baart, I should have made more money than I did from the White Australian," writes Mr. Todd. "We had a few warm days the latter part of April and this greatly damaged the White Australian crop. The Early Baarts grew perfectly and yielded 20 sacks to the acre. The berries were plump and commanded the top price from the Government. The White Australian berries were small and were classed as soft wheat by the Government inspector. The Early Baart was easier to harvest than barley, but threshing the White Australian was the worst job we ever had on the ranch. The straw was as tough as Panama straw and I should have been unable to harvest it had I not had a harvester of my own. I intend to plant about 600 acres to wheat this fall and am looking for Early Baart seed."

ORCHARD BARLEY FED COW.

Fifteen dollars invested in a barley cover-crop in F. W. Orchard's 13 acres of fruit trees in Sonoma county furnished feed for his cow last winter which he figured saved $50 worth of hay.

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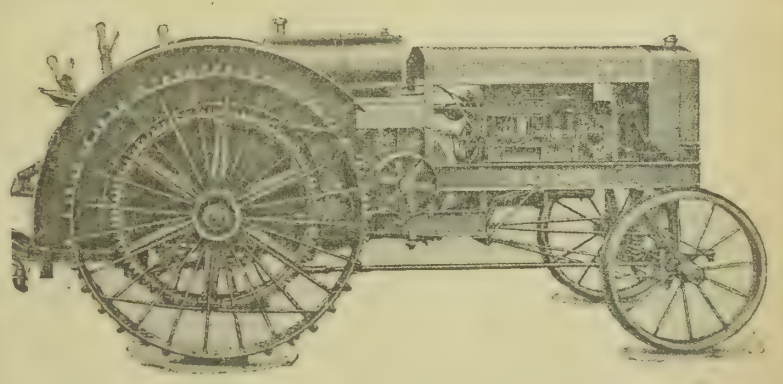

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Agents for California and Arizona

Our Beans as a War Ration

[Written for Pacific Rural Press.]

The announcement that the California Bean Growers' Association, with headquarters at Stockton, is this week rolling carload after carload of beans eastward for shipment to a neutral European country is good news. It is pleasant to think that although California's carry-over of beans is lighter than usual, we are still able to send heavy cargoes overseas without waiting for the new crop.

It is not accidental that these half-famished Europeans have called for California beans by the shipload. Besides the ease with which they can be transported by rail or water, beans have proved to be higher in nutritive value than the average American had ever guessed.

Some idea of the food value of the California bean can be gleaned from interesting data furnished to the California Bean Growers' Association by Prof. M. E. Jaffa, the famous expert in dietetics of the University of California. Prof. Jaffa knows beans—knows them botanically, culturally, structurally, chemically and otherwise analytically—and he knows the difference in the heat calories produced in a hungry man by a dish of the demure, chaste Lady Washington, of the coquetish Blackeye, of the blushing Pink.

Taking Prof. Jaffa's figures as a starting point, the statistical department of the California Bean Growers' Association has visualized the table of equalities in a startling way. Let us suppose that the cost of living is getting on your nerves and you go to the grocery with an analysis of the calories contained in various kinds of foods "in the raw," and you want to get all the calories you can for your little dollar. Starting with the average of all varieties of California beans as a basis, you know that a pound represents 1615 calories. (You are not supposed to know what a calory is any more than you know what a kilowatt of electric current is, or a cubic foot of invisible gas, but you at least know that the people whose business it is to know these things use them as units of measurement as accurate as a yard-stick or a postal scale.)

If you wish to order your assignment of groceries scientifically, according to calory value of each staple food, you may use a pound of beans as your mental yard-stick, remembering that it contains 1615 calories. You can get approximately the same number of calories by buying a pound of flour or a pound and a quarter of bread, or you would have to order two and a quarter pounds of beefsteak, or at least four pounds of potatoes or one dozen and a half of eggs or three pints of milk or nearly a pound of cheese, in order to secure the caloric equivalent of your pound of beans.

If your selection of groceries is influenced by the cost price, consider that a pound of beans on a certain date may cost 10c. On that day, according to season, you might get two eggs for 10c, and they might be from the cold storage hen. To get the full caloric equivalent of your pound of beans you would have to buy 90c worth of eggs.

FILL STOMACH WRINKLES.

But there is another important factor to be considered when you are thinking about California beans as a war ration, as pointed out by Prof. Jaffa. It is true that when you buy a pound of beans and one dozen and a half eggs you get the same number of calories, measured "in the raw." When you cook the egg the ratio of calories to weight remains practically unchanged, but when you put your pound of beans into the pot they swell out with the absorbed moisture and the weight is greatly increased. This absorbing quality of the California bean is of tremendous importance under conditions where shortage of food is a distressing factor. When a man is painfully hungry, a full stomach is a solace beyond reach of words, especially if he has a day's work to do he is not worrying about the number of calories that he crowds down his esophagus — he merely wants the wrinkles of his stomach pressed out with food. The bean does the trick admirably with a minimum of expense. If you will search the grocery through, you will probably not find any other food of equal calory value that has this quality of giving the "full" satisfaction. Filling hungry European stomachs with our beans during the period of short rations will, in the judgment of the California Bean Growers' Association, have the inevitable result of teaching Europe how good our beans are, especially if they learn how to prepare them in different ways. The outcome will be a permanent demand for California beans after the war has ended. The association plans to have a special foreign department which will stimulate the demand from foreign countries and justify even an increase in our present large acreage of beans.

The necessity for collective marketing is shown by the fact that the California Bean Growers' Association includes practically all of the largest bean growers in its territory as well as the smallest producers. One member, for instance, has 30,000 acres of beans under cultivation this year. Allowing an average of only 12½ sacks to the acre, his yield would be 375,000 sacks of 100 pounds each. Suppose that at normal conditions should reduce the price so that he should average only $7 per sack, the market value of his crop would be $2,625,000. Yet even this grower, after experience in individual marketing, decided that his output was not large enough to enable him to market his beans to as great advantage as would be the case if he were in touch with his fellow growers. That is why he joined the association.

BEANS SEVEN INCHES—ALL SUBMERGED HARMLESSLY.

[Written for Pacific Rural Press.]

Some 10,000 acres of beans are normally sub-irrigated in the Natomas reclamation in Sacramento county from drainage ditches. These ditches are in two systems, one draining into Pritchard's "Lake," whence the water is pumped over the levee into the Sacramento river. The other system drains to the southern end and is pumped over by another outfit. The aim is to pump out enough in the spring to leave the water-level about a foot below the land-level, so it will seep through the loamy sediment. This year being exceptionally dry, the water became too low in the ditches and before they were filled by pumping from the river the beans became rather dry when they were about seven inches tall, and did not seem to grow at all for about ten days. The ditches were pumped full, but seepage was not fast enough in this emergency. The land is naturally level; so with no artificial leveling, checks were thrown up and the big pumps overflowed ditches and flooded many acres of beans so just their tips were out of water. The soil is loose and deep, so the water was generally off in two hours. A week later, which was about August 24, the beans had doubled in size and in many places were so nearly matted that they could not be cultivated after the irrigation. Beans on low spots where water stood over two hours suffered by scalding and some have died. Where beans were in bloom, they were not flooded so deeply. Wherever the water was on not over two hours the beans have done splendidly and no harm has come from the flooding.

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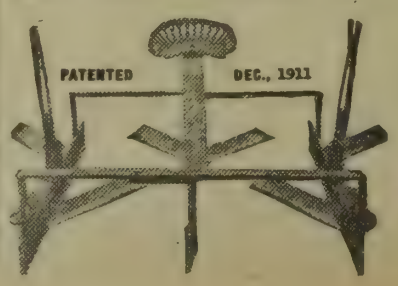

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WRITE FOR CIRCULAR which illustrates and describes the Sigurd Weed Cutter and contains letters from many users.

C. G. Sigurd, Manufacturer

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Mountain Wheat Notes.

In a trip through Chico, Susanville, Modoc county, Reno, and home a party of San Joaquin farmers and men from the agricultural and chemical departments of the Sperry Flour Co. noted some 70,000 acres on the Madeline Plains, near Ravendale, adapted to wheat culture but not much farmed. Irrigated lands in the lower end have produced fine crops of rye and oats. At the upper end, with an elevation of 5000 feet, they thought spring wheat should be replaced by winter wheat to permit the roots to make growth necessary for a maximum crop during the short summer and fall months. The general practice is to sow in May after snow melts, but better use of the snow moisture would be gained by fall seeding. Lack of rain has been disastrous this year to wheat in the Big Valley section of Modoc county; but in the Honey Lake district of Lassen county, irrigation has saved the day. No finer wheat had been seen north of Tehachapi. Good acreage was planted between Susanville and Doyle and the yield seems heavy. Binding is now in full swing.

Powdered Vegetable Soup.

In a minute our Sammies in the trenches may have nourishing, delicious hot soup such as the writer has this day enjoyed in the offices of E. Clemens Horst as the guest of Frank George. Six or eight different vegetables of only the fanciest quality have been cooked, dried, and ground. Two ounces of the product makes four big platefuls of thick soup, with no boiling at all, though some boiling won't hurt it. The two ounces contain the same nourishment as nearly one and a half pounds of fresh vegetables. Samples of the powdered soup are being sent East to Government authorities and to the hotels, restaurants, steamship lines, etc., which are already using the Horst California dried vegetables in preference to the "fresh" vegetables they can buy in their own markets. Various soup mixtures will be put up in the future and may well form part of every camper's rations.

Ethics in Vegetable Packing.

Before standardization, the foreign and other truck growers were prone to line up the cracks of their tomato crates with nice, red, smooth tomatoes, filling the inside with small, unripe or otherwise inferior fruit. Sweet potatoes the same. The cracks in the crates showed, and do still show, those of nice size and shape, which is not always an earnest of what may be found within. From time immemorial it has been the custom to set forth the most attractive wares and to conceal imperfections in bulk from the purchasers. But the ethics of modern business demand a reliable pack and painstaking quality. Co-operation and standardization are the only means of insuring these results.

Bean Growers' Association.

The original object of the California Bean Growers' Association to control 1,000,000 bags of beans this season was surpassed by July 31, and half a million more had been signed up a month later under the new objective of 2,000,000 bags. Growers outside of the territory already covered by the association from Salinas and Turlock northward are not being solicited to join until this territory is well consolidated and the marketing is well under way. The 1917 carry-over is being marketed by the association at present.

Adobe in Hay.

Fifty pounds of adobe and rocks were found as an average per bale in a large shipment of hay not long ago when it was inspected by State Superintendent of Weights and Measures C. G. Johnson. One bale contained 80 pounds. In another shipment of 150 bales they averaged 32 pounds each of dirt. Some adobe is bound to get mixed in hay, but at the rate above the farm would soon be sold in small subdivisions and at subdivision prices.

Merced's Tomatoes.

Merced county has the monopoly on tomatoes lasting from two to six weeks, according to season. It may begin the end of May, when the Imperial Valley is usually through shipping, and last to the middle of July, when other sections are shipping. Large quantities are shipped to Canada, Portland and Seattle. This year 40 carloads were shipped in carload lots.

Choking Foxtail from Alfalfa.

Alfalfa is practically freed from foxtail by Robert Collier of Solano county. Three or four years ago he intended to cut a crop after the last irrigation, but did not get to it. Foxtail started when rains came, but the heavy coat of alfalfa smothered it. He has done the same thing purposely since then. His brother sows grain in alfalfa nearly every fall for this purpose.

October Rain on Potatoes.

An October rain on main crop potatoes will crisp the tubers and make them keep months longer than if they are dug without rain, according to H. A. Hyde, who grows potatoes at various places in Cali-

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Authoritative tests have proved that as high as 50 per cent increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

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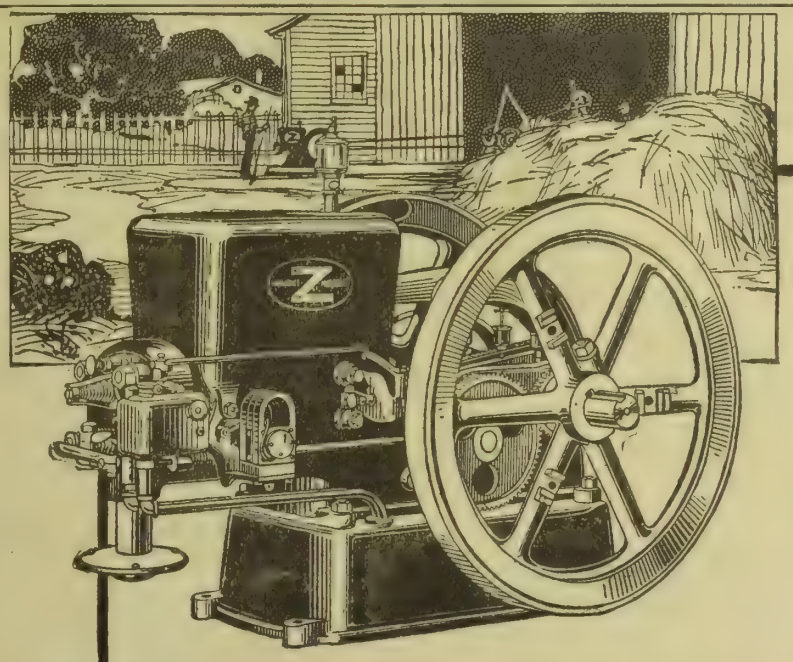

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THE DRIED APPLE INDUSTRY.

[Written for Pacific Rural Press by A. W. Tate.]

Chinese firms at present control some 80 per cent of the output of dried apples at Watsonville and would doubtless control it all were it not for the introduction of modern labor-saving machinery which has enabled a few firms to compete. Today there are 84 kilns operating in Watsonville and its immediate vicinity, employing over 1400 people. Their output last year was 5181 tons of dried fruit or nearly 50 per cent of the total apple production of the Pajaro Valley was dried.

Probably the largest dryer in the world is owned here by the Unglish Bros. on Main street. They employ 50 people for 30 power-operated peelers and the dryer has a daily capacity of seven dried tons.

The U. S. Government was the best customer last season. It is estimated its purchases amounted to 75 per cent of the total output, for which it paid in the neighborhood of $1,500,000.

At present it is usually considered that the cost of drying is about $50 per ton, exclusive of the cost of the fruit. The average paid for drying apples in 1917 was $17.50 per ton, though towards the end of the season as high as $35 was paid. A conservative estimate of the average price received for dried apples would be 10½c per pound.

It is of interest to note in this connection that a large number of the drying firms lost money last year. Dried fruit was contracted early in the season at ordinarily fair prices, but as the price of dried fruit advanced packed apples and dryer stock shot upward and in order to fill their contracts dryers had to pay the advanced prices.

DROP OF ORANGES REDUCED.

Very encouraging results in the prevention of the June drop of oranges have been obtained at Edison this year by J. E. Clark, superintendent of the Edison Land and Water Company, as described in the Kern County Farm Bureau Monthly.

On one tract of five acres melilotus alba, seeded at the rate of 15 pounds per acre, and vetch, at the rate of 10 to 12 pounds per acre, were planted in February as a summer cover-crop. The growth of the cover-crop, particularly the melilotus alba, was very luxuriant, plenty of irrigation water being provided. The effect on the temperature, physical condition, and moisture relations of the soil was very marked and the orange trees are in a healthy, vigorous condition. Mr. Clark estimates that the crop of oranges on this five-acre tract will amount to at least 400 boxes, as compared with only a few boxes from the same orchard last year.

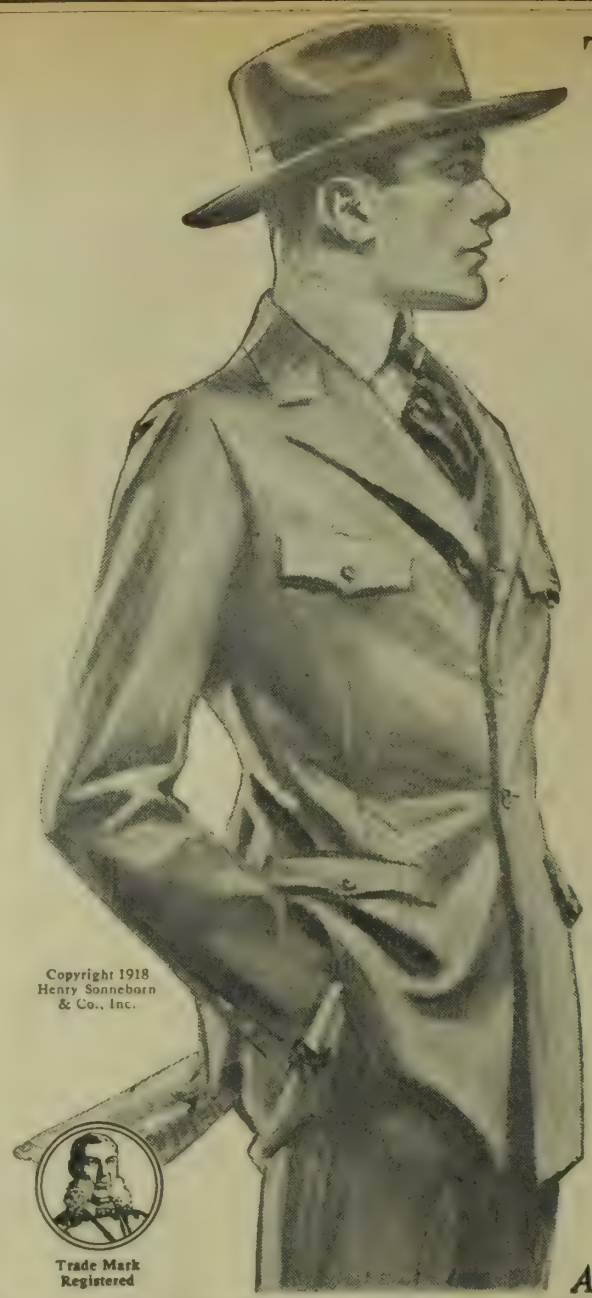
Another 30-acre orange orchard was seeded to vetch and melilotus alba, at the rate of 30 pounds of vetch and 6 pounds of the clover. The amount of fruit on these trees is also very satisfactory and noticeably greater than in an adjoining orchard where no cover-crop was planted. The growing of a summer cover-crop is only feasible where there is a sufficient supply of irrigation water for both the trees and the cover-crop.

MONTHLY CROP REPORT—STATE AVERAGE.

	Per cent		Per cent
Walnuts	83	Pears	83
Prunes	72	Peaches	75
Plums	74	Oranges—	
Olives	70	Valencia	84
Grapes	95	Navel	63
Figs	100	Lemons	86
Apricots	80	Berries	90
Almonds	70	Apples	75

Figures indicate condition of crop in percentage on the basis of 100 as normal.

A Government entomologist, investigating the district around Gridley for evidences of the new pest, the Oriental peach moth, one of the worst enemies of deciduous fruits known, found none in the vicinity.



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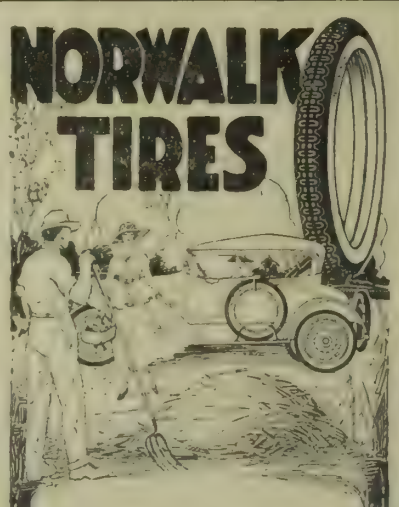

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HAVE you seen the **New Third Lever** on a **Deering, McCormick,** or **Osborne** Three-Lever Disk Harrow? It is a depth regulator. With it you raise and lower the inner ends of the disk gangs to meet *all* field conditions. You do this quickly and easily, without in any degree destroying the rigidity of the gangs, for which International Harvester disks have always been famous.

Have you seen the **New and Exclusive Attachment of the Tandem?** This is another feature we are proud of. The connecting braces tie to both leading gangs, extending from the tandem in such a way that the gangs *must* cut the ridges left by the leading gangs. In turning corners, the sliding connecting braces allow natural flexibility and following of the tandem without crowding sidewise.

International Harvester disk harrows have done top-notch good work for many years. They have built-in weight boxes, adjustable forecarriage, 4-wear wood bushings, tall hard oilers, etc., etc. This year they are simply unbeatable.

When you want seed beds that are right, be sure your tools—disk harrows, peg and spring-tooth harrows, cultivators, etc.—are **Deering, McCormick** or **Osborne.** Write us.

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San Francisco, Cal. Spokane, Wash.

MAKE THE JACKASS RABBIT WIN THE WAR.

To the Editor: I send you a copy of a letter I am sending to the State Food Commissioner:

"Dear Sir: I have a conservation idea which, if carried out, would surely be a benefit to California and a source of profit to some enterprising manufacturer. Jack rabbits do considerable damage in some sections. They could be utilized in the following ways: Remove the hair (not the skin) then boil and cool and save the fat for soap making. The meat could be dried and sold for chicken feed and the hair could be utilized probably for plaster or some other purpose. To catch the rabbits drives could be arranged and the proceeds go to the Red Cross. T. S. Burnight, Calistoga.

[Perhaps you wish us to ask you what to do with the ears, so that you can tell us to put them on as a reward for publishing your communication! But perhaps you are serious about it and then we have to ask whether you have figured the cost of the plant, which would be required to make such products economically, the cost of the labor to operate them, the cost of the selling campaign which would be needed to create a demand for the products, the time which would be required to get all these things in operation and what would become of the investment after the first few drives had reduced the jacks to the normal requirements of pot-hunters for rabbit stews?—Editor.]

GRAFTING OVER WINE GRAPES.

[Written for Pacific Rural Press.]

We recently visited several vineyards in Fresno, Merced, Tulare and Madera counties, where old Zinfandel vineyards had been grafted over to Thompson Seedless, though we did not see any where the Zante currant had been tried. In each instance there was a sprinkling of Zinfandel vines, showing that the work had not been followed up closely enough or the work needed more supervision.

Generally speaking, the vines were fairly strong and thrifty and were bearing an average crop for the year, which is less than last in most Thompson vineyards. On 12-year-old vines we thought that better results would have been attained if two grafts had been put in instead of one, so as to callous over more quickly—also the stub could profitably have been dressed over with asphaltum to make it last longer. The unions are good and grafts made about level with the ground, so they could be covered. The best crop we saw of these worked-over vines will produce about two tons to the acre of dried fruit.

MERCED COUNTY MENTION.

Merced county raises about one-half of all the sweet potatoes produced on the Pacific Coast. Her acreage in this crop is about 4000 acres. We saw one field of 950 acres, rented by the Arkalian Bros. The crop runs from two to two and a half tons to the acre and has been bringing $3.50 per 100 pounds, as compared with $2.50 last year—a record price. A good many are being shipped this year in half crates.

Blackeye beans are a good crop here and do better than any other. Gyp corn is also a good crop this year and is said to pay as well as the cow pea, averaging a ton to the acre.

Merced county claims 10,000 acres in beans and 94,000 acres in alfalfa. The west half of the county is entirely given up to dairying, alfalfa and stock.

The Berkeley Federal Land Bank has loaned $7,182,700 and has approved loans for $4,685,560 more. Of these totals, 1776 California farmers have received, up to August 1, $5,494,500, with approved loans totaling $8,843,760. Nevada farmers have received $153,900 of the $208,300 approved. Arizona farmers have received $271,300 of the $515,000 approved.

Why the cost of producing cattle does not determine their selling price

TO produce a steer for meat purposes requires, as you know, a period of from one to three years.

The prices the producer has to pay for feed, labor and other items during this period, together with weather conditions, determine what it costs to produce the steer.

But the price the producer receives for the steer depends on conditions existing at the time it is sent to market.

If the supply of cattle coming on the market at this time is greater than the consumer demand for dressed meat, the prices of meat and live stock go down.

On the other hand, if the number of cattle coming to market is less than enough to supply the consumer demand for meat, the prices of meat and live stock go up.

Not only do the receipts of animals vary from week to week but the consumer demand for meat also fluctuates.

The rise and fall of prices results from an economic law that operates in every business. It is the packer's task to turn live stock into dressed meat and by-products, and distribute them to the consumer under control of this law.

Market conditions and competition establish the prices the producer gets for his cattle. When meat prices go up or down, so do cattle prices.

The packer can't pay out more money for animals than he takes in from the sale of meat and by-products.

Swift & Company will gladly co-operate in the carrying out of any national policy that will tend to steady the prices of live stock and meat.

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Try our new brand of sublimed 100 per cent pure Ventilated Sulphur for making Paste — Atomic Sulphur.

For Lime Sulphur Solution, use our "S" Brand Refined Flour Sulphur, which we will furnish at a price so cheap that you cannot afford to purchase ready-made solutions.

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The powdered mica in Mica Axle Grease keeps the spindles smooth, resists wear and pressure, and makes the grease last twice as long. Mica Axle Grease would still be good axle grease without the mica. But the mica makes it better. Get a can from your dealer today.

STANDARD OIL COMPANY
(California)

MICA AXLE GREASE

Pays to Feed Dairy Cows Well

[Written for Pacific Rural Press.]

In answering the question, "Does it pay to feed high-priced concentrates to cows?" a prominent and successful dairyman replied: "I never yet saw the time when feed prices were so high that it did not pay to feed a good cow to her full capacity; also, I never yet saw feed so cheap that it paid to keep a poor cow." There you have the situation in a nutshell. Test the cows. Sell the unprofitable ones. Use the money to buy grain for the rest. And the few good cows, fed to their capacity, will make you more money than the larger herd did under the old method of limited feeding.

Not right away, though. If you add 10 cents' worth of grain to a cow's ration today, you must not expect to get 10 cents' worth of extra milk from her tomorrow. You must be satisfied with the cumulative effect, not only upon the present lactation period but also upon the following one.

A test was conducted at one of the experiment stations, in which one lot of cows was fed liberally on concentrates during an entire lactation period and another lot received none. After freshening, neither lot received concentrates. It was found that the cows in the first lot produced much more heavily than those in the second, evidently having stored up a reserve during the year of heavy feeding. Furthermore, they held up well during the entire second year, while the cows in the second lot let up on their flow after three or four months and finished the year in very poor condition.

So in deciding whether or not to feed your cows concentrates put on your long lookers. Consider not only that their flow will be increased somewhat, but that they will hold up longer and will be in better shape for another year's work. They will be able to furnish better nourishment to the calves they are carrying, and this will result in larger and stronger calves that will make greater and cheaper gains. The cows will breed more regularly, and will have greater constitutional vigor, so will not be so susceptible to disease.

If you are feeding silage to supplement alfalfa or other roughage, it is doubtful if it would be advisable for you to add grain to the ration at its present price. Silage at the rate of 30 pounds per day for a cow weighing 1000 pounds, together with all the alfalfa she will consume, is about all that a patriotic cow can expect at this time.

But if you have been feeding alfalfa alone, you will find it profitable to add a small amount of grain. Prof. Eckles, the well-known authority, offers a schedule as follows:

Lbs. milk daily.	Lbs. grain daily.
25	3
30	4
35	5½
40	7
50	9

This does not mean that a high-priced grain ration needs to be used. Beet pulp makes a fine combination with alfalfa—is a good substitute for silage. Six parts dried beet pulp, two parts rolled or ground barley and from one-half to one part coconut oil meal, by weight, makes a cheap and satisfactory war-time ration. Add three-quarters ounce salt for each cow and let the entire mixture soak for twelve hours in five times its weight of water, which is about the amount it will absorb.

If the hay can be chopped, a waste of from 15 to 25 per cent will be saved, and if straw is substituted for one-fourth of the alfalfa a still further saving will be effected.

Kindness to Dairy Cows Pays

[Written for Pacific Rural Press.]

A Holstein breeder had a three-year-old heifer that had milked so persistently that he had been unable to dry her up until five days before freshening. He did everything that he could think of to stop her flow of milk, including cutting off her feed to such an extent that when she freshened she was little more than a skeleton.

However, he wanted to give her an official record of some sort, so he placed her in the care of a man who was not familiar with official test work but who said he had milked a little and was willing to follow instructions. The owner's advice to the attendant was: "Be just as kind to her as you can."

Knowing the conditions under which she was working, the owner made up his mind that a 16-pound record was all he could expect, and you can imagine his surprise when she finished with nearly 23 pounds to her credit.

He found the secret one day when he chanced to enter the stable unannounced. There in the stall lay the heifer, and curled up between her fore and hind legs, his head resting upon her side, lay the milker, fast asleep.

Who will dispute the owner's claim that the last seven pounds of that record was due to care and kindness?

WILL REGISTERED COWS PAY?

Are you wondering if you can make registered cows pay? Perhaps you haven't the money to buy animals with fancy pedigrees and high records; neither are you in a position to do official testing. And you wonder if the kind of registered cows within your reach will pay.

Here is the proof: A year ago A. J. and Nellie A. Morey of Orland bought the Jersey cow, Gertie's Fox Alene, from N. H. Locke for $300, and showed her at the Glenn County Fair. She was made grand champion and won two prizes of $20 each for highest butter production.

She dropped a bull calf, September 20, and he was sold for $100. In nine months she produced 400 pounds of butterfat, which sold for $180. Thus the cash returns were $320, to which must be added the value of the skim milk fed to calves and pigs, worth probably about $48, and the manure, worth about $6.

Here is a grand total of $374 for the year. Take two cows in your dairy worth $150 each and figure what they returned you during the past year. Like as not you will decide that one registered cow at $300 will make more profit for you than two grades worth $150 each.

W. T. Roberts of Penn Grove reports a very heavy demand for milking Shorthorn bulls, and has only four left, but these are good ones and will be offered soon. Mr. Roberts is thinking of showing at San Francisco.

The Jersey cow, Spermfield Owl's Eva, owned by Meridale Farms, New York, has answered the question as to whether a cow can retain her milking qualities after having made a great record, by completing her sixth official yearly test at twelve years of age with a record of 15,504.2 pounds of milk and 833.72 pounds of fat. This is next to her best record, made at eight years of age, when she produced 16,457.4 pounds of milk and 993.30 pounds of fat.

The Guernsey cow, Linden Girl of Harbor Hill 3rd 58625, has recently completed a record in class CC of 15,032.9 pounds of milk and 785.89 pounds of butterfat. This record makes her the champion cow of the breed in this new maternity class.

SECOND MODESTO SALE

90 Registered 90

Holsteins

MODESTO, CALIFORNIA

Thursday, Oct. 17, 1918

Including the entire dispersal of the C. G. Outland herd at Modesto, and splendid consignments from eleven other high-class herds.
There will be cows and heifers of show quality, high record cows and daughters of high record cows, bred to bulls from dams with records up to over 40 lbs. butter in 7 days and over 1100 lbs butter in one year.
A splendid opportunity to buy foundation animals at a time when it behooves every man to get all the registered Holsteins he can feed and handle, for there is every indication that demand is going to far exceed the supply in the immediate future.

Catalog in preparation. Write for one.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

SACRAMENTO - - CALIFORNIA

TYPEY SON OF MODEL FRANCIS GLISTA 173142

from a Daughter of Prince Riverside Walker.

The A. R. O. records of Model Francis Glista's dam, granddam and of his sire's dam and granddam average 30.70 pounds in seven days. His first seven dams average 4.25% fat. The calf's dam made a high record under unfavorable conditions. This and other young stock for sale.

C. C. SLATER Pacheco, Contra Costa County

FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

Ben A. Rhoades, Auctioneer

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California Breeders have sold more than $350,000.00 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

CALIFORNIA BREEDERS SALES & PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

Purebred Registered

HOLSTEIN CATTLE

You cannot sell milk at a profit unless you cut your production costs by keeping cows that will average 7000 lbs. per year and upwards.

The agricultural colleges and state experiment stations through tests of the different breeds supply facts and figures that will satisfy any open-minded business man that for every purpose, the Holstein is the most profitable breed.

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Clear and Clean as Water

B-K keeps tubes and cups sweet and clean. Penetrates milk solids—kills the bacteria. Is clean—harmless—cannot taint milk. B-K makes rubber parts last longer—cannot harm metal. Used and recommended by Milking Machine Manufacturers for years. Cheapest in actual use—sold under guarantee. Get B-K today—end sour milk troubles. Send us your order and your dealer's name. Send for dairy bulletins and "trial offer."

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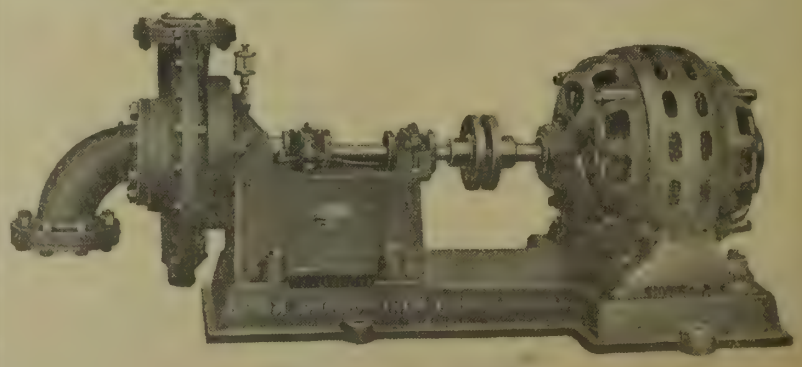
3439 So. Dickinson St.

UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



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New Catalog No. 60-A for the asking.

BYRON JACKSON IRON WORKS, Inc.
LOS ANGELES SAN FRANCISCO VISALIA

Urgent Need of More Sheep

[Written for Pacific Rural Press.]

The marked decrease in the number of sheep in proportion to population in California is receiving the serious attention of the local Food Administration. For while that department has no responsibility in connection with the wool supply, the matter of maintenance of an adequate amount of meat for our people at home, as well as our soldiers in the field, is so closely related to wool production that the administration feels it pertinent to urge greater production.

Statistics show that in 1880 there were 5.6 persons and 36.8 sheep per square mile in the State, averaging 6.6 sheep per capita. This year there are 20.2 persons and only 16 sheep per square mile, which is at the rate of only .7 sheep per capita. During the last ten years alone our population has increased 32 per cent while sheep have decreased 8 per cent.

The use of better blood in the range flocks is urged, not only that a higher wool clip may be secured but also a better mutton carcass, so as to get the greatest possible amount of product in the form of mutton and wool from the smallest number of sheep and the least amount of feed.

But we cannot depend upon the ranges to raise enough sheep for our needs. Each farm should have its flock, not simply from patriotic motives but because a small flock will pay better than almost any other kind of livestock on nearly every farm in the State.

On this account the movement recently inaugurated by the College of Agriculture to increase sheep production by a campaign for the establishment of a small flock on every farm should have the co-operation of all. In some sections the movement is being vigorously pushed. In Yolo county farmers have already agreed to purchase 1000 ewes, and it is expected that 2000 head will be placed on farms where none have heretofore been kept.

According to a plan worked out by Prof. Miller of the University Farm, the ewes are bred and sold for $10 per head. The lamb will sell for $6 and the wool from one clipping will net $4, thereby making full return on the investment in one year, and the farmer still has the ewe.

Here is an opportunity for true-blue American farmers to make a substantial investment and at the same time contribute to both the food of the country and the much-needed wool supply.

CATTLE SQUEEZERS FOR DEHORNING.

Do you have trouble keeping animals still while dehorning them or performing other operations?

The best contrivance we have seen for this purpose is a stall, called a squeezer, built for the purpose, on the Collins Bros.' dairy at San Leandro. Its sides slope from about three feet high toward center at the bottom, leaving only enough level space for the feet of the animal.

The feature of this squeezer is the heavy wooden V-shaped trough, without ends, which is swung around on hinges endwise to the stall in place of the stanchion, which is also on hinges.

The cow's head rests in the end of the trough and is fastened there by a rope which starts from a hook on one side of the trough, goes over her nose, then under a hook on the opposite side, then to a hook about a foot back on the same side, then across her head just in front of her horns to a windlass bar on the first side.

If the tightening of the rope by the windlass does not hold her head firmly enough, a 2x4 with the corners rounded and with a strap-iron hook at the end is hooked into a staple at the side of the cow's neck and brought down behind her head so that she can't possibly wiggle it.

CATTLE HOOKED INTO MANGERS.

Sometimes when cattle feed from an open manger one will be hooked into the manger on her back and will be badly injured. This was the experience of Collins Bros. of Alameda county in feeding about 300 head on chopped hay.

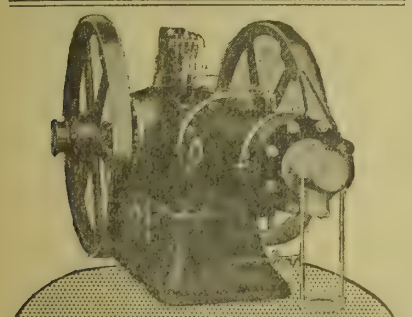
But they are off the worry wagon now, because they have put inch pipes from the front edge of the manger back to the top of the fence against which the manger is placed. These pipes are about two feet apart. They are valuable also in preventing the cattle from shoving the hay out and wasting it.

STOCKERS WANTED.

During the past ten days we have had several inquiries from farmers in the San Joaquin Valley for feeding cattle. Parties who have stock and no feed may get in touch with these men by sending us their addresses, stating the number and location of their herds.

The early maturity of Duroc pigs is sufficiently proven in the results obtained by one breeder, who marketed 99 head of March and April pigs on the 18th of the following January at an average weight of 297½ pounds. These were the culls from the spring crop, after several had been sold for breeders and others reserved for the herd. They were full-blooded Durocs, and had never been fed any slop. They merely ran on an eight-acre field of corn and rape, and were finished in a dry lot.

The N. H. Locke Co. sold a registered Jersey bull to R. G. Westfall of Colusa. The sale was made on the State Fair grounds on the day before the opening.



Muncie Oil Engine

10 to 100 H. P. It operates successfully on California Fuel Oil. Most Economical Engine Made.

Don't let the failures of other so-called oil engines prevent your full investigation of the Muncie

Your Power Problem Solved

The Muncie Oil Engine runs on the cheapest grades of fuel and crude oils.
Easily started on the coldest mornings.
Will stand up under the hardest kind of service.
Requires practically no attention except to start and stop.
Runs steady and smooth under all conditions.
Most economical engine you can operate.

WRITE FOR CATALOG.

It describes the Muncie in detail and shows just why it will meet your power requirements perfectly.

California Hydraulic Engineering and Supply Co.

68 Fremont Street SAN FRANCISCO
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TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
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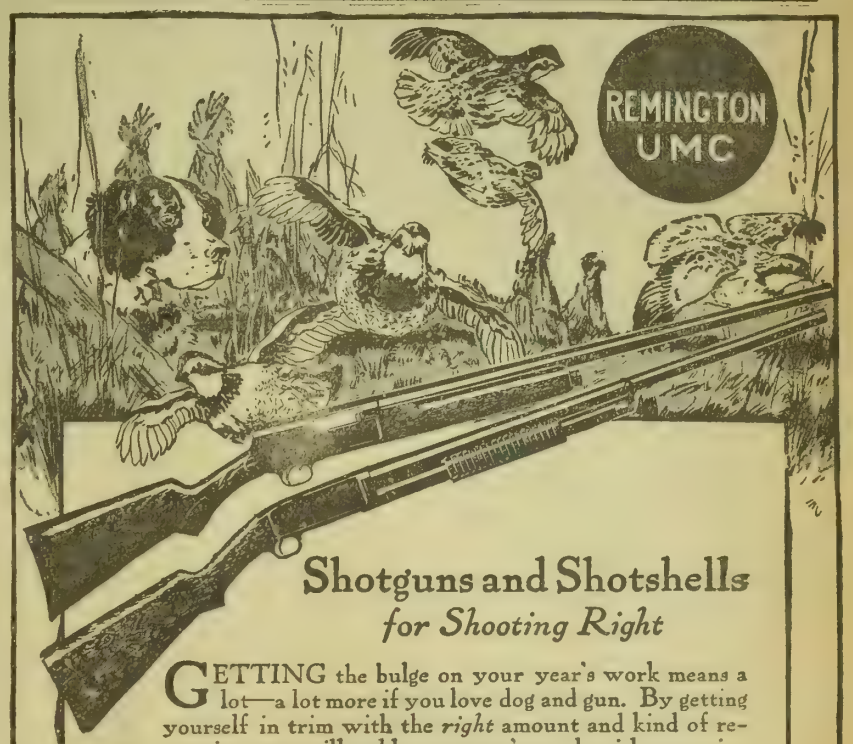

Shotguns and Shotshells
for Shooting Right

GETTING the bulge on your year's work means a lot—a lot more if you love dog and gun. By getting yourself in trim with the *right* amount and kind of recreation, you will tackle next year's work with more vim.

There is much additional satisfaction in store for you if you buy a Remington UMC Pump Gun or Autoloading Shotgun for your days off this Fall. When your well earned chance comes to bag some game, you will then have in your hands a gun made to shoot *right*. Guns of the same design helped win the Grand Prize, highest of possible honors, "For Modern Firearms and Ammunition," awarded to Remington UMC at the San Francisco Exposition.

The wonderful Wetproof process invented for and exclusively used in the manufacture of Remington UMC Smokeless "Arrow" and "Nitro Club" Steel Lined Shotshells, has been pronounced the greatest advance in shotshell manufacture in a decade. *These shells as now made are the first completely wetproof shells.* Another Remington UMC contribution to shooting *right*.

In *black powder*, buy the old reliable Remington UMC "New Club," now Wetproof sealed at turnover and top wad.

Sold by Hardware and Sporting Goods Dealers in Your Nearest Town

THE REMINGTON ARMS UNION METALLIC CARTRIDGE CO., Inc.
Largest Manufacturers of Firearms and Ammunition in the World
WOOLWORTH BUILDING NEW YORK CITY

Grand Champion Herd of Hampshires

FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.
Best families.
Finest individuality and clean-cut markings.
Call or write.

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

GILTS BIG TYPE PROLIFIC
Poland-China gilts from stock selected for prolificacy, big show type, from the best blood of Kings county, but now located in Solano county. Also a few service boars. Ask us about their breeding or come and see them.
DIXON HEWITT & HEWITT CALIFORNIA

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING COMPANY LOS ANGELES

DISPERSAL SALE

100 Registered 100

Holsteins

CORCORAN, CALIFORNIA
Thursday, Oct. 10, 1918

We are instructed by W. H. Ginn & Son to disperse at public sale their entire herd of registered Holsteins, numbering 103 head, on their farm, 1½ miles southwest of Corcoran, on the above date.

The choice females in the herd are mostly in calf to

Aralia De Kol Pontiac Salambo

whose three nearest dams average over 30 pounds butter in 7 days and over 1000 pounds butter in one year, and this great young sire will himself be sold.

Every animal guaranteed to be a breeder, tuberculin tested, and sold subject to tuberculin retest by the buyer.

Catalog in preparation. Write for one.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

SACRAMENTO CALIFORNIA

My Range Bulls are
Shorthorn Show Bulls

All of them have been at the Fairs and have generally won something. Their get are uniform, vigorous, and hardy, raised to service age on the range. King Lancaster, three times Grand Champion at the State Fair and now 13 years old, is still getting fine calves. My bulls won Grand Championships every year for eleven years (1904 to 1914, inclusive), except 1907, when I showed only calves. I have a breeding herd of 400 cows and can supply service bulls in car lots, but they are going fast. Write me your wants pretty soon or come and see.

Shropshire and Merino Sheep also for sale in any quantity

Hillcrest Stock Farm

T. S. GLIDE, Prop. DAVIS, CAL.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

HOPLAND STOCK FARM

HOPLAND, CAL.

Shorthorns and Berkshires

WRITE FOR FULL PARTICULARS

San Francisco Office: 226 Southern Pacific Building

The Federal Trade Commission has recommended to President Wilson that the Railroad Administration be given a monopoly in the transportation and distribution of meats.

First Impressions of the State Fair

[Written for Pacific Rural Press by R. H. Whitten.]

I hate to copy. It's lots more satisfactory to coin a new expression than to be obliged to use one that somebody else originated. But as I hurried around the grounds to get a general impression of the Big Event, I could think of nothing more fitting than the slogan of the fair recently held in Honolulu—"A war fair over here, to help the warfare over there."

For that's what it is—a war fair. And not only does it show what we can produce to help our boys fight their battles "over there"; but it also shows that we are capable of fighting our own battles here at home.

Probably there is not an exhibitor here who did not find it difficult to show. Probably every one, considering himself alone, would have preferred to remain at home. The scarcity of labor, the shortage of feed, and many other unusual conditions combined to make the ways of an exhibitor hard this year.

Yet every personal interest and inclination was subordinated to the high aims of patriotic duty and civic obligation. And that same indomitable American spirit which is blowing the Huns so high over on the battle front that the angels can hear them squeal manifested itself right here at home in giving us a fair that will put farming on a higher plane than it has ever occupied before.

Not so many exhibits, naturally, but quality, quality everwhere. And everything is being shown with a purpose, which is to encourage the raising of more and better products of every kind—to prove that the best pays the biggest.

In the livestock departments, for example, the judges are paying more attention than ever to utility qualities, and the fundamentals of meat, milk and wool production are the requisites that are governing the selections of animals for prizes. The utility standard is being made the show ring standard, and when an animal wins a blue ribbon it means that he will prove the best money-maker for the practical farmer.

Thrift is the watchword of all America today, and the show ring at the State Fair this year will do an inestimable amount of good in encouraging the use of better seed stock. The efficient meat and milk producing animals which are being shown will leave impressions on the mind of each spectator that will keep on working for weeks and months, and he won't be satisfied until he has some real money-making stock like that he saw.

He becomes interested in the exhibits of equipment, too — silos, cream separators, milking machines, churns, gasoline engines, tractors, water systems, disinfectants, litter carriers, etc. He sees farming in a new light and realizes not only the practical, money-making value of these things, but also their absolute necessity to meet the new conditions that confront him.

He comes here looking upon farming as a mere occupation—and full of drudgery at that. But after he has seen the results of scientific breeding and feeding, and of the use of labor-saving devices, he begins to realize that farming is a business—one worthy of the highest order of ability and effort, and one rich in financial reward if properly carried on.

So the blood begins to tingle in his veins again. His heart is fired with a new purpose, and he goes home determined to get his share of the money that is being made by scientific farming, and he does. For the man who keeps his purpose steadfast never fails.

Reducing the Cost of Beef Making

[Written for Pacific Rural Press.]

Feed lot practices in beef making are being revised to meet the rapidly rising cost of production. The wide-awake feeder is making every effort to get his business on a better paying basis, and consequently is turning to cheaper feeds and cheaper methods of feeding.

The Hollister Estate Company of Santa Barbara is in this class. They have several ranches, comprising 32,000 acres. They generally carry 3000 head of beef cattle, and can feed this number nine years out of ten. But the drought hit them this year and according to the old methods of feeding they could carry only 1000 head.

However, they determined to make themselves independent of weather conditions, and devise a new method of feeding that would enable them to carry 3000 head even in the dryest years, knowing that if they had a surplus of feed during favorable years they could easily buy extra feeders.

So they are having the National Tank and Pipe Co. erect eight cyclone silos, each 20x40, and two 20,000-gallon water tanks. The work is in charge of F. J. Oberer of the National Co., who states that several different tests will be made to determine the value of different feeds and combinations.

On one ranch, where there is a shortage of alfalfa, four silos will be filled with bean straw and corn. On another ranch, where conditions make it necessary to raise corn with beans for a windbreak, two silos will be filled with bean straw, honey sorghum and sweet corn. One silo will be filled with bean straw and the last cutting of alfalfa and one with bean straw alone.

The tests will be conducted in a scientific way. The stock will be weighed at the start, and a careful record will be kept of the amounts of the different kinds of feeds used, and the gains made. At first the contents of the different silos will be fed alone; then hay will be added as seems necessary, until a ration is found which makes satisfactory gains and still allows a liberal use of these roughages.

The results will be given in these columns. Watch for them. The expense of the tests, including cost of silos, will amount to about $20,000, yet you can have the benefit of them without a cent's expense to you.

K. W. Abbott, formerly of Milpitas but now in the U. S. Army, has transferred his Holsteins to Gotshall & Magruder, of Ripon, who have just finished testing Creamcup Vogelschen Cornucopia 180311, a daughter of their herd bull, Colantha Sir Pontiac Aaggie. She made a record of 35.18 lbs. butter and 342.2 lbs. milk under adverse conditions, as she freshened three weeks before her time.

The largest single order for bacon and canned meats in the history of the world, 99,560,000 pounds of bacon and 134,000,000 pounds of canned meat, was placed by the Quartermaster's Department, U. S. A., for the American army overseas in July. Louis F. Swift, in commenting on this, said that the order will take the bacon from approximately 1,900,000 hogs. Six months will elapse before delivery is to be completed.

The second case of cattle stealing brought to the attention of the State Cattle Protective Board has resulted in a conviction. C. W. Camp of Laton was given an indeterminate sentence of not less than one year in the penitentiary at San Quentin. Camp was accused of stealing cattle from several stock owners in Fresno county, and in one case shipped nearly a carload of stolen cattle to a slaughterer in Los Angeles. The board is elated over the success it has had in administering the new law for the protection of stock owners in this State.

A 16 Year Boy and an Empire Will Replace 3 Men at Milking

NEVER before in the history of America has the farmer been so short of hired help. And never before has the clamor of America and her allies been greater for bigger crops. We must have them. They are vital to the winning of the war.

But the farmer must have help or he can't give us big crops. Congressional investigations don't put men in the fields. A "selective" draft for farm help is out of the question. The only solution is the adoption of mechanical equipment to supplant human endeavor to the greatest possible degree.

EMPIRE
MILKING MACHINES

Add hours each day to the field time of every man on your farm. A 16-year-old boy with an Empire Milking Machine will replace three men at milking twice a day. He can milk a herd of 25 cows, such as is shown above, better and faster. And it won't be drudgery for him either. He'll enjoy his task, for every boy likes to run machinery. If you haven't the boy, a girl can run the Empire just as well.

For the Empire is the simplest, easiest operated of all milking machines. Its Super-Simple Pistonless Pulsator causes an absolutely uniform action in the teat cups at all times. There is no loss of vacuum from wearing pistons. Teat cups stay on perfectly, regardless of teat sizes. No surcingles or harness are required. A boy or girl can apply Empire teat cups to the cow easily and quickly because with Empire positive and uniform vacuum, teat cups take hold instantly, and it is not necessary to use different sized cups for different cows.

Hard milkers do not "stump" the boy or girl with an Empire. The Empire milks them all. In fact, cows like it better than hand milking. They usually show this by increased milk flow. The continuous, uniform action of Empire machines soothes and quiets the cow.

Thousands of boys and girls with Empires are replacing from two to three times as many men. Why not on your farm? It's worth investigating. Get our Catalog No. 45. Ask for name of nearest dealer. Get a demonstration. No obligation. Look into the matter now.

Empire Cream Separator Co., Bloomfield, N. J.

Also manufacturers of Empire Cream Separators Gasoline Engines and Farm Electric Plants

Chicago, Ill.
Denver, Colo.
Montreal Toronto
Winnipeg

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

L. D. Thompson of Modesto has a Holstein cow, Dora Hengerveld of Silven Iris, that made a record of 23.06 pounds last week.

Thos. Harrison of Glen Ellen has sold Glen Monarch, an 11-months-old milking Shorthorn bull, to Howard Dunsmore of Victoria, B. C., who is just starting a herd of milking Shorthorns. Mr. Dunsmore is one of the largest stockholders of the Canadian Pacific R. R.

Owl of Belleview, the bull that heads the Jersey herd at the University Farm, now has seven daughters in the Register of Merit, as Catalina of Venadera and Blanda of Venadera, in the herd of Guy H. Miller of Modesto, have recently qualified.

Fairmont Echo Alcartra, the famous Holstein heifer, bought at last winter's Sacramento sale by J. W. Benoit of Modesto, has dropped twin calves that look very promising. Mr. Benoit has a very fine cow in Vera Walhalla Princess. She will soon be fresh and is expected to make a good record.

F. W. Elleby of Modesto has a fine herd of registered Jerseys and finds the demand for bulls very good. He has just sold the last two old enough for service, Prince Eminent Polo going to C. D. von Konynemburg, and Queen Modesto Chief to Harry S. Coey, both of Modesto.

Big doings are promised at Hidden Valley Ranch, Redwood City, this fall and winter. A. J. Welch, the owner, has placed the Guernsey herd in charge of R. S. Adams, who is starting out determined to make some changes in the association record books. He has thirteen head that averaged 54 pounds of butter fat last month, and four of them were two-year-old heifers.

Dominita Bonnie De Kol, in the herd of S. G. Kounias of Modesto, recently completed an official test of 20.97 pounds butter with an average test of 5.72 per cent. The first milking after the test began was 8.6 per cent fat, the second 9, the third 7.9, and every milking went over 4 per cent. The Dominita strain is noted for high testing and is proof that this quality can be bred into cows.

Swine and Swinemen.

J. H. Hansbrough of Modesto, whose Poland-China boar won the grand championship last year, is at the State Fair again this year with a fine lot of hogs.

Dixson & Dixson of Hughson have made a large number of sales recently, but reserved enough Durocs to make a fine showing at the State Fair this week.

W. P. Andrews of Modesto has his Durocs in fine shape and is greatly disappointed because scarcity of help will prevent him from showing them this year.

H. I. Marsh of Modesto has twelve Poland-Chinas that will weigh 800 pounds or better, and quality is not lacking either. He recntly sold a corking good gilt to J. H. Kendall of Modesto.

F. A. Brush of Santa Rosa received an order for a Berkshire sow from the Kamehameha School of Honolulu; also for two sows from Guayaquil, Ecuador, and for one sow from Rio de Janeiro.

R. J. Ross of Modesto has a Duroc boar called Good Enuf 101, that is well named, for he is good enough to head the best herd in the land. Mr. Ross reports a heavy demand for Durocs, and has made sales recently to I. E. Lightner, Henry Trez, Mrs. Perry, J. W. Simmons.

Anchorage Farm, Orland, converted many skeptical farmers to the money-making value of purebred Berkshires by placing 34 pigs among the pig club members of Sutter county. Reports were received showing that pigs gained 10 and 12 pounds per week, making about double the gains of ordinary stock and about one-half the cost. Blood will tell.

J. F. O'Connor, manager of Castleview Ranch, Santa Rosa, reports sales of Berkshires as follows: sow to Sheridan Peterson, Windsor; boar to W. H. Davis, Santa Rosa; bred sow to Mrs. Turner, Sebastopol; boar to P. T. Vander Straten, Dunken Mills. Mr. O'Connor guarantees satisfaction, ships on approval, and pays express charges in case of dissatisfaction. That's the way to build a permanent business.

The Sandercock Land Company has an exhibit of fifteen Berkshire hogs at the State Fair from its Natomario Ranch, that is a record breaker. The famous sow, Riverby Princess III, is there, weighing 650 pounds, and with her are six of her pigs, one year old, averaging 426 pounds each. The sire of these pigs, Winona Lee Champion VI, was first prize junior yearling last year, and now weighs 800 pounds. Other exhibits of special interest are Princess Leader, the only Berkshire in the world whose parents on both sides are world champions, and two pigs whose sire and dam were national grand champions.

Beef Cattle.

There will probably come before the legislature at its next session a bill requiring the use of purebred beef bulls on the open ranges.

J. H. Rossiter, owner of Wickiup Ranch, at Santa Rosa, is very well pleased at the way his Shorthorns are coming along. He expects to have a 100 per cent calf crop.

C. B. McClure of Clearwater, near Los Angeles, buys beet tops to feed to steers. He pays for them on the basis of 25 cents per ton of beets harvested and finds them very profitable feed.

Supt. C. M. Barney of the H. J. Knowles ranch, near Monticello, fattens cattle on a chopped mixture of alfalfa, barley, and oat straw. Wheat straw, he says, does not make good feed.

Clinch & Peters of Chico and Quincy aim to have their purebred Hereford and Shorthorn calves come a month before good green feed is ready. Thus they are ready to take the heavy milk flow when it comes with green feed.

Sheep.

The Blackhawk Ranch at Diablo now has 100 head of registered Shropshires. They represent some of the best blood lines of the breed and are a fine lot.

Mrs. F. A. Mecham of Petaluma, manager of the F. A. Mecham estate, is in Utah, attending the ram sale at Salt Lake. She expects to bring back some fine ewes.

The entire capacity of all Pacific Coast woolen mills will hereafter be used in turning out blankets for the Government. Orders have been issued directing mills to discontinue manufacturing Navajo and other fancy blankets.

Bishop Bros. of San Ramon have been selling Shropshire rams like hot cakes this season. They have disposed of all surplus stock and are now turning down orders. Pretty good proof that it pays to establish a reputation for your flock.

Stanislaus county farmers have appointed a committee to co-operate with the U. S. Department of

Long Life and a Useful One

are facts about REDWOOD TANKS, that are proved in every kind of variable climate. Then there is the fact that Redwood resists corrosion; is immune to insects, and delivers water pure, sweet and free from disagreeable tastes or odor.

One of Our Customers Writes

us as follows from Costa Rica: "We have been using several Redwood Tanks, of your make, for some years, and we can state that we have always found them just what we desired, and satisfactory in every detail."

This is but one testimonial selected at random from our files. Positive proof that our Redwood Tanks in actual use bear us out in our claims.

IF YOU can't Dig in the Trenches—Dig in Your Pocket.

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THE STANDARD SINCE '88

15 Pine Street
SAN FRANCISCO, CAL.

911 Trust & Savings Bank Bldg.
LOS ANGELES, CAL.

WE WILL gladly send you further information. A postcard does the trick.

Write Right Away!

Agriculture in increasing sheep production. It is estimated that five times the present number of sheep can be kept in this county with profit to everyone who goes into the industry intelligently.

Livestock Miscellaneous.

We learn that D. O. Lively has been sent to Archangel, Russia, in the capacity of a captain in the American Red Cross work.

Efforts are being made to induce Secretary Lane to allow sheep to graze in the Sequoia and Yosemite National Parks, but it is claimed that sheep may injure the trees and shrubbery.

Dairymen understand more and more the necessity of quality in their stock rather than numbers, for it is not always the dairyman who has the biggest herd who makes the most money.

Supt. C. M. Barney of the H. J. Knowles ranch near Monticello, fattens cattle on a chopped mixture of alfalfa, barley, and oat straw. Wheat straw, he says, does not make good feed.

Several of California's most prominent breeders has gone in for Hampshires, starting with the very best stock obtainable. They report a heavy demand for stock and great interest in the breed.

Six years ago there were 350,000,000 acres of public range for livestock in fourteen Western States. This has been cut to 250,000,000 acres, which is still bigger than Germany and Austria put together.

The profitableness of raising stock in Lassen and Modoc counties has materially checked the extension of the wheat acreage. Stock requires but little farm labor, and the land owners have followed the lines of least resistance.

To insure them a 120 per cent lamb yield the Dangberg Co. of Minden, Nev., built one of the most extensive and complete lambing sheds we have ever seen. Ten thousand ewes can be taken care of in the sixty-day lambing period.

It is said that a surprising feature of the sudden boom in the sale of horses following the war was the decline rather than increase in the market price. The price now seems to have hit a level and is commencing to climb slowly, they say.

Bryan & Bernard used two registered Hereford bulls on their herd for two years, and were so well pleased with the results that last spring they bought ten registered heifers and three more bulls in order to raise purebreds for their mountain ranges.

Miller & Lux are breeding every available mare of breeding age, as they expect horses and mules to increase greatly in value. They are breeding 2500 mares—1800 of them to 32 stallions and 700 to 16 jacks. They are establishing a stud of Percherons and will raise their own sires hereafter.

Large numbers of horses are being gathered at the army camps in various parts of the United States and they require heavy shipments of hay from primary points to the larger marketing centers. Many of these horses will be shipped abroad, and hay as well as more concentrated feed must follow.

California packers were recently notified by the Food Administration that they were not living up to their agreement to pay 1c per pound under the Chicago prices for hogs, as the difference at the time was 3c. An increase in the price to producers is expected to result.

On account of the scarcity of labor the Black Hawk Ranch at Diablo will not show any more horses until the war is over. Too bad to keep so many champions at home, but they will be heard from again later on. Also there are a number of fine colts that are destined to become prize winners.

The Compania Swift de Montevideo, the Uruguayan subsidiary of Swift & Co., Chicago, recently bought from the United States eleven boars and two sows, all pedigreed animals of Berkshire and Poland-China breeds. In order to encourage hog raising in Uruguay the company is offering the hogs to stock raisers at cost price.

J. H. Rossiter, owner of the Wickiup ranch at Santa Rosa, has recently purchased the noted stallion, Friar Rock, from John E. Madden of Lexington, Ky., for $60,000. Sixteen mares were included in the purchase at $40,000 additional. Shipment will be made about the first of November. This makes Mr. Rossiter's stable the finest in the West, with the famous old stallion, Desquise, at its head.

Fred H. Bixby of Long Beach, owner of seven large California ranches, says that a large number of the horse breeding companies have gone out of business, but he considers the future bright and expects the horse breeding business to be in a flourishing condition within a year or two. He says that they have no trouble in disposing of all their big horses and mules, but that horses weighing from 1200 to 1400 pounds and mules under 1000 pounds are poor sellers.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE

Poland-Chinas.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

CLOSING OUT MY ENTIRE HERD of three year's selection. I offer herd boars, bred and open sows and gilts and spring pigs of both sexes. The best blood lines. The big, prolific kind. Write for prices today. J. H. Cook, Paradise, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

REGISTERED POLAND-CHINAS — Choice well-bred December pigs, both sexes, $30 f. o. b. Orland, crated. Dr. H. W. Hand, Orland, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

FOR SALE—Registered sow weighing about 600 lbs. and bred to Favorites Best. Am drafted, must sell at once. L. P. Grant, B, 46, R. K. Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal

REAOAKS RANCH herd of registered Poland-Chinas W. J. Hanna, Gilroy

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare

Chester Whites.

TWO SPLENDID big bone Poland-China service boars of high class breeding of that most noted Mouw strain; of individual merit, fit to head any herd; less than a year old. Must be seen to be appreciated. Prices right. D. H. Forney, Fresno, Route G, Box 286.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts; weaned boar pigs. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

BIG BONE Chester White pigs, either sex; junior or senior yearling sows, either bred or open. S. F. Bonner, Gridley, Cal.

Berkshires.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

FOR SALE—Red Rock Defender, at a very reasonable price; two years old, weighs about 700 pounds; in good breeding condition; have no further use for him. Also a few bred sows and gilts. Come and see them. Red Rock Ranch, Glen Ellen, Cal.

DUROC-JERSEY BOARS FOR SALE—Farrowed October 23, 1917. Sired by Ruckers Model G. Dam Queen Is Rite, Grand Champion 1916 California State Fair. Fine, big, animals. A. A. Trueblood, Sacramento.

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

COMMITTEE CERTIFIED DUROCS—El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholero immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

SPRING DUROCS, both sexes best of blood lines, reasonably priced. D. & H. J. Baughman, Oakdale, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P Slocum & Sons, Willows

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DOS HERMANOS DUROCS—Boars, gilts, and weanlings. Hans Duveneck, Ukiah, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS—Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

TWENTY-FOUR GOOD, FRESH MILK COWS for sale, mostly Holsteins. Address, Albert M. Bemmerly, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Eipou.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. O. Short, Reno, Nevada.

REGISTERED SHORTHORNS — Cows with calves at foot, yearling heifers and bulls for sale. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

SHROPSHIRE RAMS—Some choice registered and grade yearlings. Also some purebred lambs. Call or write. Harry L. Huston, Winters, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL. — Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. Meet me at the Fair. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums"

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

FEEDING AND PLANNING FOR FALL EGGS.

Early hatched pullets ought to be reddening up by this, no matter what breed they are. Leghorns should be laying, but from what I notice in my rambles around a good many are not. There is something lacking when Leghorns do not lay at five months old, when the season is right. So anybody with March-hatched chicks that are not laying or showing good evidence of doing so had better look up the treatment the pullets are getting, for most likely the fault will be found in a lack of some element needed. Sometimes pullets will make comb and redden up and yet not lay, and the lack of eggs may be solely due to a need for animal food.

FEEDING FOR EGGS.

A good pan of sour milk a day, or a hopper with a good quality of beef scraps where they can reach it will settle the question. Milk is easier on the liver than beef scraps, besides it gives more shell material along with the animal food and it's a sort of green feed combined, so that it answers several needs that beef scraps do not reach. Where there is plenty of milk there should be plenty of eggs. If it proves too laxative, just set it over the stove a day or two and clabber it, but don't clabber in the sun. The flies get in it and make the milk filthy; when clabbered over the stove it is clean and fit to use. Bone and shell and good sharp grit are also needed by pullets beginning to lay, and by molting hens, too. In fact, nothing helps the molt along better than a good supply of these feather-making feeds.

PROVIDE CLEAN NESTS.

Another thing that will encourage the pullets to commence business is to prepare some nice, clean nests for them, in a retired part of the house; never under the dropping boards, for mites are sure to make their home, sooner or later, in the nests under dropping boards. The least little neglect and these pests are attracted to the nests. Then, if a sitter or two happens to be left on a nest over night, the mites feed on them and in many cases kill them.

WORK FOR SEPTEMBER.

September is a month that the poultryman should begin to get returns from his labors in; it's the month of Jewish holidays, when ducks and geese bring good prices, and as these fowls are big eaters the average feeder is anxious to dispose of them as soon as possible. Any of the commission men will send you dates of Jewish holidays, then you can fatten and sell at the right time. Unless a person has a good pasturage or plenty of vegetables, ducks soon eat their heads off at this time of year. It's much better to sell than to keep many breeders over. Where there is pasture, stock ducks and geese can be turned out to rustle until towards Christmas. They should not be allowed to eat up grain that can serve better purposes. It is not always economy to sell breeding stock too close, but we have to do some things a little out of the usual to economize in grain now, and everything that can live on grass should be made to do so. Boiled or raw vegetables, with the very least amount of other feed, will feed stock ducks until laying season commences.

OODLES OF EGGS.

Last year there was an item published in the Press telling about a large poultry plant near Tulare that was getting oodles of eggs from a ration of barley and sour milk. The grain was soaked in the milk and fed after a night's steeping. Now, that is an economical method of feeding and is a saver of time and high-priced feed, besides being a healthy feed and a good egg producer. Standing in the milk, the grain would in the course of a night absorb a good deal of the best part of the milk, then by draining off the whey and feeding the solid contents of the milk with the barley the hens were consuming a balanced ration with the least effort, and that counts, for unless Leghorn hens are to be used for breeding purposes it's just as well to economize in effort.

TO CURE EGG-EATING HENS.

To the Editor: How can I prevent my hens from eating their eggs? They have plenty of good feed and shells. They are all good layers and I don't like to kill or sell them.—Mrs. E. B. J., Selma.

[Cut the point of the upper bill off with a sharp penknife or razor even with the lower bill. It will bleed a little and be sore, but by the time it gets well your hens will have forgotten all about eating eggs. This is the only sure cure I know of.]

BUY IN GRAIN FOR THE WINTER.

Milo maize and gyp corn will be coming on the market next month and the man who has cash should look up some farmer who has corn and save the middleman's fee. Economy must be practiced along all lines, and this is true economy. Barley has been kept off the market, but I have heard of private individuals buying enough to last them through the winter at a much less price than it is selling for now, so you see it's well to be forehanded in these things.

Poultry Breeders' Directory

"EASTMAN'S BRED-TO-LAY" Hogamized and trapnested Barred Plymouth Rocks. September chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying Hogamized stock $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

FOR SALE—Eighty pair mated "White King" pigeons, "Giroux strain"; all young birds and guaranteed very fast breeders. Box 1240, Pacific Rural Press.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. "Chas. H. Vodden, Box 396, Los Gatos, Cal.

BABY CHICKS and hatching eggs from our selected purebred S. C. White Leghorn hens. Tupman Poultry Farm, Ceres, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

The Eggs You Didn't Get

How can you expect a hen to lay 150 eggs a year or even 50 eggs if her vitality is sapped by lice and mites—all she can do is itch and fret and cost you money

DEVIL'S DUST

A Sure Killer of Vermin—safe and economical to use

Sold Everywhere GLOBE MILLS Los Angeles, Cal.

Makes Hens Lay
LACTEIN
Makes Hogs Pay

Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 88 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to anyone who will write him.

Chickens Must Lay

when they are fed according to NATURE. This means balanced rations. COPRO not only makes better layers but reduces the cost of feeding as well.

Copro

contains 16.4% Protein, practically all digestible. It is likewise high in percentage of fats.

Laying hens are profitable. Balance their rations with COPRO and watch the RESULTS.

FREE SAMPLE and a copy of our booklet containing valuable information on the subject of "Successful Feeding" gladly sent on request. Write today.

If your dealer can't quote prices write us direct.

PACIFIC OIL & LEAD WORKS
Manufacturers
155 Townsend St., San Francisco, Cal.

Mothers of Boys Should Know

That Boss of the Road Overalls are built to stand the hardest knocks of work and play. Genuine, indigo-blue denim that takes the tub test and comes up smiling; "stay-there" seams that can't rip out; big, man-like, *swinging pockets;* hold-fast, patent buttons; reinforced strain points—all the features that make Dad swear by *his* Boss of the Road Overalls.

All of which explains why, in these thrifty times, it is good economy to buy Boss of the Road Overalls.

If you don't know what we mean by *swinging* pockets—your dealer will gladly show you.

Look for the Bull Dog on the label. It is your protection. Never has this trade mark meant so much to you as it does today.

Buy them from your local dealer

NEUSTADTER BROS.

San Francisco Portland

FARMERS SHOULD SHOW PUREBRED UTILITY FOWLS.

As a war-time patriotic feature the managers of the San Francisco Poultry Association have planned to make it particularly interesting and profitable for those who have only recently taken up the keeping of purebred fowls for practical (or utility) purposes, if they place a small exhibit of young or mature fowls in its annual show to be held in conjunction with the Livestock Show in San Francisco, November 2-10. George H. Croley, secretary of the Poultry Division, at 525 Market street, states that few farmers are able to have their fowls judged and mated by experts, and this opportunity should be eagerly grasped by those who wish to breed their fowls for profit, uniformity, and good looks. The exhibition is to be a combined Standard and Utility show; the fowls will be passed upon by Standard judges, who examine them only to find which are best in shape, color, etc.; they are then rated by a Utility judge, using the Hogan method, and a score-card is issued showing their qualifications for egg production, table qualities, or desirable breeding purposes. Nearly all farmers now understand that only Standard, or purebred fowls, can be made to produce satisfactory results from the standpoint of profit, but many do not realize how necessary it is to select those that possess certain Utility qualifications. This is a rare opportunity for farmers. By selecting a few fowls that he thinks are his best breeders and entering them to be judged by an expert, he may gain knowledge that will enable him to obtain increased profit and satisfaction from his flock.

HOME CIRCLE

PRAYER.

God, though this life is but a wraith,
Although we know not what we use,
Although we grope with little faith,
Give me the heart to fight—and lose.

Ever insurgent let me be,
Make me more daring than devout;
From sleek contentment keep me free,
And fill me with a buoyant doubt.

Open my eyes to visions girt
With beauty, and with wonder lit—
But let me always see the dirt,
And all that spawn and die in it.

Open my ears to music; let
Me thrill with spring's first flutes and drums—
But never let me dare forget
The bitter ballads of the slums.

From compromise and things half-done,
Keep me, with stern and stubborn pride;
And when, at last, the fight is won,
God, keep me still unsatisfied.

THE BROWNIE HOUSEBOY.

"It's a pity there isn't a brownie in our cellar to drink that," said mother, as Harold rose from the supper table, leaving his glass half full of milk.

"Do brownies like milk, mother?"

"I have always heard they do," said the mother. "All the stories about them say that if you'll put a saucer of milk on the cellar floor every night a brownie will come and live there and help to do the housework."

"Help do the housework!" cried Harold.

"Yes. He'll make the kitchen fire and put on the kettle, and have things cosy and nice before it's time to get breakfast. He has to get up very early, because it would not do for him to let people see him."

"Is it really true?" asked Harold, his eyes round with wonder.

"No, Harold. I wish it were. Then I'd put this milk in the cellar and get a brownie to come and bring in all that wood that father cut," said mother, as she left the room.

"Maybe there really are brownies," thought Harold, "and mother just thinks there aren't because she never saw one. I believe I'll put this milk in the cellar and see if I can't catch one. Won't mother be surprised if she wakes up in the morning and finds the work done in the kitchen!"

So he crept out into the hall and down the stairs into the dark cellar. It was a good thing he was such a brave boy, or he couldn't have done it.

It might have been the newness of keeping a secret from his mother, or it might have been the excitement of catching a brownie; but something woke Harold the next morning long before his usual time.

He saw the faint daylight through the shutters and heard his mother's gentle breathing, and it seemed strange to be awake all by himself.

"I wonder if the brownie has come," he thought, and then he slipped out of his little bed and into his clothes as well as he could. He knew mother would not like him to go out of the room undressed.

It was still so dark in the cellar that he had to put his finger into the saucer to find out whether the brownie had drunk the milk.

Yes, it was gone: the saucer was quite dry. Upstairs flew Harold and into the kitchen. But disappointment met him there. Everything was just as it had been left at night.

"The mean old brownie!" thought Harold. "So selfish, drinking the milk and then going away without doing his work."

He wouldn't have any surprise for mother after all. Then a quick thought came to him. Suppose he did the brownie's work himself! She would be just as surprised to find it done.

He couldn't light the fire, because mother did not allow him to touch matches, and he stood a moment thinking what he could do.

Why, bring in the wood, of course! And out he hurried, toboggan cap on his head and coal bucket in his hand, to begin the job. It was surprising how much fun there was in carrying in load after load and piling it into the wood-box. He had just finished and was sweeping up the dirt he had made when he heard his mother coming and calling him.

Harold ran through the outer door into her room, pulled off his shoes and jumped into bed, clothes and all.

"Ma'am!" he answered, when he was safely in.

"Why, Harold," said his mother, coming back, "where were you when I got up just now? And what are you doing with your clothes on?" she added in surprise.

"Mother," said Harold, "it's a secret I'm having. Won't you please let me have it for a secret?"

"I will this time," said his mother. "But you mustn't get up so early again. Little boys need lots of sleep so they can grow big and strong, and they mustn't get up till their mothers tell them to."

When they opened the kitchen door, Harold watched his mother's face as she caught sight of the wood-box, and laughed when he saw how astonished she looked.

"Who in the world did this?" she exclaimed. "Harold, did you put milk in the cellar and bring a brownie?"

"Yes, ma'am, I did; but he was a horrid, greedy brownie. He drank up the milk and didn't do his work either!"

"Then who did all this work?"

"Oh, a kind of a brownie, but not a real one;" replied Harold. "I 'spect he'll do things for you every day if you don't look."

"Well, that will be nice," said his mother, "to have a brownie houseboy. Only he mustn't try to do things too early in the morning."

"Maybe that's the reason brownies are so little," said Harold. "They get up so early that they don't get enough sleep and stop growin'. Mother, do you think it was a brownie that drank that milk?"

"Don't ask me. Ask another member of the family," replied mother.

"But there isn't anybody else 'cept father and little sister, and little sister can't talk."

"Neither can the member of the family I mean," said his mother, smiling.

"Oh, who is it? Please tell me, mother."

"Listen!" said his mother. "There she is now."

Harold listened.

"Me-ow," came a voice at the kitchen door. "Me-ow—me-ow."—Annie F. Maclean in National Daily Review.

MAPLE FROSTING.

Here is the rule for making a maple frosting that calls for no cane sugar at all. Boil a cup of water, add a cup of maple sugar and an eighth of a teaspoon of cream of tartar until it spins a thread.

Have ready a white of an egg beaten stiff and pour the sugar on the egg a little at a time, beating it in constantly till all the syrup is taken. Continue beating for a few minutes if it is not yet thick enough to spread. Maple syrup can be boiled to the threading stage and hence used instead of the maple sugar.

A maple frosting of this sort may be used for practically every sort of cake. With the addition of nut meats, either whole or broken, it is especially good. It is good used plain on a chocolate layer cake, or it may be made more interesting by sprinkling grated coconut over it.

Very good cakes can be made without any sugar whatever by the substitution of corn syrup. Such a cake made in layers may be held together by means of a fruit jam of your own making, or you may use a filling made from chopped dates or figs cooked with just enough sugar to hold them together. A cake of that sort needs no top icing, especially if it is eaten fresh.

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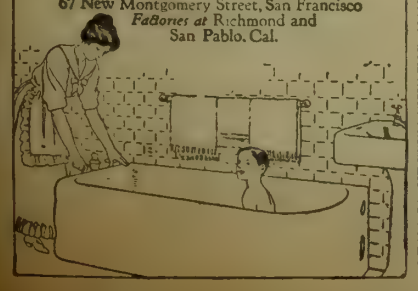

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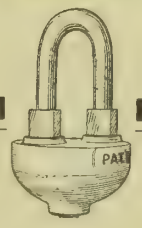

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LOS ANGELES

Agricultural Summary

Our Pre-eminence in Livestock.

The loading reports of the Bureau of Markets for the first seven months of 1918 show that of all cars of livestock loaded for the four leading Pacific Coast cities 41.7 per cent were destined to San Francisco, 24.3 per cent to Los Angeles, 19.3 per cent to Portland and 14.7 per cent to Seattle. San Francisco not only led in the total number of cars loaded, but with the exception of horses and mules also was first in all classes of livestock. Horses and mules were loaded in greatest number to Los Angeles, which received 44.4 per cent of the total number of cars consigned to the four Coast cities named. The largest number of cars of mixed stock were destined to Portland, which received 75.3 per cent of the total. Aside from these two exceptions, the four cities maintained the same relative positions throughout, with San Francisco first, Los Angeles second, Portland third and Seattle fourth.

Gasoline Displaces Hay.

The San Francisco trade in hay has been unusually light this season owing to the large displacement of horses by motor equipment in the delivery departments of large stores and in the heavy trucking lines. The country demand, however, is acute. Edw. O. Amundsen, County Agent, U. S. Department of Agriculture, says regarding the hay situation: "There is not the slightest doubt that hay of all kinds will be high in price during the coming winter. In fact, prices are already away up and promise to continue soaring. The Federal Food Commissioner may be able to check any excessive price boosting and so afford some relief to hay consumers, but as the supply will be limited the price will hardly be lower and will very probably be higher than at present."

Strawberries Double in Four Years.

California's strawberry growers are sharing in the general uplift of prices of farm products. The following are the average prices obtained for strawberries per crate for the past four years:

Season—	Average price
1915, without inspection	$0.90
1916, first year inspection	1.13
1917, second year inspection	1.30
1918, third year inspection	1.80

When our jam industry has developed, all the over-ripe fruit can be used to good advantage, as it is in other countries.

How One Ally Buys Wool.

The New Zealand Government proposes to purchase the New Zealand wool clip for this season and until one year after the close of hostilities at the same prices as were paid during the past two seasons. The payment for the wool is to be made by the British Government on the fourteenth day after valuation has been made by the official valuers in this country, and all shipping expenses are to be borne by the British Government thereafter.

Potato Men Optimistic.

There appears to be considerable speculation among growers and dealers of potatoes as to the price this favorite vegetable will bring the coming winter. While potatoes sold during the summer down to $1.50 per cwt., the current report is that growers are holding for about $3, and the forecast among the wise ones is that they will go much higher before the next crop is harvested. This season's crop is somewhat below normal, but ample for all local demands.

Walnut Prospects Good.

California's walnut crop this year is prophesied to be a bumper, likewise the price to be paid therefor. Weather conditions have turned out more favorable than anticipated and the size of the crop and of the individual nuts composing the crop invite frequent use of the word "Jumbo" in descriptive parlance.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, September 4, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 2	2.09

BARLEY.

The barley market continues unchanged. There is some talk on the street that the Government may decide to fix the price of barley, as it has wheat, in order to protect the farmer.

Choice feed, per ctl	$2.40@2.47½

OATS.

There has been some inquiry this week for seed, but no sales are reported.

Red feed, per ctl	$2.50@2.65
Red seed	2.[illegible]@3.25

CORN.

A small shipment of corn arrived in San Francisco from the East, but no sales were reported to change the nominal quotations of the past few weeks. (First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$4.20@4.25
Milo maize	3.95@4.05
Egyptian	4.05@4.10

HAY.

Receipts of hay for the past week were 1792 tons, compared with 2067 of the previous week. As has been the case for some weeks past, a good portion of this hay arrived by water and much of it was alfalfa. Although these shipments are not heavy for the month of August, the market is well stocked and has been for some time past. Prices have been fairly well maintained throughout the week. The Government was in the market for some export hay.

Wheat, No. 1	$23.00@25.00
do, No. 2	20.00@22.00
Choice tame oat	24.00@26.00
Wild oat, new	19.00@23.00
Barley, new	19.00@23.00
Alfalfa, first cutting	16.00@20.00
do, second cutting	22.00@24.00
Stock	18.00@21.00
Barley straw	50@80c

FEEDSTUFFS.

There were no changes in prices of feedstuffs during the week. The market is fairly steady, and the demand may be said to be normal.

New alfalfa meal, per ton	$33.00@34.00
Coconut cake or meal	44.50
Cracked corn	86.00@88.00
Oilcake	$75.00@76.00
Rolled barley	52.00@52.50
Rolled oats	58.00@60.00
Bran, carload lots in S. F.	23.75
Mixed feed, do, do	25.00
Middlings, do, do	25.75

POTATOES, ONIONS, ETC.

Onions were stronger and higher this week on a good demand. The quotation of potatoes was not changed and while the market is strong no material changes are looked for until after the first rains.

Tomatoes are coming in in much better shape since the Federal and State authorities have interested themselves in the more uniform packing of this vegetable. Prices are lower. The vegetable market as a whole is quiet, with comparatively small receipts.

Peas	6@8c
String beans, per lb	4@5c
Wax beans, per lb	4@5c
Carrots, per sack	75@85c
Rhubarb, San Jose, per box	$1.00
Summer squash	35@50c
Cucumbers (hothouse), per box	60@90c
do, Alameda, lugs	60@90c
Eggplant, per box	50@65c
Lettuce, Sacramento, crate	75c@$1.00
Lettuce, Sacramento, crate	Nominal
Tomatoes, per crate—	
Merced	Nominal
Bay	75c@$1.10
Potatoes—	
Garnet Chile, on street	None
Whites	$2.35@2.60
Sweets, per lb	4¼@4½c
Onions—	
River Reds	None
Yellows	$1.65@1.90
Australian Browns	1.65@1.90
Garlic, new	16c
Green corn, Alameda, per sack	$2.50@3.00
Okra	5@7c

BEANS.

The bean market continues to show weakness, with little demand. Prices were lowered on several descriptions in order to stimulate the market. However, very little interest was manifested by buyers even at the lower quotations.

Bayos, per ctl	$ 7.40@ 7.50
Blackeyes	6.60@ 6.75
Cranberry beans	10.25@10.50
Limas (south, recleaned)	12.50@12.75
Pinks	6.75@ 7.00
Red kidneys	Nominal
Mexican Reds	7.25@ 7.40
Tepary beans	7.50@ 8.50
Garbanzos	8.00@ 8.75

POULTRY.

The whole poultry market continues firm, with higher prices on several descriptions. Extra hens and small broilers were in especial demand. Ducks and geese also showed an advance on good demand. The receipts were below normal for the week.

Turkeys, live, young spring, lb	38@40c
do, old	30@32c
do, dressed, old	32@34c
Broilers, 1½ to 2 lbs	38@40c
do, 1¼ lbs	42@45c
do, ¾ to 1¼ lbs	47c
Fryers	38@40c
Hens, extra, per lb., colored	36@38c
do, Leghorn	33@34c
Smooth young roosters, per lb. (3 lbs. and over)	37@40c
Old roosters, colored, per lb	24c
Geese, young, per lb	23@25c
do, old, per lb	21c
Squabs, per lb.	45c
Ducks	27@30c
do, old	24@25c
Belgian hares (live)	18c
do, dressed	19@23c

BUTTER.

The butter market was firm throughout the week, with small daily fluctuations. Prime firsts jumped a cent and a half on Wednesday on more extensive trading, while firsts were entirely neglected and no sales reported. Butter was remarkably steady throughout the month of August, just closed. The highest price for extra on the Exchange was 53½c and the lowest 51½c, a range of only 2c for the month. Prime firsts had a range of only 1½c, from 49c to 51½c, during the same period, and firsts were unchanged throughout the month at 49c.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	52½	52½	53	—	53½	53½
Prime 1st	50½	50½	50½	—	50½	52
Firsts	49	49	49	—	49	Nom.

EGGS.

Eggs were strong this week and closed for extras at 64c, with extra pullets at 62c. At these prices very few can be shipped into the Eastern market, as the differential is not sufficient to make such shipments profitable. Some eggs are being shipped into this market from Kansas and Nebraska and these eggs have been sold at times 10c below the Exchange quotations. They found ready sale among the consumers at the prices asked. Eggs showed an advance of 13½c for extras during August and 12½c for pullets. These advances are far greater than during the same period last year.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	61	62	62	—	63	64
Extra 1sts			Nominal			
Firsts	46	46	46	46	46	Nom.
Extra pullets	57½	59	59½	—	60½	62

CHEESE.

While the price of the various descriptions of cheese receded after the close last week, it became stronger as the week progressed and closed with California cheese unchanged from last week's quotations. All the Oregon descriptions were stronger. All descriptions of cheese show a marked advance in price since the first of August, except California Y. A. fancy.

Fancy California flats, per lb.	32c
First California flats, per lb	Nom
California Y. A. fancy	30c
Orgon triplets, fancy	31½c
Oregon Y. A. fancy	30½c
C. S. Oregon triplets fancy	30½c
do, Oregon Y. A. fancy	28½c
do, Long Horn fancy	29c
Monterey cheese	23@25c

FRESH FRUITS.

Little fresh fruits arrived on the market this morning. The second crop of raspberries is now coming in and the fruit is in fine condition. For the best the highest price of the season is now being secured. Cantaloupes are of better quality and the receipts are falling off. As a consequence prices are higher. Isabella grapes are becoming plentiful and sell for the same price as Tokays.

Apples	$1.50@2.50
Apricots, per crate	Nominal
Peaches, 4-box crate	.75@1.00
Figs, black, per box	None
do, double layer	$1.00@1.50
do, Single Row Whites	.65@75c
Strawberries, per chest	7.00@8.00
Blackberries, per chest	6.00@7.00
Raspberries, per chest	12.00@15.00
Loganberries, per chest	None
Plums	$1.00@1.50
Cantaloupes, flats	.60@75c
do, ponies	$1.25@1.50
do, standard	1.50@1.75
Watermelons, per lb	1½@1¾c
Pears, Bartlett, per box	$1.50@2.25
Grapes, seedless	$1.00
do, Malaga	1.25
do, Fountainbleu	.90@1.00
do, Tokay	1.25@1.50
do, Isabella	1.35@1.50

CITRUS FRUITS.

The citrus market remains unchanged. The street feels that prices are already as high as the public will stand, but no excessive receipts have come in to justify putting down the prices asked.

Oranges:	
Valencias, fancy	$7.50@8.00
Valencias, choice	7.00@7.50
Lemons:	
Fancy, per box	5.50@6.50
Choice	4.50@5.50
Standard	3.00@4.00
Lemonettes	3.00@4.00
Grapefruit, fancy, new	5.00@6.00

DRIED FRUITS.

No change in quotations of dried fruits is noted this week. Dealers still feel that the growers are asking too much for apples and pears, and they say the buying is not heavy. Jobbers who ship the fruit East say that the demand is quiet; and while they are handling some apples and pears Eastern buyers will not buy in large quantities at present prices.

Apples	13c
Pears	10½@13c
Prunes, graded, price to growers: gain in dip	11c
Prunes, graded prices to growers:	
20-30, inclusive, per lb	15c
31-41, inclusive, basis	10c
42-51, inclusive, basis	9½c
52-61, inclusive, basis	8½c
62-71, inclusive, basis	8½c
82-91, inclusive, basis	8c
92-101, inclusive, basis	8c
102-121, inclusive, per lb	4½c
122 and up, per lb	4c
Apricots	12@19c
Figs	12@16c
Raisins—	
Muscats	5½c
Thompsons	6¾c
Sultanas	6½c

HONEY.

For the first time this season honey in comb was received in this market. It is reported that the beemen were paid from 20c to 23c for this comb honey and that it reached the retailer at from 25c to 27c.

White, extracted	21@22c
Light amber	18@20c
Amber	15@18c

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop at mill	7.00

HIDES.

Taken off from August 1 to September 1, all weights: No. 1, 19c; No. 2, 17c; No. 3, 16c; bulls and stags, No. 1, 15c; No. 2, 13c; kips, No. 1, 21c; No. 2, 19c; calf, under 15 lbs., No. 1, 33c; No. 2, 31c.

Horse—Dry, per lb.: No. 7, large, $2.25@2.50; medium, $1.75@2.35; small, $1.00@1.50; salted, $3.00@5.00; colts, 25@[illegible].

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, September 2, 1918.

On account of shortage of labor and delays of cars in transit, conditions have been considerably upset in Eastern auctions this past week, and it was almost impossible to regulate the offerings. Consequently the market fluctuated considerably. There was a very strong demand in all markets for good, green, keeping stock pears, but ripe stock brought little or nothing.

Several straight cars of peaches were diverted from Middle West markets by the original purchaser, and sold at auction at a loss to the owner, and it was evident that speculators were not advised of the increased offerings of Jersey and Delaware stock. The arrivals also of New York and New Jersey Bartletts had a tendency to depress the market. Home-grown peaches were in heavy supply and, though a good proportion of the best stock was placed in storage for a later market, receipts were sufficiently liberal and sold at such prices as to practically bar the sale of California's at a profit.

All markets ruled fairly steady on plums.

Malaga grapes showed some decline under increased receipts, but as the stock is of good quality the demand was fair.

The weather in most of the Eastern markets has been unusually warm and consequently the trade is not prepared at this time for wine grapes; but as the stock is ripening shippers are compelled to move it and that which is sold at auction may not meet with ready demand for the first few cars.

The shipments of Tokays are light, as the berries are not sufficiently sugared Demand fair to the extent of the supply to permit of their being picked, but the movement should be heavy beginning next week. The crop, with the exception of the Florin district, is not in excess of 75 per cent. We look for a strong market on Tokays throughout the season.

The conditions governing the transportation of deciduous fruit seems to be becoming more acute each day and shippers can figure with no certainty on schedules. Following are the averages for the week:

New York: Grapes—Malaga, $1.64; Muscat, $1.82; Thompson Seedless, $1.59; Alicante Bouchet, $1.57; Tokay, $2.22. Peaches—California Cling, $1.15; Tuscan, $1.00; Crawford, 82c; Elberta, 80c; McDevitt, $1.53; Susquehanna, 55c; Albright, $1.40; Orange Cling, $1.46; Lovell, 56c. Pears—Bartlett, $2.59; B. Hardy, $2.10. Plums—Grand Duke, $1.63; Gros, $1.65; Giant, $1.26; Kelsey, $1.50; Diamond, $1.36.

Boston: Pears—Bartlett, $2.25; B. Hardy, $1.55. Peaches—Crawford, $1.00; Susquehanna, $1.04; Elberta, 92c; Lovell, 75c. Grapes—Rose Peru, $1.47; Malaga, $1.80. Plums—Kelsey, $2.06; Grand Duke, $1.56; Gros, $1.84; Giant, $1.40; Hungarian, $1.72; Diamond, $1.56. Grapes—Tokay, $2.59; Muscat, $2.31; Thompson Seedless, $1.28.

Chicago: Pears—Bartlett, $2.36. Peaches—Lovell, $1.14; Elberta, $1.16; Susquehanna, $1.33; Crawford, $1.40; Hulls Late, $1.35; Orange Cling, $1.35. Grapes—Malaga, $1.46; Thompson Seedless, $1.24; Rose Peru, $1.08; Black Prince, $1.40; Tokay, $1.97. Plums—Kelsey, $1.52; Gros, $1.45; Hungarian, $1.44; Giant, $1.38; Grand Duke, $1.69.

Total shipments, by cars, from August 23 to 29, inclusive: 55 peaches, 73 plums, 470 pears, 929 grapes.

LOS ANGELES

Los Angeles, Sept. 3, 1918.

BUTTER.

There was a dropping off in the receipts the past week, they being 279,200 pounds against 321,300 pounds the same week last year. Under lighter offerings the market for California extras held steady and demand fair. Some Eastern butter arriving and taken into cold storage caused a weaker tone to the market as a whole. There was taken into cold storage during the week 64,557 pounds, making the cold storage holdings now 564,595 pounds against 244,758 pounds the same week last year. We quote:

California extras 50c
do. prime first 48c
do. first 47c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	50	50	50	50	50	50
1917—						
Extra	42	42	42	42	41	41

EGGS.

The supply of fresh ranch eggs the past week fell short of the demand and a snappy market was had for what few came in. Receipts by rail for the week were 613 cases against 815 cases the same week last year. The receipts by truck continue to run about four times as large as the arrivals by rail, making the supply for the week 2937 cases against 4075 cases the same week last year. There was withdrawn from cold storage during the week, to meet this shortage, 3048 cases. There was brought in from the East 960 cases of Eastern eggs.

Daily quotations:

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	55	56	56	57	57	57
Case count	50	50	50	50	50	50
Pullets	48	49	49	49	49	49
1917—						
Extra	43½	43½	43½	43½	43½	43½
Case count	42	40	40	40	38	38
Pullets	38	37	37	37	36½	36½

VEGETABLES.

A fair market was had the past week for all good fresh stuff. Stale continue to drag. Potatoes are coming in more freely and Northern went off a little. Demand only fair. Local unchanged under moderate offerings. Onions slow sale and weak, though not quotably lower. Cabbage slow sale and lower. Bell peppers steady, but chiles higher and demand fair. Tomatoes, cucumbers, and summer squash unchanged, but slow sale. String beans scarce and higher. Lima beans in fair demand and steady.

We quote from growers:

Potatoes, local, per lug....75c@$1.00
do. do. per cwt. ....$2.25@2.50
do. northern, per cwt.... 2.75@3.00
Sweet potatoes, per lb ....3@4c
Garlic, per lb. ....8@9c
Onions—Stockton Yellow Danvers, cwt. ....$1.75@2.00
Onions—White Globe, per cwt... 2.00@2.25
Onions—Small Bermuda, per crate..80@90c
Cabbage, per 100 lbs....$2.25@2.50
Bell peppers, per lb....3@3½c
Chile peppers, per lb. ....4@5c
Summer squash, local, per lug....30@35c
String beans, per lb. ....8@9c
Tomatoes, home-grown, per lug....30@75c
Eggplant, Imperial Valley, per lb... 1@5c
Cucumbers, home-grown, per lug...30@45c
Corn, per lug of 3 doz....65@75c
Lima beans, lb. ....3½@4c

POULTRY.

There was quite a dropping off in the receipts the past week and under the influence of the light offerings broilers and hens were advanced a cent.

The following prices were agreed upon last Friday, August 30, and hold good until the coming Friday:

Broilers, 1@1¼ lbs. 34c
Broilers 1½@1¾ lbs. 34c
Fryers, 2@3 lbs. 29c
Roasters (soft bone), 3 lbs. and up....29c
Stags and old roosters, lb. 19c
Hens ....21@28c
Tom turkeys ....30@33c
Ducks ....22@28c
Geese 15c
Squabs, live, per lb. 30c
Squabs, dressed, lb. 40c

FRUITS.

Peaches steady, so are grapes and pears, and demand very good for all. Apples, too, continue to sell well at old prices. Figs are coming more freely and are a little lower, but demand fair at the prices. Quinces in better supply, slow sale and lower. Some avocado pears arriving and they are meeting with a fair demand.

We quote from growers:

Figs, Black Spanish, 7-lb. box....35@50c
do, White, 7-lb. box....30@50c
Peaches, freestone, per lug....75c@$1.00
do, clings, per lub ....$1.00@1.25
Pears, local, per lb....2@3c
Pears, Mountain ....3½@4c
Crabapples, per lug....$1.00@1.25
Plums—Satsuma, per lb....4@4½c
Nectarines, per lb....5@6c
Grapes—
Imperial Valley Malagas, per lb..2@2½c
do, Muscat, per lb....2@2½c
do, Thompson's Seedless, per lb..2@2½c
do, Tokay, per lb. ....4@4½c
Banana apples, 4-tier $2.25
Apples—Alexanders, 4-tier.... 2.25
do, 4½-tier 2.00
do, Gravenstein, 4-tier....$2.50
do, do., 4½-tier 2.25
Plums, per lb....5@6c
Quinces, per lug ....50@65c

BERRIES.

Sales are slow, as the market is full of other fruits that are to be had cheaply. Receipts light or prices would be lower.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate....$2.25@2.50
Poor to choice, 30-basket crate. 1.80@2.00
Blackberries, 30-basket crate.... 1.80@2.00
Raspberries, 30-basket crate.... 2.75@3.00

MELONS.

The market was well supplied the past week with watermelons and as the weather was cooler sales were slow. Cantaloupes arriving less freely and under light offerings the best brought more money. Casabas steady. Honey Dew melons slow sale and weak.

Cantaloupes—
Tip Top, home-grown standard crate ....$1.00@1.10
do, do, pony crate ....65@75c
do, do, jumbo crate....$2.50@2.75
Columbia, jumbo crate .... 2.75@3.00
Casabas, per lb....2@2¼c
Pineapple, standard crate ....$1.00@1.10
Watermelons, per 100 lbs.... .75@1.00
Honeydew melons, 16-inch crate. .90@1.00
do, jumbo crate .... 3.00@3.25

BEANS.

This market is still dull. No new beans have been marketed, and buyers are holding back, waiting for the new crop to come in.

We quote from growers:

Limas, per cwt....$11.00
Large white, per cwt. 10.00
Small white, per cwt. 10.00
Pink, per cwt. 7.50
Blackeyes, per cwt. 7.00
Tepary, per cwt. 8.50

HAY.

Receipts very good and demand light. More coming in than is wanted by the trade from day to day and there is no disposition to buy ahead. The tone of the market is weak.

We quote f. o. b. Los Angeles—

Barley hay, per ton ....$24.00@26.00
Oat hay, per ton .... 26.00@28.00
Alfalfa, northern, per ton.... 21.00@22.00
Alfalfa, local, per ton.... 22.00@24.00
Straw, per ton .... 9.00@10.00

COTTON.

The first part of the week an active speculative market was had. From private reports indicating a still further loss in the crop conditions, October in New York was bid up by Thursday to 35.06c and December 34.50c. These prices caused much realizing towards the close of the day and on Friday and the market worked a little lower Friday. October in New York closed at 34.51c and November 33.94c. In New Orleans October closed Friday at 33.15c and December 33.11c. Spot middling closed in New York at 36.60c and in New Orleans at 33.25c. Monday being Labor Day and a holiday there was no market.

The People's Real Paper

"The initials P. R. P. stand for more than Pacific Rural Press," writes one of our enthusiastic subscribers. "They mean 'the People's Real Paper.'"

We hadn't thought of those exact words, but we certainly have been working hard to give you a real paper, and it is gratifying to know that our efforts are appreciated.

What is a real paper? E. S. Martin, the well-known magazine man, once said that the real publication is the one that can persuade its readers to think something they did not think before. "If it can give them a new attitude of mind, get them to move around and see something from a new standpoint, so that it looks different, that is real service," he said.

We are trying to do more than simply give you entertaining reading. We are trying to give you things to think about; things worth thinking about; new ways of solving your problems.

"I read the Rural Press with the liveliest appreciation and find it very profitable to act upon your suggestions; your advice is the best I can get," writes Miss Leila M. D'Oyly. That's what we want every subscriber to say. If you can't say it right now, probably it is because we have not touched upon the problems of deepest concern to you. So tell us what they are and we will publish articles that will cover the matters fully and will help you to remove every obstacle standing between you and Great Success. Read the tractor articles this week—they are printed to help you in your farm work.

Watch for next week's issue. It will tell all about the big doings at the State Fair and will contain a complete list of the awards. You will want to keep your copy permanently for reference. It will prove valuable for months and months.

Special Livestock Market Report

San Francisco, September 4, 1918.

CATTLE—There is a sluggish beef market for all grades excepting good choice steers, which continue to be scarce and to command premium prices. She stuff and half-finished stuff predominate the local market. In the East prices on all grades of cattle stay at the top, as packers are hard set to get enough cattle to fill Government orders.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11@11½c
No. 1, weighing 1200 to 1400 lbs..11@11½c
Second quality ....9@10½c
Thin ....7½@8½c
Cows and heifers—
No. 1 ....7½@8c
Second quality ....6@7c
Common to thin....3½@5½c
Bulls and stags—
Good 6c
Fair ....5@5½c
Thin ....4@4½c
Calves—
Lightweight 11c
Medium 10c
Heavy ....8@8½c

SHEEP—The local sheep market is pretty much at a standstill. The consuming demand is curtailed by the comparatively high prices prevailing. Much of the supply comes from outside the State.

Lambs—
Yearlings ....12@12½c
Milk ....12@14½c
Sheep—
Wethers ....11@11½c
Ewes ....8½@9½c

HOGS—Hogs are coming in somewhat more freely, but still below the requirements of the market. The 18c price has ceased to be a mere possibility, as 18¼c is this week offered for hard, fat, grain-fed hogs weighing 140 to 300 pounds.

Hogs—
Hard, grain-fed, 100@140....17¾c
do, do, 140@300....18¼c
do, do, 300@400....17¾c

DRESSED MEATS.

Steers, No. 1 ....18½@19½c
do, second quality....15@18c
Cows and heifers ....10@16c
Calves, as to size, etc....15@19c
Lambs—
Suckling ....23@25c
Yearling ....22@23c
Sheep—
Wethers 21c
Ewes ....18@19c
Hogs ....25@26c

Los Angeles, September 3, 1918.

CATTLE—Choice fed steers continue scarce and they are meeting with a good demand at steady prices. Thin and medium cattle, however, are being offered freely and they are dull and weak. Calves steady and in fair demand.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers.... 7.50@ 8.50
Good cows and heifers .... 7.00@ 7.50
Canners, per cwt. .... 5.00@ 5.50
Calves, per cwt. .... 8.50@ 9.50

HOGS—Offerings of hogs continue light and what are coming in are only in medium flesh, showing the economy of feed, at steady prices.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225@275 lbs. .... 16.00@17.00
Light, 175@220 lbs. .... 16.50@18.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Offerings light and market rather firm and demand good for what few are coming in. Killers still have to reach out to get what they want. Utah and Nevada furnishing most of the supply.

Per cwt. f. o. b. Los Angeles—

Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....15.00@16.00

Portland, September 3, 1918.

CATTLE—Slow; receipts, 768 head. Steers, prime, $12.50@13.50; good to choice, $11.00@12.00; medium to good, $9.75@11.00; fair to medium, $8.75@9.75; common to fair, $5.75@8.25; cows and heifers, choice, $8.35@9.50; medium to good, $6.25@7.75; fair to medium, $5.25@6.25; canners, $3.00@5.00; bulls, $5.00@7.00; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Lower; receipts, 483 head. Prime mixed, $19.75@20.00; medium mixed, $19.25@19.50; rough heavies, $18.25@18.50; pigs, $16.75@17.75; bulk of sales, $19.75.

SHEEP—Higher; receipts, 1542 head. Prime lambs, $14.00@15.25; fair to medium, $11.00@13.00; yearlings, $10.50@12.00; wethers, $9.00@10.50; ewes, $7.00@9.00.

Classified Advertisements

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FOR SALE—At a sacrifice, Beeman Garden tractor and implements. Good as new. P Bouery, R. 3, Merced, Cal.

FOR SALE—A deep well pumping outfit, complete; 100 feet 7-inch discharge pipe. Box B, Menlo Park.

FOR SALE—Sandwich power hay press, 17x22 bale; practically new; $400 takes it. Ceres Hardware and Implement Co., Ceres, Cal.

COUNTRY LANDS.

FOR SALE—Forty-acre ranch, seven miles from Modesto, Stanislaus county, on main highway, paved to within one-fourth mile; 35½ acres fine alfalfa, 1½ to be planted this season; two acres mixed bearing orchard; one acre buildings and corrals; dairy barn for forty cows, separator room, etc., all complying with new dairy laws; house, barn for five horses, calf shed, etc., etc.; on main irrigation lateral; very near modern school; fine drinking water; one-third cash, balance long term, 7 per cent mortgage; deal with owner; no agents; will be glad to have friends show intending buyers the ranch. Write Carl G. Meiners, Meiners' Ranch, Ojai, Ventura county, California.

FOR SALE—Best cattle alfalfa ranch proposition in San Joaquin Valley. Half section, 220 acres, A1 stand of alfalfa, 25 acres corn. Abundance of electric pumped water, 300 tons alfalfa in stack. S. P. main line siding on ranch. State highway passes through ranch. Will give terms. Deal direct with owner. J. S. Going, Quail Ranch, Pixley, Cal.

FOR SALE—20-acre irrigated ranch, with improvements and growing crop; team and farming implements; a bargain. William Paulsen, Chowchilla, Cal.

WANTED.

WANTED by married man, situation with house on small ranch as caretaker and do light work; understand poultry and ranching. Address W. E. Young, Suisun, Cal.

WANTED to hear from owner of good ranch for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

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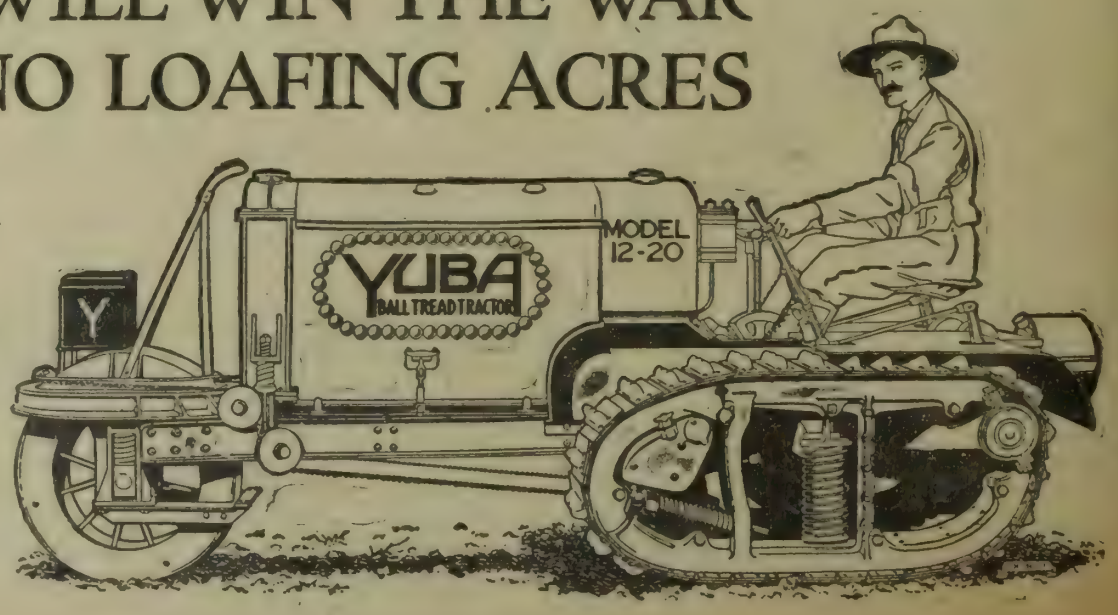
FOOD WILL WIN THE WAR
KEEP NO LOAFING ACRES



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Vol. XCVI—No. 11

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO SEPTEMBER 14, 1918 LOS ANGELES

State Library

State Fair Reveals California's Opportunities

Written for Pacific Rural Press by R. H. Whitten

AS I SAT on a bench at the State Fair and watched the different spectators, I thought of the five men who walked out into the country one day. The first saw only the dusty, lonely roads, the rough farm buildings, and the disagreeable features. The second beheld rolling hills and smiling meadows, pretty flowers and sparkling waters, and he was enraptured with the beauty of it all. The third observed the people at work, their manner of living and the indications of social and religious activity. The fourth saw the teeming insect life of field and woodland, and searched out innumerable varieties of butterflies and bugs for his collection. The fifth wanderer stood on the hillside and saw stretched out below him a bustling city which the advantageous location suggested to his mind, and he immediately began planning a great real estate development.

The first three viewed things without any particular command of their sight, and without calling their imagination into play. The fourth directed his seeing for a definite purpose and found what he looked for. The fifth man alone looked upon the things before him and saw in them the greater things of the unseen.

KING SEGIS ALCARTRA PRILLY,
Owned by the Bridgford Company, Knightsen, grand champion Holstein bull at the State Fair both this year and last.

Many Types of Visitors Present.

There were people of all these different types at the Fair. Some evidently went just to say that they had attended, and they saw the jostling crowds, felt the heat (although the weather was exceptionally favorable) and were annoyed by a few inconvenient features. Others saw the good features and the fine exhibits, and went away with a favorable general impression. Others went to be entertained and found what they wanted in the thrilling aviation stunts, the races, the horse show and the different places of amusement. Others wanted to be instructed and they saw many demonstrations of great practical value, particularly the tractor and farm machinery exhibits and the war-time demonstrations of increased production and conservation. And others went with their long-lookers on and saw not merely the fine exhibits, but a future full of promise. They were men of vision, and they saw the name of California shining with new luster before the world.

Visitors With and Without Vision.

"Where there is no vision the people perish," said Solomon, and his wisdom finds direct application in present-day farming, for the farmer who forms his opinion from casual observations, from surface conditions, from a search for unfavorable circumstances, rather than from his vision of the unseen, will find only rough roads, poor soil and innumerable barriers to his progress. But the one who has vision—who searches beyond the seen for the unseen; who looks not for difficulties but possibilities—this one will make great discoveries. He will find the most precious opportunities in the most forbidding difficulties; he will transform desert lands into paradises; he will make unproductive fields produce bumper crops.

Of course, such a man has to struggle long and hard to make realities of his visions. He meets many setbacks, but these are like the swollen stream which turns back upon itself through the valleys. One ignorant of the stream's destination would say that it flows back to the hills, but it doesn't. Its general course is always onward toward the lake or ocean.

Livestock Industry Holds a Future of Promise.

And one ignorant of the real facts might think that California's livestock industry is going backward when he hears that dairy herds are being sold off and beef cattle are being shipped out of the State on account of the labor and feed situation. But it isn't. And no one with any vision at all could see the stock exhibited at the Fair and witness the demonstrations of California's resources without seeing a future full of promise for this most important branch of farming.

If he had a reasonable amount of vision, he would see the map of the pure-bred world changed, and California made the fountainhead. He would see breeders and farmers coming here from the east, from the north, and from foreign countries to buy foundation stock and new blood.

This is already being done. Recently several large eastern and foreign sales have been reported. And why should it not be done on a much larger scale? We have the feed and the natural conditions that cannot be equaled elsewhere. Only a short time ago the Department of Agriculture completed an investigation which showed that California is the most economical place in America for raising sheep, and it is equally as good for other kinds of livestock.

California's Livestock Advantages.

And not only can we raise stock cheaper out here, but we can raise it quicker and better. This was clearly proved by the size and quality of the stock shown at the Fair. Practically all of the breeders who showed this year were short of help, and, considering the handicaps under which they fitted their stock, the showing was nothing short of marvelous. Dozens of the prize winners were good enough to win similar ribbons at eastern shows, and to convince the people back there that "to find the best you must come out west."

Another feature which is going to help the livestock industry of this State is the pull-together spirit which is being developed among the breeders. A feeling of good fellowship was noticeable both in the barns and at the meetings of the different breed associations. On account of lack of space, we cannot tell in this issue of the important business transacted at these meetings, but this will be covered in later issues, and more will be said about the prize winners in the different classes.

(Continued on page 286.)

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EDITORIAL STAFF
E. J. WICKSON - - - - - - Editor
B. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

TWO GREAT DRIVES TO SAVE CIVILIZATION!

TWO GREAT movements to rescue the world from autocracy and anarchy are in progress this month and their ultimate purpose is to sweep the world clean of evil in high places. There is no hope of cleansing the heart of man by the wager of battle but rather to free mankind from domination which implants and cultures evil and for its own purposes defies regeneration and ennoblement which God provides. It is our purpose in the war to overthrow such domination, which, to serve its ambition, greed and inhuman lust, violates sacred treaties and the humane usages of nations in the vain hope of establishing world-power upon the wreckage of free peoples crushed by outrage. And now frustration and retribution for such foul thought and atrocious deed draw nigh through the great forward movement of the allied armies along the European front, from the Adriatic to the Alps and from the Alps to the North Sea, which is proving irresistible. Simultaneous with this great west-front movement, in which nearly the whole world of nations joins, there is another great movement in progress this month on the Western Hemisphere the success of which is indispensable to allied victory on the other side of the world. It is the movement of the United States, from Maine to California and from the gulfs of Mexico and California to our northern borders, to provide the funds without which no European movement of allied armies can be successfully sustained and no victory won for civilization against autocracy which itself practices international anarchy and hires private anarchists to indulge their lust for outrage in all parts of the world. It is a new mobilization of America's fighting forces: it is the enlistment of America's billions to push America's millions onward to Berlin: it is giving American bonds for the attainment of world freedom!

AMERICAN EQUALITY OF OBLIGATION.

IN AN appeal to Americans to discharge their patriotic duty by freely placing the funds which they possess at the service of their country in its time of greatest need, it is undemocratic to single out any group of citizens and impute to it especial obligation. Patriotic duty rests upon every citizen to the extent of his individual ability to discharge it, by whatever manifestation of loyalty and devotion he can encompass. Therefore, it is un-American to address a patriotic appeal to those who live by any particular profession or occupation, and it is un-American also for those in any class of industry or enterprise to declare that any other class should recognize any less or greater obligation than its own. To do this is to make confession that our democracy is a pretense and that we do have, after all, "classes" in our population, some of which are expected to lead and others to follow in the very greatest of our national duties—which is to preserve our democratic institutions and to extend their beneficence to all mankind. Whoever makes such a confession admits that, in his view, our democracy is a sham, and everyone who feels in his heart the American spirit impelling him to struggle and sacrifice for humanity knows that such confession is an impeachment of our national character and purpose and an outrage upon the memory of our national forefathers.

For this reason it is wrong to appeal to American farmers as a "class" to declare that it is their duty as a "class" to come forward beyond other "classes" with subscriptions to the Fourth Liberty Loan because as a class they have wealth and because their products have attained high prices, etc. In fact, it is very doubtful whether they have gained as much from war conditions as other "classes" have—but all such discussion is offensive to the patriotic spirit and to the American conception of citizenship, and should be abandoned. Men and women who gain a livelihood by farming should be appealed to to buy Liberty Bonds to the limit, just as other Americans are—because free buying of bonds and sacrifice to buy them are a patriotic duty and privilege to insure the continued existence of this country and to enable it to enforce upon the world the terms of its own birthright to set free and uplift the oppressed of all mankind. If farmers are appealed to on this ground, there can be no doubt that the response will be beyond all calculation of their resources as proportional to other group-ownership of our national wealth.

HOW AMERICAN FARMERS EARNED EQUALITY.

BUT although farmers should be appealed to as loyal Americans and not as a class thereof, it is perfectly proper to recall the fact that it was due to the patriotic attitude of the land-owning farmers who took part in the foundation of this country that their successors in the agriculture of this country do not constitute such a ruling class as owners of the land have constituted in all other countries—from remote ages to the present time. If the farmers of the revolutionary period had yielded to the historic ambition of powerful men to establish an oligarchy of land-owners, no power on earth could have stopped them. They had the law-making power; they had titles to vast estates which could have been easily extended to the national boundaries; they were the commanding officers and the main body of the warriors of 1776, and the leading office-holders of the construction period which followed the success of the Revolution. But they had another possession which was more powerful than all the temptation of the advantages which they possessed and that was the spirit of world patriotism which a great American farmer wrote into the Declaration of Independence—to the effect that all men are created free and entitled to equal opportunity for life, liberty and pursuit of happiness.

WE INHERIT REWARDS OF SELF-DENIAL.

IT WAS then owing to the great patriotic sacrifice of the early American farmers that they did not constitute themselves a ruling class in this country and consign those who worked for them to serfdom or peasantry. It was one of the great achievements for mankind of all the ages!

In 1844, in his address at the New York State Fair, George Bancroft, the great American historian, said this:

"The farmer's mind is exalted: his principles stand firm as your own Highlands. In his connection with the human race the farmer never loses his patriotism. He loves America—is the depository of her glory and the guardian of her freedom. I recount how the farmers of New York have served their country and mankind. They were invested with sovereignty and abdicated. Glorious example! Highest triumph of disinterested practice! They themselves peacefully and publicly renounced their exclusive authority and transferred power in this republic from its territory to its men!"

It was this initial sacrifice for mankind which constituted American farmers, who established this nation, the creators of American opportunity which the American army and navy are now translating into manhood opportunity for the whole earth. In all the issues which have arisen since that great initial sacrifice American farmers have poured out blood and treasure that the self-denial and magnanimity of their forefathers shall always stand forth "a light to humanity; a joy to the nations—the glory of the world."

If a word is to be said especially to the American farmers of 1918 about the Fourth Liberty Loan, let it be no appeal to a class, for their forefathers declared there should be no class. Let it convey no suggestion of particular obligation, which may be narrow and therefore possibly misconceived; but simply proclaim in their hearing the urgency of the country's need of their co-operation to finish now what their ancestors so grandly entered upon one hundred and forty-two years ago—the attainment of freedom for mankind.

STRENGTHENING FOUNDATIONS OF PATRIOTISM.

OF COURSE, in exalting our farming population as fundamental in national patriotism we do not exclude other vocations from similar relations. Other vocations have their own advocates: we simply write of what we know most about and make no odious comparisons. It is an interesting fact, however, that after every fierce struggle in which he has engaged at home and abroad Uncle Sam has arranged to establish an increased number of his sons and daughters in ownership and development of reasonable pieces of his national domain—thus rewarding them for patriotic services and at the same time strengthening the foundations of patriotism through the extension of clean rural life and prosperous rural industry in this country. Through the beneficent action of homestead laws and desert-land and national irrigation acts of Congress, people unsettled by war and by economic difficulties have been given a new start and the country has grown wonderfully by development of unproductive lands into new homes and centers of productive activity. Such governmental policy is now more clearly wise than ever and it is natural that it should also be more rational and generous because the righteous claim of agriculture to national credit facilities, education and expert personal guidance toward practical success is now more clearly recognized than it has ever been in the past.

Uncle Sam now needs to borrow six or eight billion dollars to win the war against murderous tyrants who have openly planned to lash the people of this free country to their chariot wheels! If he gets the money, and there is no doubt that he will get all the money he needs if everyone follows the dictates of his own conscience, the last national menace to world-freedom will be removed and all peoples can fearlessly enter upon the adjustment of personal rights between man and man under the justice-seeking governments which each people will set up for itself. As we have in this country the oldest and best popular government in the world, and as the principles upon which our government was established are right and true, all the reconstruction we shall need is to be secured by embodying those principles more definitely and securely in the laws which determine social and economic relations of individuals and vocations throughout our citizenship. In this peaceful revolution of ideas which will renovate and ennoble the public mind to truer standards of equality of opportunity for all citizens of the republic, there will be no greater forces than the strengthened resolution and clarified vision of our returning soldiers. They went from us boys: they will return sages and prophets in the nobility of manhood, the sanctity of womanhood and the inviolability of childhood—three foundation stones of national truth and greatness which the Teutonic federation has vainly endeavored to blast from their places in the civilization of mankind.

CHERISHING A GREAT NATIONAL FORCE.

TO CHERISH and promote the operation throughout the length and breadth of the country of this great force for the recognition and realization of higher ideals in Americanism, it is of fundamental importance that our returning soldiers shall be situated and circumstanced for the exercise of influential action of their new conceptions of efficiency in achievement and their clarified vision of human rights and privileges. These new powers will find scope, of course, in all our vocations and occupations, but in none to such degree as in agriculture—our greatest national industry. Upon this broad conception of its fundamental patriotic importance we

hail with delight the announcement of immediate and most practical action toward preparing idle lands to serve as homes and fields of promising industrial activity for our returning warriors. Such an announcement of intention has been made by that distinguished Californian, Hon. Franklin K. Lane, now Secretary of the Interior in the National Government. We have already mentioned it as a great beneficent policy. The following is an official announcement:

Secretary Lane presented to the President and to Congress recently a comprehensive plan for a preliminary study of the unused lands of the country, with particular reference to the irrigation of some 15,000,000 acres of arid land, the drainage of between 70,000,000 and 80,000,000 acres of swamp land, and the clearing of approximately 200,000,000 acres of cut-over or logged-off land, with the purpose in view of reclaiming these lands through Governmental agency and providing homes for returned soldiers.

In this connection we merely wish to state that the plan has received congressional approval and appropriation and is now in process of development. It will open great areas upon which returning sons of farmers and others will secure ownership of lands as their fathers did, but on conditions fairer and more generous.

Of course, the six or eight billions which Uncle Sam now asks for are to be used to win the war and to secure for this country the right to exist in the freedom and independence for which our ancestors gave their lives and their earnings. But it is important as a corollary to that demonstration to know that a greater and fairer national life is also an objective and that the most direct avenue to such attainment, through the exaltation of agriculture to greater influence in national affairs, is fully recognized.

The farmers of today are asked to lend their surplus billions to Uncle Sam that the farmers of yesterday may not have lived in vain—"Yea, saith the Spirit, that they may rest from their labors and their works do follow them."

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Why Do Substitutes Cost More?

To the Editor: Where is the profiteering to be located in this case? I am urged to use oats instead of wheat. In buying a package of rolled oats I pay 40c or 45c for a 3-pound 7-ounce package. If I buy rolled or flaked wheat I pay only 35c for 3-pound 8-ounce package. The market price of wheat is $3.50 per hundred, but for my oats I get $2.50 per hundred, or $1 less than for wheat. Is this just? It does not seem reasonable to me.—Reader, Live Oak.

We have never seen a satisfactory explanation of the greater cost of "substitutes" for wheat. It was upon this fact that a strong argument was made that the wheat price should be fixed higher or that prices of other grains should also be fixed in proper relation to the wheat price. But on the basis of relative prices of wheat and oats which you cite, price fixing of other grains would not help matters. When you get beyond that the excessive price of oat meal must be explained upon the basis of profiteering by somebody—unless it can be shown that the loss of weight in preparation of foods from raw wheat and raw oats must be considerably greater in the case of oats (which we presume is the fact) or the cost of the process is greater in the case of oats than of wheat—and about that we do not know anything. No doubt the Food Administration has carefully looked into the matter and the fact that it is allowed to exist indicates that the situation is irremediable. The fact seems to be that we must grow more wheat or we must save more if we really wish to get the kaiser, and we must make sacrifices to do it. Patriotism exacts a price. At the moment we must eat less wheat. We may save money while doing it by filling our tummies with spuds or, if we must have substitutes grain foods, we must pay more for them. It is much the same way with other things. If we wish to keep the other sides of us warm and save money also, we must patch our pants: if we must have a new pair, we must pay more for them—even if they are made of burlap and not of wool. Life-saving the world is serious business. After we get it rolled up high on the beach of the future to dry off in the sun of a newer and fairer civilization, we can turn about and get even with those who have been increasing our sufferings and sacrifices by profiteering in wages, in financial, commercial and manufacturing profits and otherwise. The day of reckoning will surely come.

Winter Feed for Hogs.

To the Editor: I have land which is not considered good for grain ranch but is well adapted to raising corn. This means, however, a period of idle months until time for corn planting. I have at present twenty hogs and wish to purchase more. What can you suggest raising this winter for hog feed? I note in a recent Rural Press that oats are suggested for pasture. I had thought also of planting beets. How late would it be safe to plant the seed? What kind do you consider best for this purpose? If you can suggest anything else which might be planted this fall which would make good feed for hogs, would appreciate it very much. There is corn on the land now.—R. L., Los Molinos.

Why is the land not considered good for grain? If it gets submerged or water-logged so that grain kills out, that fact will also limit the use of the land for any winter-growing forage plant or roots—unless you can get the growth started early in the fall and let the hogs graze during the early winter before the water overflows or rises in the soil. As it is now in corn, it perhaps has enough surplus moisture to start seed as soon as you get the corn stubble cleared off and to continue the growth with the early rains. If so, you can start oats or rye and vetch—about 50 pounds of red oats and 40 pounds of common or Oregon vetch to the acre, sown together. Rye is rather hardier than oats and may be a safer venture. Stock beets, either mangels or tankards, can be started as soon as you can get the land in shape, if it has moisture enough to start the seed, and will reach feeding size by February or March if the land does not go under by that time. We are going on the supposition that the trouble with the land is excess of winter water. If that is not the case, the advice we give is more likely to be valuable, for land which will give good corn in summer ought to grow almost anything in winter—unless it is too wet.

Winter Care of Asparagus.

To the Editor: I planted out an asparagus bed in my garden with two-year-old roots. How should I treat the bed this winter?—O. R. B., Novato.

If your roots were strong and caught well, they must have made considerable top growth this summer. When that dies down, as it will presently, if it has not already done so, break it down and burn it on the bed in case there may be some rust germs to destroy or some seed to make volunteer plants among the old roots which are not desirable. Then cover the bed with coarse manure, several inches deep, and let it lie for the rains to leach out. This not only enriches the ground but prevents packing the surface by heavy rains. Towards spring, when the ground breaks nicely and shoots show where the roots are, cover in the remains of the manure by shallow forking between the plants or rows. It would be for the strength of the roots and the future crops not to cut any shoots in 1919—but we are afraid you will not heed this suggestion if you see fat ones coming. If you must have some, be sure not to cut many and let all the later shoots make all the top growth they will.

Subsoiling Young Orchard.

To the Editor: I have intended to subsoil thirty acres of my almond orchard which are planted on a light soil underlaid by clay or hardpan. I had intended to subsoil just before the trees became dormant. Another grower recently advised me to do the work well before the rains begin, as it would break up the subsoil better and deeper. Will this unnecessary loss of moisture, caused by leaving the land in the rough, affect the trees to any extent, or would it be advisable to wait until later in the fall? How close to the tree is it advisable to go with the subsoiler? The trees are only about twenty months old.—W. R. G., Paso Robles.

Do not open up the soil deeply until you have had rain enough to moisten it down at least a foot. This moisture is necessary to keep the trees from drying out by the free entrance of dry air—which deep working would certainly cause if done now and the rains should be long delayed. Keep the subsoiler at least three feet away from the trees and farther if you find you are tearing up many roots. It is very desirable to do the subsoiling as soon as you can after danger of drying out has passed.

HAS YOUR SUBSCRIPTION EXPIRED?

To relieve the paper shortage the Government has made a new ruling that subscriptions cannot be carried for more than three months after they expire.

You can't afford to miss a single issue of the Rural Press, so look at the date on the yellow label and see if your subscription has expired. If it has, send along a check, money order, bill or stamps, so that we shall not be obliged to cut your name from our list.

And why not pay up for two or three years in advance? We may be obliged to increase the subscription price soon, but right now you can renew for from one to five years at $1 per year. You cannot invest money to better advantage; send in a long-time renewal now.

Cutting to Kill Willows.

To the Editor: Can you tell me a sure way to kill willows? I had always heard that cutting them in dark of the moon in August would do the trick. I tried that last August and now they are about nine feet high and probably six shoots to one before. The soil is ideal for their growth, being creek bottom.—N. B. W., Thalheim.

The moon has nothing to do with it. Cutting in August is getting nearer to the killing because the time to cut a deciduous tree or shrub to kill it is to remove the top when it has reached its maximum seasonal growth and the "sap it all up," as the saying is. The root is weakest then and begins to renew its strength by the downward movement of the sap from the top. Therefore, to remove the top then comes nearest to killing the plant. But the willow guards itself against such exhaustion—especially in such a place as you describe, where continuous moisture helps it. For this reason there is little hope of killing willows without grubbing out the roots, and that has to be continued so long as new shoots appear.

When to Cut Back Eucalyptus.

To the Editor: When is the best time to cut my eucalyptus trees back, which are rather large trees already?—F. H., Visalia.

When you have time for it. We have never seen a eucalyptus tree depressed by cutting back, though it probably feels worst about it if cut back when at the height of its new growth. It will heal and cover its wounds quickest when cut just before new growth begins, and theoretically that would be the best time. But practically it does not seem to care—even if you cut off its tail just back of the ears. The eucalyptus is one of the gladdest things that ever came to California, and it is perhaps our finest exemplification of the doctrine of service and sacrifice. If Californians would buy Liberty Bonds the way the eucalyptus grows, there would not be enough of them left untaken to fill the quota of Rhode Island!

Stop Worrying the Peanuts.

To the Editor: I have a small acreage of peanuts and have been told to cover over with soil when the blossoms appear. I have done so and the ends (after a few days) have begun to sprout out and on some blossoms have appeared.—Reader, Atwater.

You have wasted your time and perhaps thrown the plants out of step also. There was an old notion that the bloom-stem had to be covered with earth to get the peanuts underground. The inventor of that misconception probably forgot to wonder how the plant did it when there was no fool around with a shovel. The fact is that the bearing shoot gets itself underground all right after pollination. All the grower has to do is to plant in a mellow soil and cultivate to keep the surface from crusting.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 10, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.20	.73	.41	62	52
Red Bluff	...	.12	.12	90	56
Sacramento	...	...	.07	88	54
San Francisco	...	T	.01	76	54
San Jose	...	...	...	80	48
Fresno	.01	.01	...	92	56
San Luis Obispo	...	.01	.05	90	50
Los Angeles	...	.11	...	92	58
San Diego	...	.04	...	80	60

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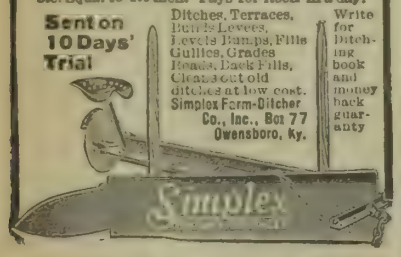

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58 SUTTER ST., SAN FRANCISCO

Standardization of the Dried Peach

[Written for Pacific Rural Press by John J. Fox.]

STANDARDIZATION of the dried peach is as necessary as in any other dried or fresh fruit industry—to promote its welfare, not only in production and in methods of handling, but more especially in marketing.

THE PUBLIC pays a premium for large fruit. The object of the Peach Growers' Association is to obtain results in marketing that shall be profitable to the grower and the consumer alike by stabilizing the market and extending its activities and by guaranteeing the pack. These things can only be accomplished by co-operation and loyalty amongst the growers themselves.

We who attended the initial mass meeting at Visalia in 1915 well remember the panicky condition that prevailed at the prospect of the peach industry going by the board by reason of the ruinously low prices offered for dried peaches, then some 2c to 2½c below cost of production. We remember how the industry sweated in labor to produce that unity of action necessary for organization—an organization that was its salvation—no less.

Now that doubters and those who were faint hearted have been convinced of the necessity and are profiting by the work of the Peach Growers' Association, they are, as in duty bound, signing up and putting their shoulders to the wheel with the rest, to keep the good work going.

EXTENDING THE MARKETS.

As everybody in the business world knows, if you want to extend your markets in a healthy, growing manner, you have to advertise. This was never effectively done for the dried fruits until the California Raisin Association and the California Prune and Apricot Growers' Association did it. The packers could never agree on united action along this line and certainly one couldn't do it alone. They wanted to supply what market there was at the least possible expense, which was a very valid reason for not advertising. But it did not help the producer.

Now that the Peach Growers' Association has undertaken the matters of marketing and processing, it is this paper's business to keep close tab on cultural methods needed to produce fruit of the size, quality (and tonnage) that standardization demands. It is what we are here for—to obtain and spread the glad news of your successes in reaching perfection, that all the industry may profit thereby, also to learn from your mistakes to know what to avoid. In this matter also there must exist that frankness of statement and action that we are willing to accord. There is so much to learn yet in all the varied conditions for the same fruits the State over. And we are all so hungry for information whereby the fruits of our efforts may attain the highest results.

WHAT WE ARE STRIVING FOR.

We shall expect to deal regularly with and discuss varieties best suited to certain localities; methods of cultivation, irrigation, drainage, spraying, pruning, thinning; also of fertilization. For each one of these matters is a factor in determining the quality of the fruit and the welfare of both orchard and owner.

As a summary, what are we striving for?

The answer is:

(1) The finest fruit we can get.

(2) A minimum of culls and waste.

(3) A well-sugared article, ripe when cut and properly cured.

(4) A healthy, growing condition of our trees, that neither they nor the soil that produces them may wear out unduly.

(5) A remunerative price, free from speculative values, to relieve anxiety; stable, because free from inflated prices (which would be productive of over-planting) or unremunerative ones.

Every great and growing industry in the world is now organized—one for all and all for one.

The horse that does not "pull" is either taking it easy at the expense of the rest or else hanging back in the breeching. It may give him relief, but what does it look like?

ADVANTAGES AND SUGGESTIONS.

Let us look over what the Peach Growers' Association has done since it came into being. It has lifted the price of dried peaches from 2¾c in 1915 to 6½c in 1916, 8½c in 1917 and 11c in 1918. The first year, 1915, dried peaches were sold at perhaps 2c below cost. And though we admit that war conditions are responsible for the unprecedented high prices now, so are they responsible for nearly doubling the cost of labor to produce the article.

The association is bending all its efforts to improve the quality and condition of its processed fruit; to advertise and push out into fresh fields of consumption. The quality will also be helped by the fact that the association has had granted to it a patent for peeling dried peaches, thus removing the fuzzy objection so many housewives have offered to this staple.

The varieties chiefly used in the San Joaquin for drying are Muir, Lovell, Wheatland, Susquehanna and Elberta. We asked what the chief troubles were at harvest time and the reply was: First, unripe fruit. The fruit is either shaken or gathered just before it is ripe. This results in a poor color and quality, and the grower loses weight—a blow to the industry and a detriment to the producer, no matter how small the degree. Second, fruit delivered at the warehouse before it is thoroughly cured; that is, when the skin of a certain number still slips. Of course, nobody wants to lose any more weight than he can help, but there is really no excuse for shipping in uncured peaches in such a climate as ours, where they can be finished in the stack to such a nicety.

Finally, as regards payments, the cash down now amounts to three times as much as the total price three years ago. And by the end of the fiscal year the grower gets all there is in his crop in the subsequent payments, as in the other organizations—less only the cost of administration and operating.

With Fresno county alone growing 24,000 acres of peaches, this new staple is a sturdy youngster. May its shadow never grow less!

THE RISH BABA GRAPE.

To the Editor: I am sending you a bunch of large, oblong white grapes. I would like to have the name of them.—E. J. F., Sacramento.

[Answer by Professor F. T. Bioletti.]

The grapes which you sent me are a variety introduced a good many years ago by the Department of Agriculture from Persia, together with a large number of other varieties. This variety is the Rish Baba, a name which means "father's beard", and refers to the peculiar shape of the grape, which resembles in outline that of an Oriental beard. This grape has been shipped to Eastern points to some extent, but with somewhat varying success. It is grown in large quantities only, I believe, by A. B. Humphreys of Sacramento county. It has been rechristened, I believe, with the peculiar name of "baby toes," which appears to me to be unfair both to the baby and the grape. The grape is also known to grape growers as "Humphrey's Lady Finger." It is found in some vineyards under another Persian name, the Alhakahi, but this is a misnomer, as this name belongs to another variety.

University of California, Berkeley.

Farm Products
Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Fighting Squirrels—Testing Grapes.

Fred K. Howard, Horticultural Commissioner of Kings county, has made a pretty thorough campaign against the squirrels. We did not see one in his territory in a whole morning's drive, though he claims one section not yet worked. He is now testing grapes for the farmers to keep them posted on ripening of their crops, so as to know how to handle their crews. Twenty-four per cent of sugar on the greenest grapes is enough. Farmers who cannot do their own testing should appreciate this.

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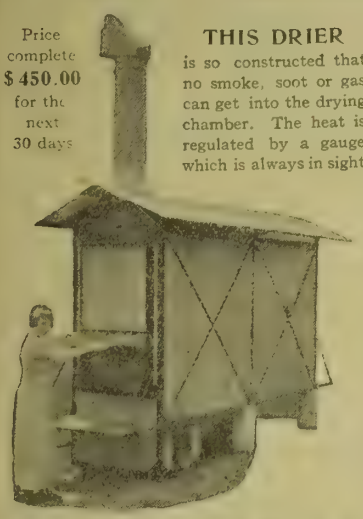

With this New-Way Drier you can do drying on a commercial basis, or use it for home drying of any kind of fruit or vegetables. It can be used the year round, whenever there is anything available for drying purposes. It is not affected by outside temperatures and will give a perfect, even heat at all times. Can be fired when put up and the drying can start within a very few minutes. Write for circular.

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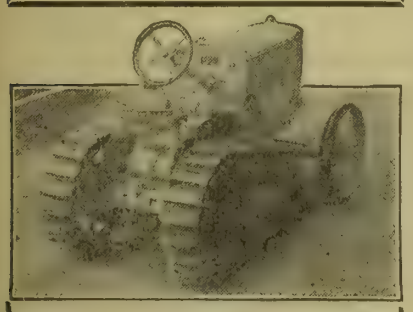

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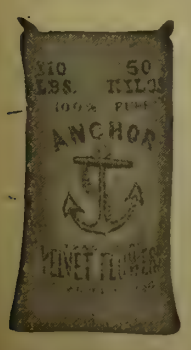

Fleur de Soufre, Anchor Brand; Velvet Flowers of Sulphur and Eagle Brand.

Packed in barrels and double sacks; are the fluffiest and purest Sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, leaving no ash.

Try our new brand of sublimed 100 per cent pure Ventilated Sulphur for making Paste — Atomic Sulphur.

For Lime Sulphur Solution, use our "S" Brand Refined Flour Sulphur, which we will furnish at a price so cheap that you cannot afford to purchase ready-made solutions.

We are equipped to make immediate shipment. Send for illustrated booklet; also price list and samples.

SAN FRANCISCO SULPHUR CO.

624 California St., San Francisco, Cal.

Farmers' Fire Protection.

The Kings County Farm Bureau has completed a farmers' fire protection project consisting of eight fire companies, each completely equipped with a fire trailer. There are 300 members on the force. Wallace Sullivan, the County Agent, brought in 11,000 pounds of dwarf milo from the State Farm at Davis and sold to the farmers. All is showing up well, the crop is good and the seed of the county will be improved.

Vineyard Interplanted with Teparies.

Arkalian Bros. of Livingston have a 450-acre two-year-old vineyard in new territory on the Merced river interplanted with tepary beans. It is all Thompson's Seedless and from present appearances promises well. Practically no Muscats are grown in this county, where development in breaking, leveling, drainage and irrigation is proceeding rapidly.

Moorparks Produce Well in Modesto

Last year the McHenry Bros. of Modesto produced over 18 tons of dried Moorpark apricots and 55 tons green from a 22-acre orchard. He sprays with lime-sulphur in February. The trees are free from scale and red spider. This large ranch is also growing 50 acres of castor beans for the Government this year.

Lime-Sulphur for Citrus Thrips.

The U. S. Department of Agriculture informs us that plain lime-sulphur solution, applied in three successive sprays, is a satisfactory control of the citrus thrips. The solution recommended may be either 1 to 56 of the 36 degree Baume density or 1 to 50 of the 33 degree Baume.

A District Fair.

A district fair will be held at Atwater on September 13 and 14. Atwater is the center of the sweet potato district and also ships large quantities of grapes and peaches. She has six packing houses and a cannery.

Prunes Lead in Kings.

In planting in recent years prunes have taken the lead in Kings county, then apricots, grapes and peaches in the order named. The drying peaches consist of Lovells. Muirs and Elbertas, while the favorite clings are Orange, Phillips and Tuscan.

Horticultural Notes.

The demand for the Nonpareil exceeds that of any other variety of almond this year.

Grapes have the largest acreage of the fruits of Tulare county. Peaches come second and citrus crops third.

Kings county has 102 miles of county highway, concreted and capped, in addition to the State highway.

The Muir seedling suckers badly and makes a smaller tree than the Salway seedling. The Lovell seed is the next best to the Salway.

The Raisin Growers' Association will spend $375,000 in advertising this year. It is these large business methods that have created new markets for our fruits.

The Kings County Packing Company is entirely financed by local capital and run by home labor. Its pay roll has run up to as high as $8,000 a week on apricots, peaches, tomatoes and cucumbers.

To permit students to finish up the summer work on ranches, the University Farm School at Davis will open two weeks later than usual. For the first time in the history of the University Farm School women will be admitted to the three years' course.

California produces all the almonds grown commercially in the United States. Profitable almond production depends upon: (a) Attention to cultural questions, and (b) co-operation in marketing. Checks are sent out by the Almond Exchange the same day warehouse receipts reach the main office when possible.

Turn Cutlery Steel Into Your Fields!

Do It With Clark "CUTAWAY" DISK HARROWS

That's what the disks are made of—a special cutlery steel—forged edge (cut out or solid)—so sharp and sturdy that mother earth crumbles into tiny particles just as you want her to.

Pulverize the soil well. Get it in the best condition to give the world bigger and better crops. Our Allies are depending on them.

WRITE FOR THIS BOOK

It's a valuable one to have; tells what you need to know about "The Soil and Its Tillage." With it, we will gladly send our complete Implement Catalog and names of your nearest dealers in CLARK "CUTAWAY" Implements.

The Cutaway Harrow Company

609 Main Street, Higganum, Connecticut

Maker of the original CLARK Disk Harrows and Plows.

PIPE

For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped

New and Used Screw Casing

Fittings and Valves Special Fittings Made to Order

TESTED AND GUARANTEED.

PACIFIC PIPE CO.

MAIN AND HOWARD STS. SAN FRANCISCO, CAL.

Electric blasting easier and cheaper

GIANT FARM POWDERS

STUMPING—AGRICULTURAL

The use of an electric blasting machine results in economy. It reduces the amount of powder required often by 10% to 20%. With it you can shoot several stumps or other blasts at one time. You can fire several lighter shots under a difficult stump or rock with better effect and less trouble than with a single large charge. It is the only reliable means of exploding charges under water.

Safety favors electrical blasting. There are fewer misfires and no hang-fires. Should a misfire occur, all danger of explosion is over when you disconnect the wires from the machine. As you can time blasts to the second, traffic along roads is not held up unnecessarily.

The smallest Electric Blasting machine fires five charges or fewer at a time, weighs but six pounds and cost is saved on a job in a very few days. Anyone can work all sizes of this simple, handy machine.

Send coupon (or postal mentioning this paper) for big free book "Better Farming." Tells you scores of money-saving ways of doing farm work.

THE GIANT POWDER CO., Con.

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Horticultural Notes at the State Fair

[Written for Pacific Rural Press by John J. Fox.]

The three subjects that proved most attractive to horticulturists at the State Fair this year were tools and tractors, standardization and fruit packs, and rodent control and forestry. The horticultural exhibit was small compared with average years, but was quite as extensive as we had any reason to expect during war times. Tractors and tools have been dealt with in another article under "Agriculture," but we shall return to this subject later in their relation to orchard work.

STANDARDIZATION EXHIBIT—APPLES.

This exhibit, given by the State Commissioner of Horticulture, was of chief interest to fresh fruit growers, and its lesson was plain to all concerned. A chart on the wall gave at a glance the application and requirements of the standardization law. Its axioms are that standardization increases returns to the grower because the market will pay for first-class fruit. It decreases the cost to the consumer in that it avoids unnecessary waste in packing and transportation and extends markets. Standardization demands the best quality trees. It makes imperative greater care in cultural methods and in the handling of the fruit.

The exhibit displayed good and bad packs—what to do, how to do it, and what to avoid. The packs were taken at random from fruit sent to market and were not put up specially for this exhibit. Therefore they were all truly commercial packs. The three standards were shown—(1) California Fancy, (2) Grade B, and (3) Grade C; also packs showing violations of the apple law, underneath the chart illustrating the law. Practically all apple-growing sections now pack to a greater or less extent under State inspection. The principal violation of the apple law is a tendency of some packers to put B grade fruit in boxes and then label the whole as California Fancy. There was a "chiel amang us takin' notes" in the shape of J. M. Ward, pomologist and chief of fruit division of Tasmania, Australia, who has been sent over by his Government to learn what he can from our methods. He expressed admiration of the steadily growing organization of our fruit industry and its applied laws.

PEARS.

An interesting feature of the exhibit of pears (chiefly Bartletts) was the variation in color of the fruit due to locality, soil and climate. There were pears from Tehachapi at an elevation of 4000 feet, pears from Placer and El Dorado counties of 3000 feet elevation, from Nevada and Lake counties (2000 feet), and from the Sacramento Valley (30 feet), and the coloring varied from a deep rose blush on high ground (and probably red soil) to a lemon yellow. The "horrible examples" displayed as an offset to these fine packs were chiefly infested with worms, especially those entering the calyx, which showed there had been lack of efficiency in the first spray, when the little pear was just formed.

PLUMS.

These packs included the 4x4, the 4x5, the 5x5, the 3-basket crate of two tiers to a basket, and the Sykes package (½ bushel box). This Sykes system of packing looks like the best system we have yet seen. The cut papers cost less than wrappers, the rapidity of work is increased and uniformity of size is requisite. When packed they can be pressed into place with a regular apple press without suffering any mechanical bruising. The boxes are made in quarters, halves and full standard bushel sizes. The Sykes grader runs the fruit on parallel ropes wider at one end than the other, so that there is no rolling of the fruit. It is simple, cheap and effective. All standard packs should originate on the ranch and not from inspection points as repacks. The tendency in packing plums is to put small ones on the bottom of the basket and large ones on top. The slant-sided basket must go and be replaced with a straight-sided one. It is the only way to insure uniformity of fruit.

TOMATOES.

Here uniformity in size, quality and maturity are desired. Every effort is now being made to bring this about throughout the State, and close inspection will eventually bring this about. The cracks in the boxes are lined with nice, round, ripe tomatoes, but inside is the waste that the consumer has to pay for—measly, unripe, small stuff, unfit to put on the table.

Standardization is going to remedy this waste and give the consumer what he pays for, besides obtaining a better price for the shipper. It costs just as much freight on a box of cheap stuff as it does on a box of perfect fruit that will give remunerative returns.

THE GRAPE SITUATION

and cantaloupe inspection are now pretty well in hand. Great improvement has been made, to the satisfaction of the market and the grower.

The State Quarantine Division and the State Insectary Division had an interesting exhibit upstairs, showing live insects, beneficial and otherwise. Also samples of insect and fungoid pests intercepted and destroyed at points of entry into this State. Probably no officers in the State are more vigilant than these sentries of our fruit empire, whose duty it is to prevent an enemy alien insect or disease from establishing itself in our midst. Prevention is better than cure. Photographs showing quarantine work in foreign ports, in San Francisco, both on the ship and dock, examination of immigrants' baggage, bundles and feed bags were all on display and proved an object lesson on the way our fruit industry is safeguarded. It showed the citrus canker of Florida that is costing that State millions of dollars and hundreds of thousands of trees. The leopard and gypsy moth of the Eastern States, the plum and cherry curculios, the white fly (Mediterranean), and the fruit fly and many other things that are fatal in their own sections: pests that we are so far free from. And we rely on the Quarantine Division to keep us free.

Yolo county had about the best display of grain and corn we have seen in one show. There were 110 varieties of grain alone, two varieties of Chilian Red and one (Indian Runner) were the most perfect miller's wheat we have seen. In addition to Yolo's usual display of fruit, flowers and nuts, there was an especially fine show of Egyptian and broom corn, sorghum, alfalfa and rice.

Sacramento county had one of the largest exhibits. The chief and most striking feature was a show of peaches, every one of which was a perfect fruit. Sacramento and San Joaquin grow such a diversity of commercial crops that it is difficult to select those that stand out. The beans, grain, sugar, grapes and summer crops and cannery products were all represented.

The U. S. Food Administration exhibit attracted attention, with its dried vegetables and cereal foods and their relative values, comparing meats, vegetables, cereals, fruits, pulse and complete rations.

The California Almond Growers had a most attractive exhibit of nuts and a showing of the importance of the almond industry.

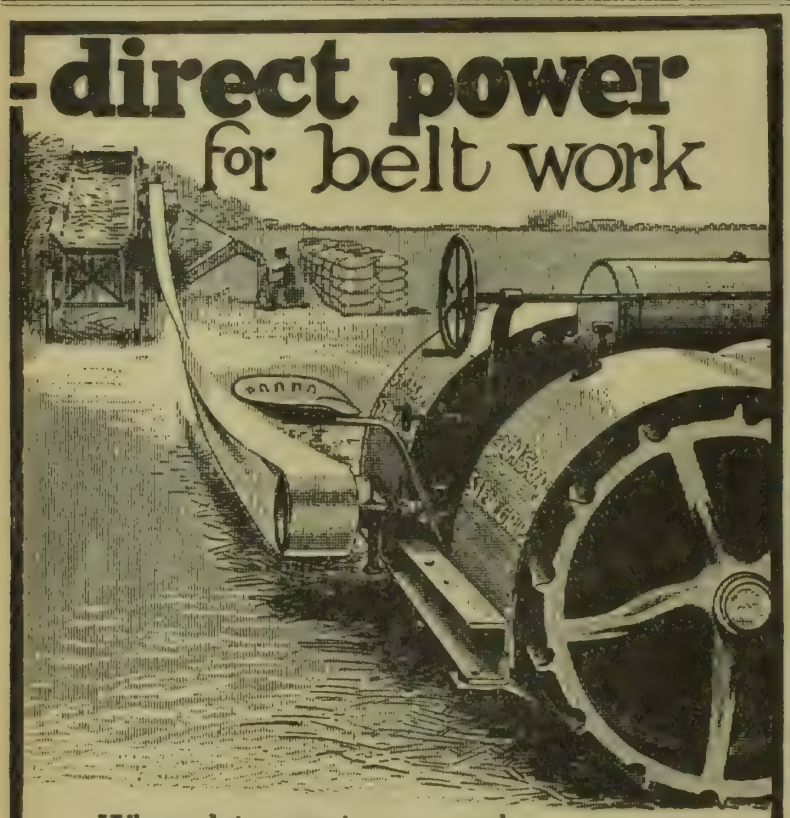
The California Nursery Company had an exhibit consisting of 37 different varieties of pears and 37 varieties of apples—plate exhibits. Also 30 varieties of packed plums and prunes. Their Giant rhubarb also attracted attention by reason of its size and appearance. One pie to a piece! In plums the demand for Burbank seems to be falling off, while the Giant is increasing in popularity. The President seems to be the favorite plum.

Mention must be made of the central feature of the Horticultural Hall made by the California Nursery Company of Niles. It consisted in a representation in miniature of a country estate. A billowy arrangement of ferns and shrubs showed low rolling hills and forest and in the center of the estate a handsome country house was set on a long hill slope. It was approached through alfalfa fields and citrus groves by a winding drive. At the back of the house there were hanging gardens and terraced grassy slopes, edged with vine-clad bowers at the head of which was a Grecian bath house.

There was also a Japanese exhibit from the San Joaquin, a Fresno county exhibit, the Y. M. C. A., American Red Cross (Pacific Division), State Commission of Immigration and Housing, and recruiting and naval exhibits.

THE U. S. FOREST SERVICE

had models of rangers' stations and posts, plans of woods and camps, with proper methods of building and leaving camp fires. A model of a "lookout" tower was shown and the fire kiosks that are distributed through the various forests of the United States, of which there are 152.



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TRACTORS

--- Give steady and reliable power.
--- Direct drive from motor shaft.
--- Automatic control gives uniform speed.

A Model S-25 will do your Traction and Stationary work at LOW COST.

SAMSON SIEVE-GRIP TRACTOR CO.
(Division of General Motors Corporation)
Stockton, California.

PLANT
FRUIT TREES
Between Your Grape Vines

Think ahead! Plant fruit trees NOW between your grape vines and in a few years you will have a profitable crop regardless of the vines. Fruit growing has always paid—and on account of the vast destruction of orchards in Europe and the immense demand for foodstuffs from this country, fruit growing will now pay better than ever before. When you plant—plant the best. Our trees are strongly rooted, free from disease, budded from orchards of proven productiveness, and are sure to grow and produce big crops of fine fruit.

ELMER BROS. NURSERY
The Nursery that Helped to Make Santa Clara Valley Famous
76 SO. MARKET ST. SAN JOSE, CAL.

CHANGE IN LOCATION OF Tractor Demonstration

TO WILSHIRE BOULEVARD

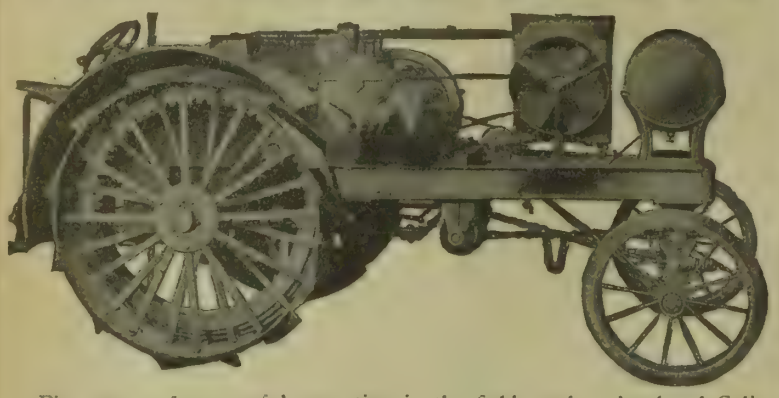
at LA BREA AVENUE

SEPTEMBER 17, 18, 19, 20, 21 and 22

TRACTION ENGINE AND IMPLEMENT DEALERS ASSOCIATION OF SOUTHERN CALIFORNIA

LOS ANGELES, - - - CALIFORNIA

The WATERLOO BOY



Five years of successful operation in the fields and orchards of California have demonstrated the Stability, Efficiency and Economy of the

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IT IS MADE RIGHT, because the people who build it have had more than 30 years' experience in gas engine manufacture.

IT STAYS RIGHT, because it is simple in construction and because of this the operator can easily keep it in repair.

IT IS PRICED RIGHT, because we are selling more of power, and actual service, than can be had any other place for the price.

IT IS RIGHT, because the thousands who own and operate it say that it is, and they ought to know; rather than one who is trying to sell some other make.

See it at the Demonstration, September 17-21, on Wilshire Boulevard, or send for printed matter.

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TO PREPARE FOR THE RAINS REPAIR YOUR ROOFS WITH Pioneer ROOFING

NOW IS THE TIME TO GET READY

Have your roofs inspected and if they show indications of leaking this winter—have the repairs made now and don't be caught napping.

Keep your buildings up. Don't let them go to pieces for lack of adequate repairs. It is cheaper to repair than to rebuild.

The roof is the most important part of most every building. Just think of the great damage that one little leak can cause.

Pioneer Roofing
—is very economical

Its long life and splendid wearing qualities make Pioneer Roofing a favorite with careful buyers everywhere. In addition, its attractive appearance adds 100 per cent to the looks of the building.

ASK YOUR DEALER FOR PIONEER — THE ORIGINAL and reliable ready roofing. If he cannot supply you, write us.

Pioneer Paper Co.

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Common variety .....19c per lb.
Smooth Peruvian .....25c per lb.
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SELECTED SEED

Delivery to you by prepaid Express

Delay buying until you have compared my samples with seed others offer.

E. F. SANGUINETTI

YUMA ARIZONA

Merced county has about 1000 acres in bearing figs in addition to her young orchards. About two-thirds are White Adriatic.

Gardner's Bean Harvester

meets the requirements of the rancher and is within easy reach of all.
Ask your dealer about it, or send direct to factory.

Gardner Harvester Co.

902 E. Fourth St., Santa Ana, Cal.

T. A. Jenkenson of Kings county this year produced six tons of dried apricots from 430 four-year-old Tiltons.

State Fair Machinery Observations

[Written for Pacific Rural Press by R. E. Hodges.]

THE WRITER saw so much at the State Fair (and he didn't see half of what was there) that he has by far overwritten the space allotted and a great number of items must be held over in type until next week. However, the items remaining are a suggestion in a small way of what you can see September 17 to 21, near Los Angeles, at the mammoth demonstration, more than twice as many makes of tractors in action as are mentioned in these notes. You can see the tractors still and in action, the implements and accessories in tents and in the fields. Again we urge you to let every attendant talk himself dry at you regarding the merits of his machine if it might in any possible way fit your conditions. There are points of excellence in every machine which are plain and reasonable when pointed out, but which you will miss if you don't let the attendants and drivers talk to you. See announcement elsewhere of change of location, because 350 acres proved too small for the immense demonstration and exhibits to be staged near Los Angeles, September 17 to 21, inclusive.

Few Changes in Samsons.

The feature of the G M C Samson Sieve-Grip Tractor exhibit was a tractor with its inward gears and pistons exposed by turning back the cylinder head and taking off the hand plates and the crank case. A mirror under the engine showed conveniently the crank and piston rod bearings with the new oil distributor. One of the very few recent changes consists in substituting a separate pipe through which oil is pumped to each pan in the crank case for the single pipe previously used with four holes for the pans. Where oil became dirty one of the holes sometimes clogged and a pan and bearing went dry. The Samson people are getting a new electric furnace of six tons capacity per charge principally for use in making or tempering the steels which compose most parts of the tractor. The furnace previously used was of ¾-ton capacity. The factory is now turning out 45 tractors per week and selling as fast as they can be made.

Yuba 40-70 Horsepower.

The Yuba 40-70 tractor, which was first put on the market about a year ago, has stood up to the best wishes of its makers. It differs in only a few respects from the Yuba 12-20. Its motor and governor are made by the Yuba people, the motor being four cylinders cast and mounted singly. The handhole plates are big enough to take pistons out. The transmission is about the same as in the 12-20 and the track is of the same construction, but much larger and stronger. The whole machine is built close to the ground. The one on exhibition was sold during the Fair to Spencer Penrose of Colorado Springs. Mr. Penrose is president of the Colorado and Cripple Creek Railway.

Sandusky Drive and Drawbar.

Sandusky tractors have had no material changes recently, though it is notable that the newer 10-20-horsepower model has four cylinders cast en bloc lengthwise of the tractor, conforming more to the common practice than the four single cylinders set crosswise of the 15-35 model. Features of both are their large internal gear drives. The drawbar of the 10-20 model is of straps to a lug casting placed crosswise of the frame between front and rear wheels. This lug is strengthened by a Y bar to the front axle. Coil springs on the drawbar ends and the end of the Y cushion shocks; and it seems like the forward hitch of the drawbar would hold the front end down well in turning.

Nilson Three-Wheel Drive.

The newly introduced Nilson tractor, which has three 50-inch wheels, chain driven, on the same rear axle, has the drawbar hitched high to a channel frame which inverts over the central drivewheel and is well braced forward and backward. This tractor has flat springs under its forward end to permit running over rough ground without injuring the frame. The four-cylinder motor cast in pairs has force-pump water circulation and KW ignition. Everything is well enclosed from dust.

New Avery 5-10 Horsepower.

One of the striking exhibits was the new short-coupled Avery 5-10 horsepower, nestled on high in a decorated alcove lighted at night. This machine is the new model recently put on the market. Its wheel base is 109 inches, its width 35 inches and its height over all is 58 inches. It has a four-cylinder motor equipped with Atwater-Kent ignition. The copper-tube radiator is unlike the other Avery sizes in that it is cooled by fan. A special hitch may be obtained for use of horse plows, etc., and a specially long front axle may be used for potatoes and other row crops.

Trundaar Chain Tread.

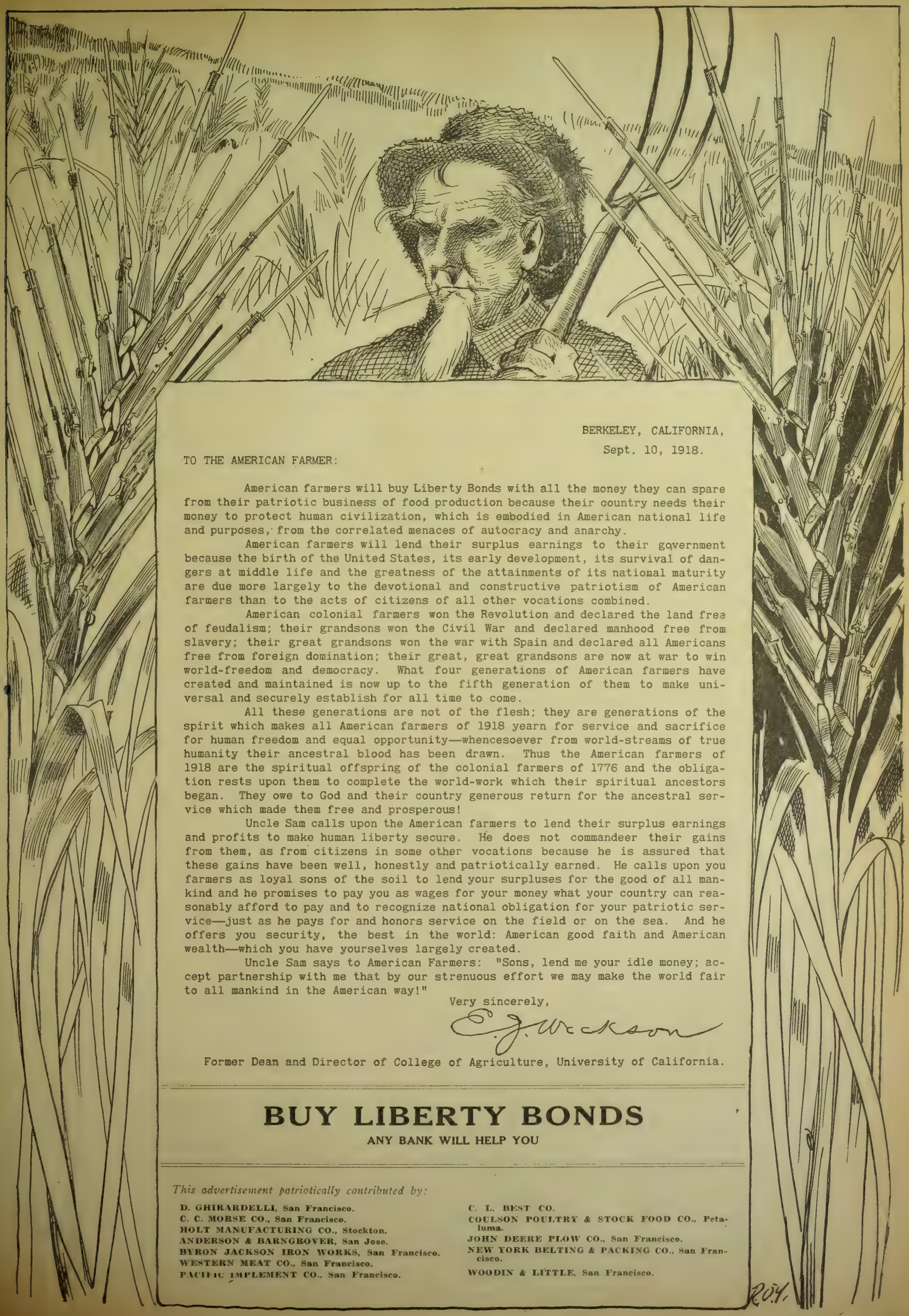
The Trundaar 20-35, several of whose track links broke at the Davis demonstration because a mistake had been made in tempering them, has had no trouble since, and was one of three tractors which pulled their load (three 14-inch plows for the Trundaar) over a 57 per cent grade at the Pullman, Wash., demonstration. One of the recent changes in the Trundaar is that the track guides by which track links were formerly kept in line have been abolished and a piece of hardened angle iron is now inserted under each shoe and beside the links, its free side being ready to rub against the truck wheels to keep the track aligned. The other material change is that whereas the drive wheel formerly was a solid casting, now its hub is cast separate and a circular disk is bolted onto each side of the hub to finish the wheel. Thus if any breakage occurs it can be replaced with least expense. An 8-16 Trundaar will be run at the Los Angeles demonstration.

Monarch Track Features.

Four Monarch tractors on exhibition created much favorable comment. These machines, having no tiller wheels, turn by retarding the track on one side or the other. They have extra long tracks of sturdy construction. The weight of the machine balances on a central axle, which rests on a frame, with three pairs of trucks on each side. The weight rests on bronze saddles on the axles of the truck wheels, in such a way that any wear only makes them fit better. The saddles can be replaced in fifteen minutes. They are enclosed in a dust-proof box and packed with waste, which is lubricated through an oil cup. The drive teeth in the track are so spaced that they are not touched by the drive sprockets until the latter have fitted in full depth with a slight clearance. Then, as the tooth rises on the end curve, the drive sprocket sets up against it without rubbing. The sprockets are so flanged that when worn on one side the wheel may be reversed for equal wear on the other side of the sprockets. It can then be replaced by the idler wheel and it will fill the idlers' place. The driver has a chilled face and the track teeth are of manganese steel.

Oliver Power Lift Gangs.

"Where is the Oliver Chilled Plow exhibit?" asked a business-like farmer at the State Fair. "I've just bought a tractor and the Oliver plow I've been using with horses won't do the work now." One of the Oliver men courteously showed him a four-gang plow that digs its nose into the ground when you pull a string from your seat on the tractor and stays in the ground until you pull the



BERKELEY, CALIFORNIA,
Sept. 10, 1918.

TO THE AMERICAN FARMER:

American farmers will buy Liberty Bonds with all the money they can spare from their patriotic business of food production because their country needs their money to protect human civilization, which is embodied in American national life and purposes, from the correlated menaces of autocracy and anarchy.

American farmers will lend their surplus earnings to their government because the birth of the United States, its early development, its survival of dangers at middle life and the greatness of the attainments of its national maturity are due more largely to the devotional and constructive patriotism of American farmers than to the acts of citizens of all other vocations combined.

American colonial farmers won the Revolution and declared the land free of feudalism; their grandsons won the Civil War and declared manhood free from slavery; their great grandsons won the war with Spain and declared all Americans free from foreign domination; their great, great grandsons are now at war to win world-freedom and democracy. What four generations of American farmers have created and maintained is now up to the fifth generation of them to make universal and securely establish for all time to come.

All these generations are not of the flesh; they are generations of the spirit which makes all American farmers of 1918 yearn for service and sacrifice for human freedom and equal opportunity—whencesoever from world-streams of true humanity their ancestral blood has been drawn. Thus the American farmers of 1918 are the spiritual offspring of the colonial farmers of 1776 and the obligation rests upon them to complete the world-work which their spiritual ancestors began. They owe to God and their country generous return for the ancestral service which made them free and prosperous!

Uncle Sam calls upon the American farmers to lend their surplus earnings and profits to make human liberty secure. He does not commandeer their gains from them, as from citizens in some other vocations because he is assured that these gains have been well, honestly and patriotically earned. He calls upon you farmers as loyal sons of the soil to lend your surpluses for the good of all mankind and he promises to pay you as wages for your money what your country can reasonably afford to pay and to recognize national obligation for your patriotic service—just as he pays for and honors service on the field or on the sea. And he offers you security, the best in the world: American good faith and American wealth—which you have yourselves largely created.

Uncle Sam says to American Farmers: "Sons, lend me your idle money; accept partnership with me that by our strenuous effort we may make the world fair to all mankind in the American way!"

Very sincerely,

C. J. Wickson

Former Dean and Director of College of Agriculture, University of California.

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ANY BANK WILL HELP YOU

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WOODIN & LITTLE, San Francisco.

string again, when it lifts itself clear out. The string pulls a "dog" ratchet which engages an eccentric which does the work by means of a crank axle. When the front of the plow frame rises, a rod raises the rear end also. An adjustable lug on the crank axle catches against the plow frame while plowing and holds it at any set depth until changed. Adjustable levers set the moldboards level whenever the lug and depth of plowing are changed.

Deere Plow Lift Disk Plows.

The John Deere Plow Co. has long been making power lift moldboard plows, but very few people in California know of their rather recently marketed power-lift disk plows. These are made in three, four, and five gangs and 24 and 26-inch disks. Each disk is on a separate beam, which may be inserted anywhere between the front and rear bottoms or taken out from between them if a specially hard job of plowing is ahead. They have heavy Montana disk bearings. The disk plow is bolted to a cast disk half its diameter. The casting has a round-pointed cone cast on its center to project into the cast cap which forms the standard. The cap has a collar around its open end which fits against the cast disk. A plate fits over this collar and bolts to the cast disk. The hub and its cap boxing are made of the hardest steel.

Worm-Gear Bearcat Tractors.

The Galloway Co. of Waterloo, Iowa, was just getting ready to market the new Bearcat tractors in the Middle West when W. J. Burt of Los Angeles happened to hear of them. Mr. Burt, with ten years of experience at auto and tractor repairing, soon made a deal to handle the tractor on the Pacific Coast. Two Bearcats were shown at the State Fair. They have four wheels fitted with Timken bearings, a full floating axle at the rear, driven by a worm gear. Mr. Burt examined a worm gear from a Bearcat that had plowed 1400 acres and it showed no wear. An impulse starter is part of the equipment.

Holt Tractor Disk on Wheels.

A unique tractor double-disk cultivator has been put on the market for the first time this summer by the Holt Mfg. Co. It is the invention of J. H. Davis, whose plows the Holt people long ago adopted. The disks are made in eight and ten-foot lengths, hung on a heavy frame, which runs on four broad low wheels. They are not broken in the middle like common disk cultivators, but each section is on a stiff anxle, the rear section being clamped to the frame at an angle to the front one. The front end of the frame is raised and lowered by lever and a vertical standard resting on a ball and socket on the axle like the rear end of Caterpillar plows. The rear end of the frame is raised and lowered by a crank axle and a worm gear which locks it at any depth desired. The disks are raised entirely free for movement on the roads.

Bean Tractor Improvements.

Little troubles which have afflicted some Bean tractor users have been eliminated by several recent improvements. The drive sprocket ring, which was formerly easily worn out, is now machine cut and hardened by baking 12 hours in a pack of hardening materials. Equipment for this work has been installed and all other gears in the transmission are similarly hardened an eighth of an inch thick, leaving a core of tough steel within the hardened coat. One of the sprocket rings, after being in river bottom service three months, did not have the tool marks all worn off. A fiber thrust washer at the end of the Hyatt roller bearings in the trucks which carry most of the tractor's weight proved too soft. They wore out and the bearings then soon wore themselves loose. Steel thrust washers have eliminated this. The machine was formerly hand-governed by the throttle. An automatic governor has been installed. A force pump of greater capacity at high speed has been installed for engine lubrication. A dustproof cap has been placed over each hub, and the hubs are fitted with removable gray iron bushings. The NU4 Bosch magneto, which formerly divided each spark for two cylinders, has been replaced by a DU4 Bosch, which gives a full spark to each cylinder. This eliminates the formerly weak spark, which sometimes failed to burn all the distillate, letting it pass the pistons into the lubricating oil with resultant bearing troubles. All of these improvements can be installed on the old Bean tractors at a reduced price for three months, after which the prices will rise.

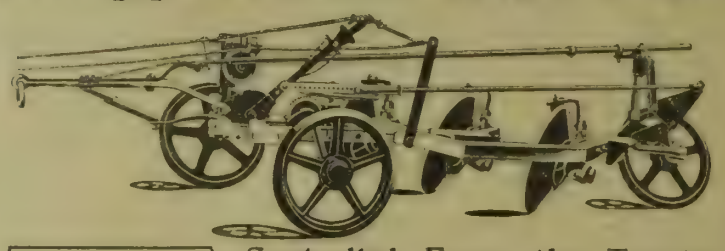
The Case Union Suit.

The Case "union suit" 9-18 tractor exhibited at the State Fair is a recent accomplishment in making the crank and transmission cases of a tractor serve as its frame. The union suit is a malleable semi-steel casting with proper compartments for crank case, transmission, differential, etc. The machine weighs less than its predecessor, has a 68-inch wheel base and is low, compact, and powerful. Only four shafts and gear reductions are used. The motor, being crosswise, eliminates bevel gears and the consequent thrust bearings. The first of these models came in June.

Lauson Tractors by De Laval.

Lauson tractors were first put out with a two-point suspension on the front axle and brace rods to help reduce the strain. Recently they have been put on a one-point suspension in front so the front axle can rock and the wheel can run over a big obstruction without twisting the frame. These are handled by the De Laval Dairy Supply Co. and local agents. They are made by the same people back East who make the

Knapp Tractor Disc Plow



Turns in own length
No high levers
Plows close to trees
Hugs the furrows
Durably built
Plows hard soil
All sizes

Controlled From the Tractor

Your tractor and a Knapp Tractor Disc Plow makes a real one-man outfit. Just a touch of the trip rope and the KNAPP POWER LIFT picks up the discs clear of the ground—absolutely without drag.

Write for Our New Booklet Today.

H. G. KNAPP & SON

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Trade Mark Reg. U. S. Pat. Off.

Look for this Label in your Raynster

Raynster for Protection

Raynster is the family name of a complete line of weatherproof coats. Raynsters include coats for men and women, girls and boys, in all kinds of materials, at a wide range of prices.

Heavy rubber-surfaced work coats; warm, ulster-like coats for cold and rainy weather; imported cloth coats that are worn as overcoats; light slip-ons; school coats for youngsters—all these bear the Raynster quality label. Look for this label—be sure it is in the raincoat you buy. It is your protection. It assures good materials and fine workmanship and the best value for your money.

Write to us for a Style Book with illustrations and descriptions of the different kinds of Raynsters.

United States Rubber Company

Clothing Division, New York and Boston

Raynster

Reg. U. S. Pat. Off.

Alpha engines, and with similar materials.

New 12-25 Best Tracklayers.

The C. L. Best Co. dealers are taking orders for October delivery of a new-sized Tracklayer, the 12-25. This is a successor to the 8-16, which has been tried and abandoned during the four years' experiments which resulted in the new machine. It is designed and built to plow its own width, 46 inches. It is 51 inches high, 10 feet 5 inches long, drives and steers by tracks alone, and has the regular C. L. Best features.

Cleveland Gear Rings Separate.

In Cleveland tractors the big driven internal gear ring used to be cast as a part of the drive sprocket wheel. They are now made as separate hardened rings to be bolted or riveted within the drive sprocket so they may be more cheaply replaced in case of wear. Track pins have been enlarged and they run through removable bushings tightly fitted into the track links with a loose bushing around them for the sprocket wheel to work on.

New Alling Track Type.

A new and diminutive track-type tractor appeared at the State Fair, August 31. It is the "Alling" 7-15-horsepower machine, about seven feet long and four high, with the big drive wheel in the center of the track and truck idlers in front and behind the driver. The engine runs 1000 r. p. m. It has a double chain drive.

Killefer Cultivators in Demand.

G. A. Flood reports that the Balfour-Guthrie people of Brentwood drove up to Sacramento to give him an order for five five-standard Killefer subsoilers to use behind their 75-horsepower engines. Mr. Wheeler of the Peters-Wheeler Seed Co. of Gilroy came up to buy two extra heavy duty Killefer eight-foot tractor cultivators to break up refractory adobe. Ranch Superintendent R. L. Merchant of the Pacific Sugar Corporation at Tracy reported using an extra heavy Killefer tractor chisel about 18 inches deep in refractory clay which had never been plowed over four inches deep. The 90-horsepower tractor had to run in low gear to get through. The Sugar Corporation has since bought another.

Moline Drivers Sit on Implements.

The three Moline tractors used at the Davis demonstration were brand new and were the first three of the present model built by the factory. They work better after being more carefully broken in. Few troubles have been reported by Moline users. These are two-wheeled 9-18-horsepower tractors balanced by the implements they pull and on which the operators sit. A Moline tractor at the Fair was mounted on a wheel so it could be swung around and connected to any one of six or seven different implements. On one of these a variety of tillage tools may be hooked at different times to the same drawbar. This enables the vineyardist to use two two-gang plows far enough apart to plow toward the vines of two rows at once, then set them closer together for the centers, returning on good footing. The centers may be plowed toward center equally well.

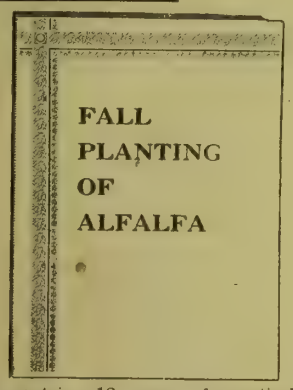
New Two-Track Steel Mule.

The new model Bates Steel Mule double track 12-20-horsepower tractors are now available for delivery in any quantity likely to be required. This machine, unlike its awkward predecessor, is built compact and close to the ground. It weighs 4300 pounds, is 52 inches wide and 105 inches long, and is equipped with Timken bearings throughout. The heavy cast body for crank case and transmission gears and the heavy track are features of the machine.

Garden Tractor and Tools.

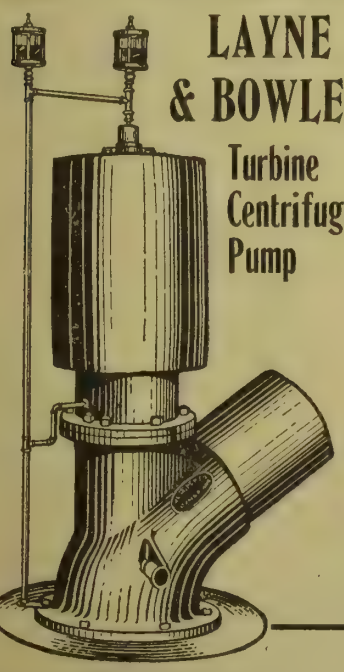
On the Beeman Garden tractor the action of its internal gear drive formerly tended to push the small truck wheels behind the drivers into sand or soft ground. This is overcome now by setting those wheels far enough back of the tractor so the leverage has no serious effect. The H. V. Carter Co., who handle

Get This Booklet



It contains 12 pages of practical information on land preparation for fall planting of alfalfa. It deals with your problems. Written by an authority.
Sent Free to intending planters on request.

BOMBERGER SEED CO.
725 TENTH ST., MODESTO, CAL.
(Desk A)



LAYNE & BOWLER
Turbine Centrifugal Pump

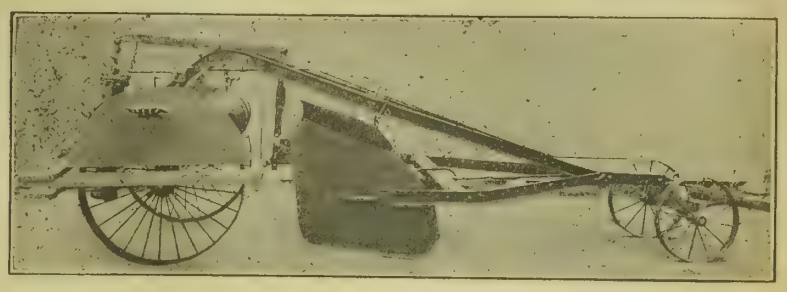
Always in the lead in introducing features that effect bigger savings in time, trouble and money to the pump user, Layne & Bowler Corporation announces the introduction of a number of important refinements. Full information regarding new construction given in Folder No. 25. Ask for it.

Layne & Bowler Corp.
900 Santa Fe Ave., Los Angeles.
Bakersfield, Fresno, San Francisco.

THE SELF-OILING WINDMILL
has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.
Write AERMOTOR CO., 2500 Twelfth St., Chicago

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler
of the "Giant" Type
WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

YOU SHOULD
send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

Schmeiser Manufacturing Co.
12 Mechanic Street DAVIS, CAL.

Manufacturers of
Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

DURING DEMONSTRATION WEEK STOPat

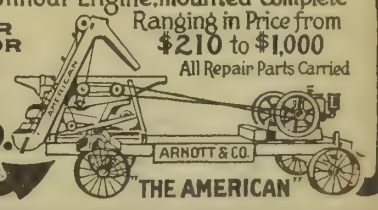
OFFICIAL HEADQUARTERS
33⅓% Discount in Rates

Make your business trip to the Demonstration a pleasure sojourn. Bring your family and enjoy the beach delights during Tractor Week. Only 20 minutes from Tractor grounds by trolley or motor. At special request of Tractor Association 33 1/3% DISCOUNT in all rates. European plan, $1.50 per day, up—less discount. Excellent restaurants. Countless beach diversions. Wire or phone reservations at hotel's expense. Marine Street, Ocean Park.

BEAN THRESHERS THE TWO STANDARDS
Built Especially for California Conditions

THE FARQUHAR VIBRATOR SEPARATOR
Guaranteed by "The House of ARNOTT"
Ask The Grower Who Owns One
Write for Folder, Specifications, Prices Etc.

Past the Experimental Stage
Eleven different models, with or without Engine, mounted complete
Ranging in Price from $210 to $1,000
All Repair Parts Carried



QUALITY ARNOTT GUARANTEED
ARNOTT & CO.
BEAN THRESHER HEADQUARTERS
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YUBA TRACTORS

See them at Big Demonstration Los Angeles, Sept. 17, 18, 19, 20, 21. Notice Important Announcement, Change Location of Demonstration Field. Then Watch the

YUBA TRACTOR

So. Calif. Distributors **A. F. GEORGE CO.** 200 N. Los Angeles St. LOS ANGELES

P & O

Engine Drawn Tillage Tools

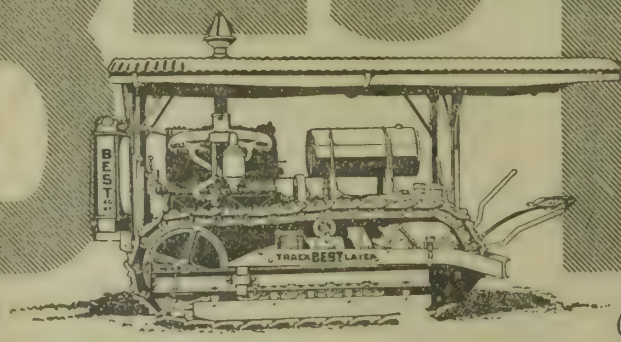
See them Everywhere at the Tractor Demonstration
Wilshire Boulevard and La Brea, Sept. 17-21

P. & O. GENIUS POWER LIFT ENGINE PLOW

In addition to our field display our tent will be filled with down-to-date
POWER FARM MACHINERY

DIXON & GRISWOLD
146-148 No. Los Angeles St. LOS ANGELES, CAL.
Make Our Headquarters YOUR Headquarters

BEST



TRACKLAYER TRACTORS
will be there, Plowing, Harrowing, Discing, Levelling, etc., at the
THIRD ANNUAL TRACTOR DEMONSTRATION
Los Angeles, Sept. 17-18-19-20-21

TWO MODELS
The "40" for the moderate sized farm and orchard does the work of eighteen horses.
The "75" for the large farm, reclamation project, desert country and plantation; does the work of forty horses.

TALK WITH OUR REPRESENTATIVES on the ground.
LEARN about the many exclusive patented BEST features found only in BEST Tracklayer Tractors.
LEARN what BEST Tractors are doing on the farms, in the orchards, freighting—wherever a tractor can be used.

Best Tractors are designed by C. L. Best—Backed by
Two Generations of Tractor Builders

C. L. BEST GAS TRACTION COMPANY
SAN LEANDRO, CAL.

this machine, have also the Genung three-row seeder, especially adapted to the Beeman tractor, so three rows 9 to 18 inches apart may be planted at once or two rows up to 36 inches apart. Thos. Landrum recently ordered three for the San Juan Batiste ranch. A divider to separate matted bean rows, etc., in front of the tractor may now be bolted onto the front of its frame. An 8-tooth duckfoot cultivator is available for use with the tractor to stir subsurface soil thoroughly without ridging the surface. The Beeman tractor develops four horsepower on the belt and 230 pounds pull on the drawbar, using less than two gallons of fuel in ten hours.

Wallis Tractor Exhibit.

The Wallis tractors attracted visitors by three features, (1) a tractor and plow painted white and gold and mounted on a black platform, (2) a tractor with the entire top loosened from its crank case steel plate frame, showing great simplicity of its transmission and engine, and (3) a tractor with handholes opened, the inside lighted, and cylinder head turned back, with electric lights connected to the spark plugs. An electric motor turned the engine slowly, flashing the lights as the spark plugs would naturally fire.

Schmeiser Land Levelers.

The Schmeiser Mfg. Co. showed two of their power land levelers. One 8 feet wide is lifted by a handwheel and screw operated by a man on a platform between the wheels behind the leveler. The other one cuts 12 feet and is operated by compressed air from a pump on the tractor.

Baker & Hamilton.

A large and striking exhibit of various sizes and kinds of P & O tractor gang moldboard and disk plows and a big middle buster featured the exhibit of Baker-Hamilton & Pacific Co. Several disk cultivators, including the P & O tandem attachment, a couple of Western pulverizers, one of them in three sections, to work a strip 20 feet wide, and a spring-tooth harrow completed the array. The Imperial engine disk harrow, of which many are being used in the rice fields, was a feature. Each gang has its own subframe, which pivots centrally on a vertical axle through a boxing on the heavy main frame. The implement cuts about 80 inches wide, rear gangs cutting between the forward gangs so that all the soil is cut up and refined. The forward and rear gangs on each side are attached to each other so one lever on each side sets the angle. Each gang has three bearings of hard maple.

Dairy and Milking Machines.

Milking machine exhibits comprised about half of the dairy machinery at the State Fair, and De Laval Dairy Supply machinery comprised the other half, with a cement-stave silo exhibited by J. S. Copley forming a landmark for all. The De Laval exhibit attracted great attention with several machines in motion. It included De Laval separators, several Alpha gas engines, one operating a Viking rotary pump, Acme feed choppers and silage cutters, including a blower pipe with jointed distributing pipe attached, James barn equipment, a Babcock tester, and miscellaneous dairy supplies, besides a small silo. The Calfway milking machine exhibit included their white cow with the machine sucking. The Perfection milking machine brought out much favorable comment. The Hinman milker attracted attention by its moving machinery. The Empire people showed engines, pumps, and separators, besides milking machines. Surely the dairyman, tired of hiring new milkers, here had a chance to select a machine which does not strike for higher wages and which works safely and satisfactorily indefinitely if given decent attention.

Ford Tractor Attachments.

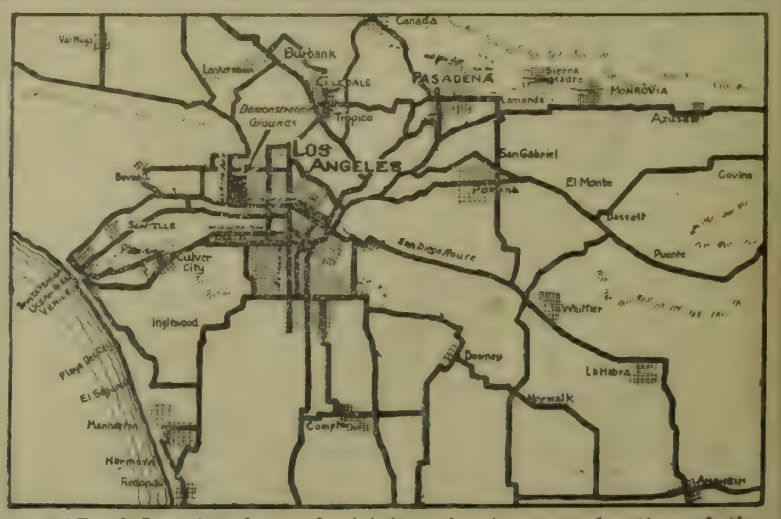
The Los Angeles Auto Tractor Co.'s Little Bear tractor attachment and the Staude Mak-a-Tractor were two well-known devices for converting Ford cars into tractors, and they attracted much inquiry. People who have old Fords with good engines may have tractor attachments at small cost.

Schools for Tractor Operators.

Learning to operate a tractor intelligently in the shortest time requires special facilities such as cannot be found on any farm; and needs many makes of tractors to illustrate the points made. Two schools devoted to this purpose had exhibits at the Fair. They were Heald's Engineering and Automobile School of San Francisco and the National Automotive School of Los Angeles.

Pacific Implement Co.

A 10-foot Farmers' Favorite grain drill, easily adjustable to any desired capacity, Pacific and Janesville double disk engine harrows, Sanders power-lift disk gang plows, South Bend power-lift moldboard plows, and a Smalley feed and silage cutter comprised the exhibit of the Pacific Implement Co. One of the features of the Smalley is the safcty device which stops the knives instantly when a foreign substance gets in. Their grip hook feed is an advantage also.



MAP of Los Angeles and vicinity, showing new location of the demonstration grounds of the Traction Engine and Implement Dealers' Association of Southern California. The location has been moved from the previously announced 350 acres on Whittier boulevard to a 500-acre site on Wilshire boulevard and La Brea avenue. Over 60 acres of tents and temporary buildings are being filled with the greatest exhibit of modern farm machinery and equipment that has ever been brought together west of the Rockies. Street car and bus service to grounds, admission free, parking space free for thousands of automobiles, superb highways to the grounds, rest rooms, restaurants, telephones, refreshment parlors, lectures and demonstrations by tractor experts, and the best chance ever of making yourself up to date on farm machinery.

ANNOUNCEMENT!

We, B. G. DOAK and C. K. DOAK, formerly owners of Standard Cor. Pipe Co. and Am. Cor. Culv. Co. wish to announce that we have formed a Corporation known as the

Doak Tractor Company

for the distribution of farm tractors in California. We have done this after a thorough study of the tractor situation for the past year, having always in mind a tractor that would be the most **PRACTICAL** for this territory and which would give the greatest amount of **EFFICIENCY.** The **INTERSTATE TRACTOR CO.**, of Waterloo, Iowa, knowing of our many years' experience with conditions in California, invited us to take the California agency for their tractors. We welcomed their suggestions, but made no decision until we felt that we could recommend and conscientiously distribute a tractor which is the best on the market and will give the greatest **SERVICE** and **ECONOMY.**

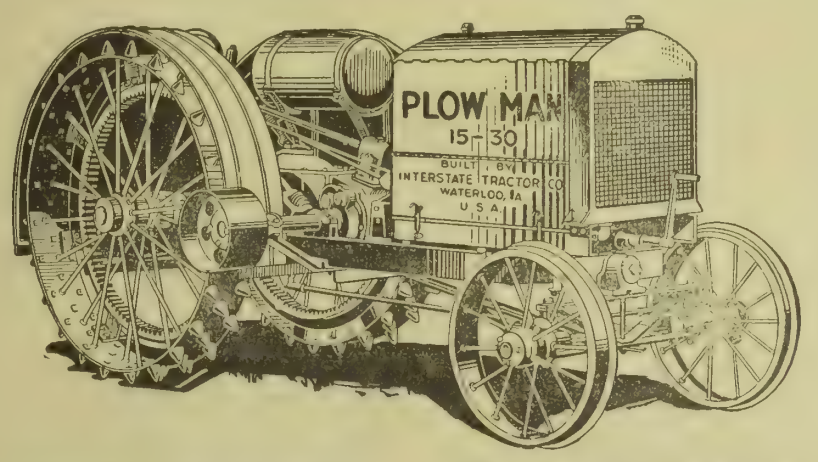
The New 1918 PLOW-MAN 13-30 and 15-30

Marks the greatest step in **RESERVE POWER,** refinement of construction and finished details.

Burns either Kerosene or Gasoline.

Correctly designed ALL STANDARD PARTS.

Motor, 4 cylinder (Oversize)
Controls, Rear Drive Type
Traction, Chassis on four wheels
Transmission, unit with motor
Cooling System, (Oversize), 8½ gals.
Front Axle, Oscillating Type.



MODEL 15-30 PULLS FOUR PLOWS. MODEL 13-30 PULLS THREE PLOWS.

Correctly designed ALL STANDARD PARTS.

Clutch, Multiple Eight Dry Discs
Buda Motor
Bennett Carburetor
Dixie High Tension Magneto
Foote Strite Transmission
Perfex Radiator
Hyatt Bearings
Turning Radius, 15 ft.

Farmers have learned in the past few years that satisfactory work from a tractor demands **EXCESS OF POWER.** The machine rated at full capacity is overloaded and therefore soon worn out. The only tractor of permanent value is that one combining **HIGH QUALITY OF CONSTRUCTION** with plenty of reserve power. **PLOW-MAN** tractors are of simple construction, making it possible for a boy to handle them. In rating the horse-power of these tractors they have provided for a one-third reserve power, which means that under a normal load these tractors have a **ONE-THIRD RESERVE POWER** for all emergencies, and which assures a long life to the tractor. From an economy standpoint the **PLOW-MAN** is establishing some wonderful records in the states of Kansas, Iowa, Illinois, and Nebraska.

PLOW-MAN TRACTORS

Have an established record for:
Smooth operation
Easy handling
Fuel economy
Very low up-keep costs
Long life of tractor
A satisfied owner.

- SEE -

Plow-Man Tractors

Operate at

Los Angeles Demonstration September 17th

LIVE AGENTS WANTED

SERVICE

We have installed a parts department with a full supply of PLOW-MAN parts, which insures immediate service to the PLOW-MAN owners. This is a feature which has been one of the drawbacks in the tractor business and should be given serious consideration by the prospective buyer when about to make a purchase.

If PLOW-MAN TRACTORS are not represented in your territory here is your OPPORTUNITY. Invite us to submit our proposition, it will interest you and our first carload of PLOW-MAN TRACTORS is here. We invite your inspection.

DOAK TRACTOR COMPANY, Inc

50 - 8th Street Telephone Market 4482
SAN FRANCISCO, CAL.

236 Marsh-Strong Bldg., Telephone 10175
LOS ANGELES, CAL.

Fair Reveals California's Opportunities

(Continued from first page.)

DAIRY CATTLE.

Probably dairymen have felt the labor shortage more than any other farmers, and on this account some of the customary exhibitors were unable to show this year. But the dairy cattle made up in quality what they lacked in numbers, and F. L. Scribner of Pasadena, who placed the awards, was loud in his praise of the stock shown.

The Bridgfords were justly proud of their grand Holstein bull, King Segis Alcartra Prilly, not only because he defended his honors successfully and was again made grand champion, but particularly because several of his get were placed high, including the junior champion heifer, the first senior heifer calf and the first junior heifer calf.

A mammoth silver cup was offered by the State Jersey Breeders' Association for the best five cows in milk, to be held by the exhibitor winning it the greatest number of times in five years, and was won this year by J. E. Thorp.

BEEF CATTLE.

Enthusiastic commendation of the quality of the beef cattle was given by the judge, John E. Robbins of Horace, Indiana, who for years has been a most successful breeder of beef cattle and has frequently judged at the big eastern shows. He was particularly pleased with the quality of the animals shown and the size for their age. "A few seasons ago I judged at the Illinois State Fair," he said, "and I must say that the animals I passed upon today compared favorably with anything I saw at that show."

The Shorthorns were there in good numbers and Count Glory, the Carruthers bull who was grand champion last year, won the same award this year.

Two years ago there was only one Hereford entry; last year there were four entries; this year five. J. A. Bunting of Mission San Jose landed both grand championships as well as several championships and other awards.

SWINE.

At the hog barns we shook hands with nearly all of the old familiar faces, and there were several new breeders who not only showed but received a large number of awards. Nearly all classes were well filled and competition was keen. Prof. L. B. Weaver of the University of Missouri judged Durocs and Poland-Chinas; J. L. Thatcher of Riverside, Berkshires; and Prof. J. I. Thompson of the University Farm, Hampshires, Chester Whites, Yorkshires and Mule Foots.

The Berkshire breeders sprung an innovation by having Judge Thatcher announce his reasons for placing the awards, and the plan worked so well that we want to say more about it in a later issue, as it is one which should be universally adopted.

SHEEP.

Prof. R. F. Miller of the University Farm judged the sheep. There was a large showing of Rambouillets by Bullard Bros., and Shropshires by Bishop Bros. Hampshires, Dorsets, Romneys and Corriedales also were shown.

Bullard Bros. had on exhibition the Rambouillet ram for which they paid $3,000 at the recent Salt Lake sale. He was bred by the Butterfield Livestock Co. of Weiser, Idaho.

DRAFT STOCK.

Some of the largest breeders of draft horses were unable to secure adequate help to condition their stock and did not show. Also the war has interfered with the importation of stock from Europe, and most of the animals shown were of domestic breeding.

However, here, as elsewhere, the quality was good, and John E. Robbins of Horace, Indiana, who judged draft stock as well as beef cattle, was very favorably impressed with the showings made.

State Fair Awards

DAIRY CATTLE.

Holstein-Friesians. -Exhibitors: Bridgford Co., Knightsen; J. S. Gibson Co., Williams; J. H. Harlan Co., Woodland; W. J. Higdon, Tulare; R. L. Holmes, Modesto; Longheath Farm (H. J. Long), Mason, Nev.; J. D. Patterson, Patterson; H. E. Vogel, Fresno.

Grand champion bull: Bridgford, King Segis Alcartra Prilly. Reserve grand champion bull: Patterson, King Segis Alcartra De Kol Pledge. Grand champion cow: Bridgford, Bell Faskic Hengerveld. Reserve grand champion cow: Bridgford, Tora Pontiac of Vina. Senior champion bull: Bridgford, King Segis Alcartra Prilly. Reserve senior champion bull: Long, Copa de Ora Katrina Nev. Junior champion bull: Bridgford, King Segis Alcartra De Kol Pledge. Junior reserve champion bull: Higdon, unnamed calf. Senior champion cow: Bridgford, Bell Faskic Hengerveld. Reserve senior champion cow: Bridgford, Tora Pontiac of Vina. Junior champion heifer: Bridgford, Miss Orpha Pontiac Prilly. Reserve junior champion heifer: Higdon, Blanche Nudine Clothilde.

Bull, three years or over: Long, Copa de Ora Katrina; Harlan, Prince Butter Boy Walker.

Bull, two years and under three: Bridgford, King Segis Alcartra Prilly; Higdon, King Korndyke Pontiac 20th; Harlan, Prince Gelsche Walker Paul; Vogel, Crown Prince Segis 25th.

Senior yearling bull: Patterson, King Segis Alcartra De Kol Pledge; Long, Paul Colantha Geneseo; Gibson, Prince Rowa Korndyke Pontiac; Vogel, Fidella Prince Newton.

Junior yearling bull: Gibson, Sigma Burke; Long, King Ormsby Canary Johanna.

Senior bull calf: Higdon, Model Bonnie Fobes De Kol; Higdon, De Kol Spofford Pontiac; Bridgford, King Abbekerk Johanna Segis; Bridgford, Segis Prilly Pontiac Netherland; Holmes, Chief Modesto Walker.

Junior bull calf: Higdon, unnamed; Bridgford, Segis Prilly Woodbine Pontiac; Holmes, Holmes King Segis Alcartra; Harlan, unnamed; Higdon, unnamed.

Cow, four years or over: Bridgford, Bell Faskie Hengerveld; Higdon, Model Bonnie Echo; Long, Colantha Ormsby Muchacha; Higdon, Senorita Circuela Mechthilde 3rd; Vogel, Lifrette Korndyke Pietze.

Cow, three years and under four: Bridgford, Tora Pontiac of Vina; Long, La Polka Omaha Mabel De Kol; Holmes, Riverview Bracelet Brett; Harlan, Nadgy Korndyke Moole 2nd.

Cow, two years and under three: Long, Canary Farolico Creamelle; Higdon, Queen Pontiac Burke; Vogel, Margaret Aralia Burke; Harlan, Salambo Korndyke 2nd; Vogel, Kathleen La Verne.

Senior yearling heifer: Holmes, Rosa Burke; Gibson, Daisy Gladi Pontiac Burke.

Junior yearling heifer: Bridgford, Pauline Artist Sadie Vale; Harlan, Modjeska Walker Crane; Long, Flossie Butter Boy Walker; Higdon, Fay Tritoma Hengerveld Walker; Gibson, King Korndyke De Kol.

Senior heifer calf: Bridgford, Empress Pontiac Prilly; Higdon, Blanche Nudine Clothilde; Higdon, Miss Bracelet Fobes Korndyke; Bridgford, Bessie Veeman Alcartra Prilly; Higdon, Pearl Pet Walker.

Junior heifer calf: Bridgford, Miss Orpha Pontiac Prilly; Bridgford, Raphaella Pontiac Prilly; Holmes, Jane Creamelle De Kol Acme; Long, Longheath Segis De Kol; Bridgford, Miss Alcartra Pontiac Prilly.

Aged herd: Long, Higdon, Harlan.

Breeders' young herd: Higdon, only entry.

Calf herd: Bridgford, Higdon, Gibson.

Get of sire: Bridgford on King Segis Alcartra Prilly; Higdon on Prince Riverside Walker; Harlan on King Mead of Riverside; Gibson on Prince Alcartra Korndyke.

Produce of dam: Higdon on Model Bonnie Echo; Harlan on Nadgy Korndyke Moole.

Jerseys.—Exhibitors: Mrs. C. A. Briggs, Sacramento; D. F. Conant, Modesto; Dr. H. W. Hand, Orland; C. D. Hayworth, Modesto; N. H. Locke Co., Lockeford; C. G. Marchus, San Pasqual; Guy H. Miller, Modesto; J. B. & J. E. Thorp, Lockeford; J. E. Wherrell, Riverside; S. F. Williams, Orland.

Grand champion bull: Miller, Altama Interest. Reserve grand champion bull: Thorp, Jolly Senator Raleigh. Grand champion cow: Thorp, Salome of Mossdale. Reserve grand champion cow: Williams, King Hanford's Anaa Girl. Senior champion bull: Miller, Altama Interest. Reserve senior champion bull: Thorp, Jolly Senator Raleigh. Senior champion cow: Thorp, Salome of Mossdale. Reserve senior champion cow: Miller, Goldie of Venadera. Junior champion bull: Wherrell, Golden Legacy's Champion. Reserve junior champion bull: Miller, Jap's Perfection Owl. Junior champion heifer: Wherrell, Mary of Fuinius Farms. Reserve junior champion heifer: Williams, Aleta Beau.

Bull, three years old or over: Miller, Altama Interest; Hayworth, Lorna's Altama Interest; Williams, Alva Lady's La Foss Boy; Thorp, Imp of L.; Williams, Golden Maidikin's Boy.

Bull, two years and under three: Thorp, Jolly Senator Raleigh; Locke, Violet's King of L.; Locke, King's Leda's Foxy Laddie of L.; Locke, L. Midget's Valet of L.; Williams, Lucy's Warder Foss Boy.

Senior yearling bull: Thorp, Liby's King of L.; Locke, V. Brighteye's King of L.; Locke, La V.'s Katrina's King; Locke,

SECOND MODESTO SALE

80 Registered 80

Holsteins

MODESTO, CALIFORNIA

Thursday, Oct. 17, 1918

A splendid offering of young cows, heifers, and bulls. This sale contains something of interest for almost any kind of a buyer. Owing to the dispersal of the C. G. Outland herd there will be several choice young heifer calves that will be a bargain for someone. They are all sired by the 30 pound bull, **HUBBAVALE ARTIS TWISK NETHERLAND**, who will himself be sold, and all of Mr. Outland's choice cows and heifers are bred to him.

The **27.89 POUND SHOW COW, Potoki Johanna 2nd**, in calf to a 29 pound son of Prince Gelsche Walker, will be sold, and she is a beautiful cow as well as a great producer.

The **23.06 POUND SENIOR 4-YEAR-OLD, Dora Hengerveld of Sylvan Iris**, bred to a 29 pound son of Sir Chimacum Wayne, will go to the highest bidder, and she is an excellent individual.

There will be choice breeding cows, many of them fresh or heavy springers, bred heifers and unbred heifers, good clean cattle, of popular breeding.

There will be at least three young bulls in the sale that are qualified in every way to head first class registered herds.

There will be a number of highly bred bulls of type and breeding entitling them to places at the head of the best dairy herds.

Every animal tuberculin tested and sold subject to tuberculin retest, and guaranteed to be a breeder.

Catalog now in preparation. Write for one.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

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Auctioneers—Col. Ben A. Rhoades, Los Angeles; Col. Cy N. Clark, Modesto.

First Prize Get of Sire

AT SACRAMENTO

The get of Prince Riverside Walker combine show type with great production backing. The cow making the highest official yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America (and it is the world's official record for one year), is Aaggie Acme of Riverside 2nd. She is out of the same dam as our senior herd sire, **PRINCE RIVERSIDE WALKER.**

The junior three year old heifer making the highest yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America, is Miss Valley Mead De Kol Walker. She is by the same sire as our senior herd sire, **PRINCE RIVERSIDE WALKER.**

Buy your herd sire in the blood lines that are doing things **TODAY** and that will increase in value in the records they are bound to make in the **TOMORROW.** We have just a few good bull calves by **PRINCE RIVERSIDE WALKER,** out of splendid dams. They move young at our prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED.

Tulare Holstein Farm

W. J. HIGDON, Owner TULARE, CAL. H. L. REDD, Herdsman

Complete Dispersal

at private sale of the well known

Bella Vista Registered Herds

Guernsey Cattle Hampshire Swine

These herds are the result of years of careful breeding and selection and have won high honors in the show-ring and for production as well.

GUERNSEY sires used: (1) **Imported Lord Kitchener No. 11369,** many times grand champion of California, sire of Kitchener's Dainty Lass with a record of over 700 lbs. butterfat; (2) **Wanegan,** junior champion at State Fair; (3) **Glenburnie Boy,** whose dam made 13559 lbs. milk; 684.8 lbs. butterfat as a three-year-old; (4) **Sir Elsie Masher of Glenburnie.**

Among the foundation cows is **Clementine Mabel,** who made 558 lbs. butterfat at 13 years of age, and **Rancho Morning Rose,** who stood 7th in her class in the U. S.

Herd consists of 16 females, 2 herd bulls and bull calf.

HAMPSHIRES—Foundation 1911 boar and 2 gilts, won both grand championships, State Fair, 1913. Herd consists of 2 boars, 4 brood sows and young pigs.

Having sold my ranch, must dispose of the stock at once. Interested parties can see me at the ranch Thursdays and Sundays or at any other time by appointment.

J. W. HENDERSON, 1st National Bank Bldg., BERKELEY

Ranch 6 miles from Martinez on Shortline Highway to Lafayette and Oakland.

X. D. King of L.; Locke, Fox's Sunshine Valet.

Junior yearling bull: Miller, Jap's Perfection Owl; Locke, Lady Midget's Valet of L.; Hand, Blossom's Liberty Bond.

Senior bull calf: Wherrell, Golden Legacy's Champion; Miller, Pearl's Altama Underwood; Locke, V.'s Xmas D.'s D. L. King of L.; Marchus, Interested Insie's Owl; Thorp, Brighteyed Lassie's Fox.

Junior bull calf: Miller, Lorita's Majestic Noble; Conant, Lady Dolly's Gold Dust of R. S. M.; Thorp, Chappie of M.

Cow, four years or over: Thorp, Salome of Mossdale; Miller, Goldie of Venadera; Thorp, Valet's Golden Biddy of L.; Conant, Victor's Lady Dolly; Hand, Imp. Brilliant Spray.

Cow, three years and under four: Thorp, Miss Daisy of Mossdale; Thorp, Valet's Sweet Violet; Hand, Noble Jolly's Lady; Miller, Cygna of Venadera; Hayworth, Fairetta of Rico Vegas.

Cow, two years and under three: Miller, Angela of Vandera; Thorp, Nomie of Mossdale; Hand, Brilliant Jersey Queen; Williams, Alta La Fosse; Thorp, Rose of Mossdale.

Senior yearling heifer: Miller, Lucile of Venadera; Hayworth, Holly's Dot; Thorp, Daisy's Lass of M.; Thorp, Bess of Mossdale; Hayworth, Blue Belle of Rico Vegas.

Junior yearling heifer: Williams, Aleta Beau; Miller, Vega of Venadera; Laura of Rico Vegas; Miller, Cantata of Venadera; Hand, Luma's Lola.

Senior heifer calf: Wherrell, Kate of Fuinius Farms; Williams, Naoma Marie; Thorp, Fair's Salome of M.; Thorp, Bonnie of Mossdale 2nd; Miller, Eloise of Venadera.

Junior heifer calf: Wherrell, Mary of Fuinius Farms; Miller, Ada of Venadera; Thorp, Sissie of Mossdale; Briggs, unnamed; Williams, King Hanford's Anna Girl.

Aged herd: Miller, Thorp, Hayworth.

Young herd: Miller, Thorp, Williams, Hayworth.

Get of sire: Miller on Altama Interest; Thorp on Imp. King's Valet; Wherrell on You'll Do Oxford Lad; Locke on Valet's King of L.

Produce of dam: Thorp on Benedita of Venadera; Thorp on Violet of S. B.; Williams on Anna Buruer's Double; Locke on Valet's Violet of L.

Cows in milk: Thorp, Miller, Conant.

Best five cows in milk, silver cup given by California Jersey Breeders' Association, to be held permanently by the one winning it the most times in five years: Won by J. E. Thorp.

Cow having official yearly record: Miller, Goldie of Venadera.

American Jersey Cattle Club special, cow having merit record for one year: Conant, Mamie Owl, 92 per cent; Hand, Imp. Brilliant Spray, 92½ per cent; Hand, Foxhall's Sweet Blossom, 88 per cent; Miller, Goldie of Venadera, 91 per cent; Miller, Gladys of Venadera, 89 per cent; Hayworth, Fairetta of Rico Vegas, 89 per cent.

A. J. C. C. special for bull three years or over owned by exhibitor: Miller, Altama Interest; Hayworth, Lorna's Altama Interest.

A. J. C. C. special for bull two years and under three owned by exhibitor: Thorp, Jolly Senator Raleigh; Locke, Violet's King of L.

Guernseys.—Exhibitors: Calla Grove Farm, Manteca; A. B. Humphrey, Escalon; W. H. Saylor, San Francisco; L. D. Smith, Berkeley.

Grand champion bull: Humphrey, Bullion of Edgemoor. Reserve grand champion bull: Smith, Palo Boy. Grand champion cow: Humphrey, Escalon Fairy. Reserve grand champion cow, Calla Grove, Calla Grove Itchen. Senior champion bull: Humphrey, Bullion of Edgemoor. Reserve senior champion bull: Smith, Mysie's Duke of Claremont. Senior champion cow: Saylor, Imp. Queen of School Land Farm. Reserve senior champion cow: Smith, Mysie's May of Claremont. Junior champion bull: Smith, Palo Boy. Reserve junior champion bull: Smith, Mysie's Prince Claremont. Junior champion heifer: Humphrey, Escalon Fairy Reserve junior champion heifer: Calla Grove, Calla Grove Itchen.

Bull, three years or over: Humphrey, Bullion of Edgemoor; Smith, Mysie's Duke of Claremont.

Senior yearling bull: Smith, Palo Boy; Humphrey, Escalon Challenger.

Junior yearling bull: Smith, Mysie's Prince Claremont; Saylor, Moss Rose's Miron of Green Meadow.

Senior bull calf: Humphrey, Escalon Rambler; Smith, Mysie's Linden Boy; Smith, Mysie's Laddie of Claremont.

Junior bull calf: Humphrey, Escalon Conqueror; Humphrey, Escalon Goldbrick; Smith, unnamed; Smith, unnamed.

Cow, four years or over: Saylor, Imp. Queen of School Lane Farm; Smith, Lassie of Ledyard 2nd.

Cow, three years and under four: Smith, Mysie's May of Claremont.

Cow, two years and under three: Smith, Mysie's Star of Claremont; Smith, Mysie's Babe of Claremont.

Senior yearling heifer: Humphrey, Escalon Fairy; Smith, Mysie's Hope of Claremont.

Junior yearling heifer: Calla Grove, Calla Grove Itchen May; Humphrey, Escalon Mary; Smith, Lady's Letty of Claremont.

Senior heifer calf: Humphrey, Escalon Boopeep; Humphrey, Escalon Evangeline; Smith, Mysie's May of Claremont 2nd.

Junior heifer calf: Calla Grove, Calla Grove Merry May; Smith, Mysie's Poppy of Claremont; Smith, Lassie of Ledyard 32nd.

Aged herd: Smith.

Young herd: Humphrey, Smith.

Calf herd: Smith.

Get of sire: Humphrey on Bullion of Edgemoor; Smith on President Mysie.

Produce of dam: Calla Grove on Imp. Doria of Sarnia; Smith on unnamed.

Five cows in milk: Smith on Mysie's Star of Claremont.

American Guernsey Cattle Club special for best two-year-old heifer in milk, bred by exhibitor: Smith, Mysie's Star of Claremont.

A. G. C. C. special for best heifer not in milk, bred by exhibitor: Humphrey, Escalon Fairy; Calla Grove, Calla Grove Itchen May; Humphrey, Escalon Mary; Smith, Lady's Letty of Claremont.

Ayrshires.—Exhibitors: E. B. McFarland, San Mateo; J. Henry Meyer, Watsonville; Preston School of Industry, Waterman.

Grand champion bull: McFarland, Steybrae Improver. Reserve grand champion bull: McFarland, Steybrae Commander. Grand champion cow: McFarland, Willowmoor Vesta 4th. Reserve grand champion cow: Meyer, Substansial's Patrica. Senior champion bull: Meyer, Penhurst Statesman. Reserve senior champion bull: No award. Junior champion bull: McFarland, Steybrae Improver. Reserve junior champion bull: McFarland, Steybrae Commander. Senior champion cow: McFarland, Willowmoor Vesta 4th. Reserve senior champion cow: Meyer, Substansial's Patricia. Junior champion cow; McFarland, Steybrae Grace Darling. Reserve junior champion cow: McFarland, Steybrae Jeannie Dean.

Bull, two years and under three: Meyer, Penhurst Statesman.

Senior yearling bull: McFarland, Steybrae Improver; Preston, Steybrae Masterpiece.

Junior yearling bull: McFarland, Steybrae Commander; Preston, Preston Premier.

Senior bull calf: McFarland, Steybrae San Toy; McFarland, Steybrae Robins Queenhy; Meyer, Mac's Statesman of Elkhorn; Meyer, Curfew's Baron of Elkhorn; Preston, Preston Robinhood.

Junior bull calf: McFarland, Steybrae Captain; McFarland, Steybrae Challenger; Preston, Preston Ravensdale; Preston, Preston Lad.

Cow, four years or over: McFarland, Willowmoor Vesta 4th; Meyer, Highland Ithan; Meyer, Curfew Bell 3rd; McFarland, Burnside Mary 7th; Preston, Cedar Hill Lady May.

Cow, three years and under four: Meyer, Substansial's Patricia; Meyer, Willowmoor Fairy; Preston, Cedar Hill Mayflower; Preston, Cedar Hill Dandy; McFarland, Muna Rosewood.

Cow, two years and under three: Meyer, Torr of Elkhorn; McFarland, Lady Stair of Steybrae; McFarland, Caroline of Steybrae; Preston, Cedar Hill Pansy.

Senior yearling heifer: McFarland, Steybrae Grace Darling; McFarland, Steybrae Jeannie Deans; Meyer, Willowmoor Jean 7th; Preston, Cedar Hill Jean 2nd.

Junior yearling heifer: Meyer, Baron's Blue Bell; McFarland, Steybrae White Queen; McFarland, Steybrae Peggoty; Meyer, Robin's Lucy of Elkhorn.

Senior heifer calf: Meyer, Baron's Snow Maid of Elkhorn; Meyer, Baron's Bright Eyes of Elkhorn; Preston, May Preston; McFarland, Steybrae Kivety; Preston, Preston Dewdrop 2nd

Junior heifer calf: McFarland, Steybrae Noma; Preston, Preston Princess; McFarland, Steybrae Cherry; Preston, Preston Nellie Osborn.

Aged herd: Meyer.

Breeder's young herd: McFarland.

Calf herd: McFarland.

Get of sire: McFarland on Willowmoor Robin Hood 32nd; Meyer on Baron's Best of Bargenock imp.; Preston on Willowmoor Robin Hood 32nd.

Produce of dam: McFarland on Willowmoor Jane Douglas; Preston on Cedar Hill Nellie Osborne.

Five cows in milk: Preston.

Dutch Belted.—Exhibitors: Mrs. Jennie Strader, Ceres; U. G. Strader, Stanislaus county.

No awards made in several sections. Those made as follows:

Grand champion bull: Strader, Thanksgiving Joe. Grand champion cow: Strader, Rose of Ceres. Reserve grand champion cow: Mrs. Strader, Mary Pickford. Junior champion bull: Strader, Thanksgiving Joe. Senior champion cow: Strader, Rose of Ceres. Reserve senior champion cow: Mrs. Strader, Mary Pickford. Junior champion cow: Strader, Vina's Wonder Maid. Reserve junior champion cow: Mrs. Strader, Hazel's Irene.

Bull, three years or over: No first; Mrs. Strader, Hepsey's Hummer.

Bull, two years and under three: No first; Strader, unnamed; Mrs. Strader, Billy Brice.

Senior yearling bull: No first; Mrs. Strader, Spicy Boy; Strader, Daisy's Imp.

Junior yearling bull: No first; Strader, General Foch.

Senior bull calf: Strader, Thanksgiving Joe; Mrs. Strader, General Pershing.

Junior bull calf: No first; Mrs. Strader, Engineer's Chief; Strader, Captain Sly.

Cow, four years or over: Strader, Rose of Ceres; Mrs. Strader, Transit Girl.

Cow, two years and under three: Mrs. Strader, Mary Pickford; Strader, Cammelia; Strader, Christiana Ione; Mrs. Strader, Sybil's Beauty.

Senior yearling heifer: Strader, Vina's Wonder Maid; Mrs. Strader, Hazel's Irene.

Juinor yearling heifer: Strader, Min-

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The dairyman's big problem today is the problem of labor. Good hands are scarce and wages high. Louden Barn Equipment solves the problem. It means

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One man on a Louden-equipped dairy ranch can do the work of two or three on a ranch with old-style equipment. Besides, the cows are healthier, more contented, and **MORE PRODUCTIVE.**

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THE BULLARD TYPE
Rambouillet Sheep
Again Awarded All Prizes at the 1918 State Fair

A Bullard Yearling Ram that sold for $1000 at the Salt Lake Ram Sale.

A pen of Bullard Range Rams brought the highest price ever paid in America. We purchased a ram for $3,000 conceded by Prof. Coffey to be the best Rambouillet in the United States, for use in our flocks.

The Bullard kind are the kind to own. They produce wool and mutton at the lowest cost.

Single Animals or Carload Lots.

BULLARD BROS. **Woodland, Cal.**

Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.
Individuals or Carload Lots.

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These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.
Prices reasonable. **Correspondence solicited.**

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FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena

nie's Jewel; Mrs. Strader, Angie's Sunbeam.

Senior heifer calf: Strader, Gee-Gee; Mrs. Strader, Elaine's Final.

Junior heifer calf: No first; Mrs. Strader, Lady Alta; Strader, Gloria.

Aged herd: Strader, Mrs. Strader.

Young herd: Strader, Mrs. Strader.

Calf herd: Mrs. Strader.

Get of sire: Strader on Imperator; Mrs. Strader on Hepsey's Hummer.

Produce of dam: Strader on Vina Newton; Mrs. Strader on Princess Elaine.

Dairy Shorthorns.—Exhibitors: Alexander & Kellogg, Suisun; G. A. Murphy, Perkins.

Grand champion bull: A. & K., Glenside Royal. Reserve: A. & K., Westward Ho. Grand champion cow: A. & K., Bellvue Daisy. Reserve: A. & K., Rose of Fairfield 3rd. Senior champion bull: A. & K., Glenside Royal. Reserve: Murphy, Sunnyside Chief. Senior champion cow: A. & K., Bellvue Daisy. Reserve: A. & K., Princess Clay. Junior champion bull: A. & K., Westward Ho. Reserve: A. & K., Red Rover. Junior champion heifer, A. & K., Rose of Fairfield. Reserve: A. & K., Annabel.

Bull, three years or over: A. & K., Glenside Royal.

Bull, two years and under three: Murphy, Sunnyside Chief.

Senior yearling bull: A. & K., Westward Ho.

Junior yearling bull: Murphy, Frantic Ring.

Senior bull calf: Murphy, Frantic Chief; A. & K., Viscount Charles.

Junior bull calf: A. & K., Red Rover; A. & K., Count Heggie; Murphy, unnamed.

Cow, four years or over: A. & K., Bellvue Daisy; A. & K., Princess Clay; A. & K., Gipsy's Maid; Murphy, California Beauty.

Cow, three years and under four: A. & K., Caperby Daisy Maid 2nd; Murphy, Newark Frantic.

Cow, two years and under three: A. & K., Solano Fillpail; Murphy, Laurel Frantic 43rd; Murphy, Sunnyside Molly; Murphy, Sunnyside Mary.

Senior yearling heifer: A. & K., Island Buttercup; A. & K., Valley Belle 5th.

Senior heifer calf: A. & K., Rose Fairfield 3rd; A. & K., Annabel; Murphy, Sunnyside Helen.

Junior heifer calf: A. & K., Bessbrough Lassie; A. & K., Marsh Fern.

Aged herd: A. & K.

Young herd: A. & K.

Calf herd: A. & K.

Get of sire: Murphy on Glenside Royal; A. & K. on Kelmscott Viscount 19th.

Produce of dam: A. & K. on Valley Belle 4th; Murphy on Greenwood Mary.

Five cows in milk: A. & K.

BEEF CATTLE.

Shorthorns.—Exhibitors: W. M. Carruthers, Live Oak; T. S. Glide, Davis; Hopland Stock Farm, Hopland; Pacheco Cattle Co., Hollister; Roselawn Stock Farm, Woodland.

Grand champion bull: Carruthers, Count Glory. Reserve grand champion bull: Roselawn, Roselawn Champion. Grand champion cow: Roselawn, Mischief E. 3rd. Reserve grand champion cow: Pacheco, Pacheco Lass 118th. Senior champion bull: Carruthers, Count Glory. Reserve senior champion bull: Carruthers, Hallwood Villager. Senior champion cow: Roselawn, Mischief E. 3rd. Reserve senior champion cow: Pacheco, Pacheco Lass 103rd. Junior champion bull: Roselawn, Roselawn Champion. Reserve junior champion bull: Pacheco, Pacheco Marshall. Junior champion heifer: Pacheco, Pacheco Lass 118th. Reserve junior champion heifer: Glide, Kings Countess.

Bull, three years or over: Carruthers, Count Glory.

Bull, two years and under three: Carruthers, Hallwood Villager; Hopland, Hopland Lord; Pacheco, Pacheco Lad 92nd.

Junior yearling bull: Pacheco, Pacheco Marshall; Glide, September Knight; Hopland, Hopland Cumberland; Pacheco, Pacheco Lad 109th; Glide, Kings Knight.

Senior bull calf: Roselawn, Roselawn Champion; Pacheco, Pacheco Dale; Roselawn, Roselawn Diamond; Carruthers, Live Oak Flash; Carruthers, Live Oak Flash 2nd.

Junior bull calf: Pacheco, Pacheco Lad 145th; Carruthers, Live Oak Glory.

Cow, three years or over: Roselawn, Mischief E. 3rd.

Cow, two years and under three: Pacheco, Pacheco Lass 103rd; Glide, Spicy Lady; Carruthers, Broadhooks Sultan; Roselawn, Roan Dutchess.

Senior yearling heifer: Carruthers, Lady Roberta; Pacheco, Pacheco Lass 108th; Pacheco, Pacheco 111th; Carruthers, Mayfield Ury; Glide, Cheerful Maid 3rd.

Junior yearling heifer: Pacheco, Pacheco Lass 118th; Roselawn, Roselawn Blossom; Glide, Mysie's Rose; Glide, Little Sweetheart; Carruthers, Mayfield Hurst 2nd.

Senior heifer calf: Glide, Kings Countess; Roselawn, Lovely's Pride 3rd; Glide, Cheerful Maid 4th; Hopland, Jane 2nd; Hopland, Hopland Golden.

Junior heifer calf: Pacheco, Pacheco Lass 141st; Glide, Village Lassie; Roselawn, Roan Belle; Hopland, Hopland Dixie; Carruthers, Crimson Flower.

Aged herd: Pacheco, Carruthers.

Young herd: Pacheco, Glide, Roselawn, Carruthers.

Calf herd: Glide, Pacheco, Roselawn, Hopland, Carruthers.

Get of sire: Pacheco on True Dale; Glide on Knight Perfection; Pacheco on True Dale; Roselawn on Gibson Goods; Carruthers on Hallwood Flash.

Produce of dam: Pacheco on Pearl Thomas; Glide on Cheerful 9th; Glide on Kings Lassie; Pacheco on Gondomar's Princess; Pacheco on Pacheco Lass 40th.

Herefords.—Exhibitors: J. A. Bunting, Mission San Jose; J. H. Cazier & Sons Co., Wells, Nev.; W. H. Duke, Likely; E. M. Simpson, Hood; University of Nevada, Reno, Nev.

Grand champion bull: Bunting, California Prime Donald. Reserve grand champion bull: Cazier, Nevada Lad 8th. Grand champion cow: Bunting, Miss Betty. Reserve grand champion cow: Bunting, Baby Bunting. Senior champion bull: No award. Senior champion cow: Bunting, Baby Bunting. Reserve senior champion cow: U. of N., Ramona. Junior champion bull: Bunting, California Prime Donald. Reserve junior champion bull: Cazier, Nevada Lad. Junior champion heifer: Bunting, Miss Betty. Reserve junior champion heifer: Cazier, Isis.

Bull, two years and under three: Simpson, Beau Randolph.

Junior yearling bull: Bunting, California Prime Donald; Cazier, Standard Boy; Duke, Alamo Reuben.

Senior bull calf: Cazier, Nevada Lad 8th; Bunting, Alec; U. of N., Beau Del Sierra 4th; Bunting, Anxiety.

Junior bull calf: Cazier, Nevada Lad; Bunting, Mission Lad.

Cow, three years or over: U. of N., Ramona.

Cow, two years and under three: Bunting, Baby Bunting; Simpson, Madame Juanita; Simpson, Spring Maid.

Senior yearling heifer: Bunting, Grace Bunting; U. of N., Nevada Cazier; Simpson, Alice.

Junior yearling heifer: Bunting, Miss Betty; Cazier, Standard Eyes; Bunting, Alyandia; U. of N., Martha Christian; Cazier, Hebe 2nd.

Senior heifer calf: Cazier, Isis; Cazier, Venetia 2nd.

Junior heifer calf: Cazier, Standard Eyes 2nd; Bunting, Standard Girl.

Breeders' young herd: Cazier.

Calf herd: Cazier.

Get of sire: Cazier on Harris Standard 2nd.

Produce of dam: Bunting on Anxiety Clarice; Cazier on Wildeyes 5th.

Aberdeen-Angus.—Congdon & Battles, Yakima, Wash., only exhibitors. Received all awards.

SWINE.

Berkshires.—Exhibitors: Frank B. Anderson, Sacramento; Frank A. Brush, Santa Rosa; W. M. Carruthers, Live Oak; Castleview Ranch (J. Francis O'Connor), Santa Rosa; Homer Hewins, Calistoga; Elizabeth M. Holje, Calistoga; A. B. Humphrey, Escalon; Miller & Lux, Dos Palos; James Mills Orchard Corporation, Hamilton; H. L. & E. H. Murphy, Perkins; W. J. Sandercock, San Francisco; Joseph Wilson, Yerington, Nev.

Grand champion boar: Mills, Ames Rival 70th. Reserve grand champion boar: Carruthers, Live Oak Champion. Grand champion sow: Mills, Forest Grove Laurel 8th. Reserve grand champion sow, Humphrey, Grape Wild Rose. Senior champion boar: Mills, Ames Rival 70th. Reserve senior champion boar: Carruthers, Live Oak Champion. Senior champion sow: Mills, Forest Grove Laurel 8th. Reserve senior champion sow: Humphrey, Grape Wild Rose. Junior champion boar: Holje, Maplewood Royal Prince 3rd. Reserve junior champion: Humphrey, unnamed. Junior champion sow: Humphrey, Escalon Blue Bell. Reserve junior champion sow: Humphrey, unnamed.

Boar, two years or over: Mills, Ames Rival 70th; Wilson, Robinhood Laurel 10th; Holje, Winona Royal Champion 5th; Mills, Winona Compton Champion 8th; Sandercock, Winona Lee Champion VI.

Senior yearling boar: Carruthers, Live Oak Champion; Brush, Rincon's Rival 2nd; Humphrey, G. W. F. Leader; Brush, Rival's Rookwood; Holje, Maplewood Leader.

Junior yearling boar: Brush, Rincon's Leader; Humphrey, Grape Wild Emblem; Murphy, Wilsonia King Laurel; Hewins, Supremoh; Anderson, Columbia Leader.

Senior boar pig: Holje, Maplewood Royal Prince 3rd; Carruthers, Brighton Farm Rival; Hewins, Romford Standard; O'Connor, Rookwood Superb; Humphrey, Grape Wild Royal.

Junior boar pig: Humphrey, unnamed; Mills, unnamed; Wilson, unnamed; Wilson, unnamed; Brush, unnamed.

Sow, two years or over: Mills, Forest Grove Laurel 8th; Humphrey, Leader's Invincibella; Humphrey, Grand Lady Mayhews; Mills, Forest Grove Dutchess 9th; Holje, Leader's Artful Belle 3rd.

Senior yearling sow: Humphrey, Grape Wild Rose; Brush, Mayfield Laurel 15th; Brush, Rival's Lady Lee 42nd.

Junior yearling sow: Carruthers, Live Oak Laurel; Humphrey, Escalon Emblem Belle; Sandercock, Patricia L.; Humphrey, Escalon Peggy; Sandercock, Patricia L. 2nd.

Senior sow pig: Humphrey, Escalon Blue Belle; Humphrey, Royal Polly 2nd; Carruthers, Live Oak Belle; Brush, Rookwood Lady Double; Brush, Rookwood Lady Double 2nd.

Junior sow pig: Humphrey, Humphrey, Brush, Wilson, Wilson—all on unnamed pigs.

Herd, over one year: Mills, Humphrey, Brush.

Herd, under one year: Humphrey, Carruthers, Brush.

Herd, bred by exhibitor: Carruthers, Brush, Humphrey.

Get of sire: Humphrey on Grand Leader 2nd; Carruthers on Ames Rival 100th; Humphrey on Royal Superbus.

Produce of dam: Humphrey on Riverview Rose 3rd; Humphrey on Escalon Bourbon Belle 2nd; Wilson on Silberfa Birch 6th.

Fat barrows: Humphrey, Brush, Brush.

Pen of barrows: Brush, Humphrey.

Western Berkshire Association specials: Boar, any age, bred by exhibitor: Carruthers, Live Oak Champion; Brush, Rincon's Leader; Humphrey, unnamed; Wilson, unnamed.

New exhibitor winning largest amount of premiums in regular classes: Wilson, Holje, Sandercock, Hewins.

Duroc-Jerseys.—Exhibitors: L. J. Belknap, San Jose; W. V. Bennett, Nord; J. A. Borge, Los Banos; C. D. Bright, Glenn; J. M. De Vilbiss, Patterson; Leslie Dixson, Hughson; V. F. Dolcini, Davis; F. W. Gardiner, Sacramento; C. R. Hedges & J. H. McMartin, Glenn; W. F. Hollingshead & Son, Orland; F. M. Johnson, Napa; Elmer Lamb, Ceres; Wm. H. Manis, Willows; J. H. Minto, Patterson; Perkins & Co., Sacramento; Maurice Rucker, Sacramento; Chester W. Scott, Glenn; C. M. Smith, Willows; H. P. Slocum, Willows; J. E. Thorp, Lockeford; E. J. Weldon, Sacramento; R. J. Wickham, Eldridge; Conejo Ranch, Newbury Park; A. Pontius, East Nicolas.

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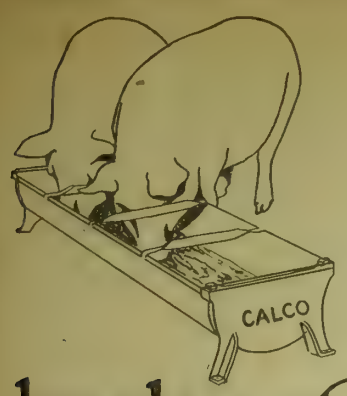

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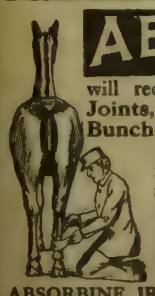

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Boar, two years or over: Conejo, Councillor; Slocum, Uneeda Wonder; Pontius, Orion Professor; Pontius, Wavie Professor; Gardiner, Tommy Tucker.

Senior yearling boar: Conejo, Pathfinder's Pride; Thorp, Brookwater Regulator.

Junior yearling boar: Conejo, California's Great Wonder; Johnson, California's Orion King; Dolcini, W. B.'s Model 1st; Slocum, Uneeda Model Col.; Scott, Uneeda Golden Wonder 1st.

Senior boar pig: Slocum, Uneeda Model Col. 3rd; Conejo, Model Lass; Lamb, Tip Top Cherry; Conejo, Duroc Model; Conejo, Red Light.

Junior boar pig: Dolcini, June Acres Crimson Col.; Dolcini, June Acres Crimson Model; Thorp, Freddie You'll Do; Slocum, unnamed; Johnson, Johnson's Defender, Jr.

Sow, two years or over: Conejo, Enchantress; Minto, Dev's Crimson 3rd; Hedges & McMartin, Model Lady 2nd; Slocum, Model Lena; Conejo, Arabella.

Senior yearling sow: Conejo, Model Lady; Slocum, Uneeda Colonette Again; Conejo, Western Lady; Conejo, Western Princess; De Vilbiss, Rucker's Effort.

Junior yearling sow: Slocum, Uneeda Queen Model; Conejo, Critic Rose; Thorp, Delight of Mossdale; Dolcini, Model Queen 1st; Conejo, Sunshine Girl.

Senior sow pig: De Vilbiss, Mary Jane Pathfinder; Conejo, Model's Bess; Lamb, Eleanor's Model; Lamb, Model Elizabeth Bettie; Lamb, Model Helen of Ceres.

Junior sow pig: Thorp, Miss You'll Do; Dolcini, Miss June Acres Model; Slocum, Uneeda H. A. Queen 1st; Scott, Uneeda Daisy; Weldon, Real Orion Lady.

Herd, over one year: Conejo, Dolcini, Slocum.

Herd, under one year: Slocum, Dolcini, Thorp.

Herd, bred by exhibitor: Dolcini, Slocum, Thorp.

Get of sire: Conejo on Golden Model 31st; Conejo on Critic D.; Slocum on King's Col.

Produce of dam: Slocum on Model Lady; Dolcini on H. S. Crimson 4th; Thorp on Brookwater Lass 2nd.

Fat barrows: Thorp, Slocum, Slocum.

Pen of barrows: Slocum.

Futurity, junior boar pig: Dolcini, June Acres Crimson Col.; Dolcini, June Acres Crimson Model; Thorp, Freddie You'll Do; Slocum, unnamed; Johnson, Johnson's Defender, Jr.; Johnson, Cherry Lady's Defender; Manis, Aneeda Elberta Wonder 2nd; Thorp, Mr. You'll Do.

Futurity, junior sow pig: Thorp, Miss You'll Do; Dolcini, Miss June Acres Model; Slocum, Uneeda H. A. Queen 1st; Scott, Uneeda Daisy; Weldon, Real Orion Lady; Bright, Belle's Golden Model; Slocum, Uneeda Queen of Orion; Scott, Uneeda Lady.

Futurity herd: Dolcini, Thorp, Dolcini, Dolcini, Bright, Scott, Johnson, Dolcini.

Poland-Chinas.—Exhibitors: A. L. Bassett, Hanford; M. Bassett, Hanford; Geo. V. Beckman, Lodi; Clara H. Bernstein, Hanford; John M. Bernstein, Hanford; J. H. Cook, Paradise; Dimmick Bros., Lemoore; Gatewood & Son, Fresno; W. L. Haag & Son, Hanford; J. H. Hansbrough, Modesto; R. W. Jickling, Elmira; J. F. Lehman, Lodi; H. I. Marsh, Modesto; J. W. Wakefield, Acampo; Young & Clark, Lodi; Eugene Miner, Lodi.

Grand champion boar: Gatewood, Kings Big Bone Leader. Reserve grand champion boar: Marsh, I B A Wonder. Grand champion sow: Young & Clark, Smooth Beauty. Reserve grand champion sow: Marsh, Big Knox Girl. Senior champion boar: Gatewood, Kings Big Bone Leader. Reserve senior champion boar: Marsh, I B A Wonder. Senior champion sow: Young & Clark, Smooth Beauty. Reserve senior champion sow: Marsh, Big Knox Girl. Junior champion boar: Young & Clark, Long Big Bone, Jr. Reserve junior champion boar: A. L. Bassett, Big Model Fellow. Junior champion sow: Young & Clark, Black Beauty V. Reserve junior champion sow: A. L. Bassett, Big Model Maid.

Boar, two years or over: Marsh, I B A Wonder; M. Bassett, Orange King; Jickling, Bob Price; Miner, Ursus, Jr.

Senior yearling boar: Young & Clark, Big Bone Bob; Dimmick, Model Wonder.

Junior yearling boar: Gatewood, Kings Big Bone Leader; Hansbrough, Glen Chief, Jr.; Haag, Young Jumbo; Young & Clark, Golden State King; Beckman, Matchless Big Bob of U. F.

Senior boar pig: A. L. Bassett, Big Model Fellow; Marsh, Big Major; Cook, Forest View Bob; M. Bassett, Big Bone Model; Clara Bernstein, Hadley's Major.

Junior boar pig: Young & Clark, Long Big Bone, Jr.; M. Bassett, Bonito Model; M. Bassett, Model Fellow, Jr.; Hansbrough, unnamed; Lehman, I Am Bob.

Sow, two years or over: Marsh, Big Knox Girl; Marsh, King Wonder's Giantess; Dimmick, Stella Hunter; Cook, Queenie Big Bone, Haag, Lora B.

Senior yearling sow: Miner, Mollie Giantess; M. Bassett, Cali Belle; A. L. Bassett, Long Model; Marsh, Model Daughter; Marsh, Model Lady.

Junior yearling sow: Young & Clark, Smooth Beauty; Young & Clark, Timm's Wonder Maid; Marsh, Wonder's Giantess; M. Bassett, Lady Longfellow; M. Bassett, Model Picture.

Senior sow pig: A. L. Bassett, Big Model Maid; M. Bassett, Big Model Lady; Cook, Forest View Bess; Cook, Forest View Queen; Marsh, Major's Beauty

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Junior sow pig: Young & Clark, Black Beauty V; Lehman, Bobetta; Cook, Forest View Anna; Hansbrough, unnamed; Bernstein, Carrie Hadley.

Herd, over one year: Marsh, M. Bassett, Haag.

Herd, under one year: A. L. Bassett, Marsh, A. L. Bassett.

Herd, bred by exhibitor: A. L. Bassett, Marsh, Beckman.

Get of sire: M. Bassett on Model Fellow; Marsh on I B A Wonder; Young & Clark on Big Bone Bob.

Produce of dam: A. L. Bassett on Morning Glory; Young & Clark on Margaret Pandora Wonder; Lehman on Lady Price XII.

Fat barrows: All three awards to Miller & Lux.

Pen of barrows: One award to Miller & Lux.

Futurity, senior boar pig: A. L. Bassett, Big Model Fellow; Marsh, Big Major; M. Bassett, Big Bone Model; Clara Bernstein, Hadley's Major; Clara Bernstein, Hadley's Duke; Young & Clark, Major Price.

Futurity, junior boar pig: Young & Clark, Long Big Bone, Jr.; M. Bassett, Bonito Model; M. Bassett, Model Fellow, Jr.; Lehman, I Am Bob; A. L. Bassett, California Model; Young & Clark, Long Big Bob; Young & Clark, Young's Big Bone; M. Bassett, Model Boy.

Futurity, senior sow pig: A. L. Bassett, Big Model Maid; M. Bassett, Big Model Lady; Marsh, Major's Beauty; M. Bassett, Model Giantess; Bernstein, Maid's Beauty; A. L. Bassett, Model Maid.

Futurity, junior sow pig: Lehman, Bobetta; Cook, Forest View Anna; Bernstein, Carrie Hadley.

Futurity litter: Young & Clark, Lehman, A. L. Bassett, M. Bassett, Beckman, Marsh, Bernstein, Miner.

Chester Whites.—Exhibitors: Hiram Hendern, Fair Oaks; Highland Stock Farm, Fair Oaks; N. H. Locke, Lockeford; Mrs. L. M. Yore, East Auburn.

Grand champion boar: Highland, Highlander. Reserve grand champion boar: Yore, Forest Prince. Grand champion sow: Hendern, Wonder Bernice. Reserve grand champion sow: Hendern, unnamed. Senior champion boar: Highland, Highlander. No reserve senior champion. Senior champion sow: Hendern, Wonder Bernice. Reserve senior champion sow: Yore, Ester. Junior champion boar: Yore, Forest Prince. Reserve junior champion sow: Hendern, unnamed. Junior champion sow: Hendern, unnamed. Reserve junior champion sow: Yore, Myra 2nd.

Boar, two years or over: Locke, Lockeford Prince.

Junior yearling boar: Highland, Highlander.

Senior boar pig: Yore, Forest Prince.

Junior boar pig: Hendern, unnamed; Hendern, unnamed; Yore, Ursa.

Sow, two years or over: Yore, Ester; Highland, Gem Topsy 2nd.

Senior yearling sow: Hendern, Wonder Bernice.

Senior sow pig: Yore, Myra 2nd.

Junior sow pig: Hendern, unnamed; Yore, Mollie O; Yore, Colleen Bawn; Yore, Crystal; Highland, unnamed.

Herd, under one year: Yore.

Herd, bred by exhibitor: Yore.

Get of sire: Hendern on Royal Billiken; Yore on Teddy.

Produce of dam: Hendern on Wonder Bernice; Yore on Chester White Special; Yore on Ester.

Mule Foots.—All awards to H. T. Bailey, San Jose.

Hampshires.—Exhibitors: Conejo Ranch, Newberry Park; Roy Dawson, Gardena; L. A. Denker, Saugus.

Grand champion boar: Denker, Direct Junior. Reserve grand champion boar: Dawson, Oro. Grand champion sow: Conejo, Perfect Quality. Reserve grand champion sow: Conejo, Chief's Wave. Senior champion boar: Dawson, Oro. Reserve senior champion boar: Conejo, Duke's Allen. Senior champion sow: Conejo, Perfect Quality. Reserve senior champion sow: Denker, Little Mesa. Junior champion boar: Denker, Direct Junior. Reserve junior champion boar: Conejo, Leading Chief. Junior champion sow: Conejo, Chief's Wave 3rd. Reserve junior champion sow: Denker, Do-Do.

Boar, two years or over: Dawson, Oro; Conejo, Conejo Chief.

Senior yearling boar: Conejo, Duke's Allen.

Junior yearling boar: Denker, Maloy's Controller; Conejo, Authority; Denker, Zodiac Wonder.

Senior boar pig: Conejo, Leading Chief; Denker, Direct Kid.

Junior boar pig: Denker, Direct Junior; Denker, Tip Top; Dawson, Amboy; Conejo, Gay Allen; Denker, Malloy's Pride.

Sow, two years or over: All five awards to Conejo on Mary Pickford, Leading Wave 2nd, Leading Wave 3rd, Leading Wave, and Elmyra 2nd.

Senior yearling sow: All three awards to Conejo on Perfect Quality, Wavelet and Wavelet 2nd.

Junior yearling sow: Denker, Little Mesa; Conejo, Senorita; Conejo, Patt's Delight; Conejo, May Queen; Conejo, Superba.

Senior sow pig: Conejo, Chief's Wave 3rd; Conejo, Chief's Wave 2nd; Denker, Dearie; Conejo, Chief's Wave.

Junior sow pig: Denker, Do-Do; Denker, Spirea; Denker, Menomie; Conejo, Allen's Idol; Denker, Boquet.

Aged herd: Conejo, Denker, Conejo.

Young herd: Denker, Conejo, Dawson.

Herd, bred by exhibitor: Conejo, Denker, Conejo.

Get of sire: Conejo on Conejo Chief; Denker on Director; Denker on Director; Conejo on Patt's Controller.

Produce of dam: Denker on Japonica; Conejo on Blue Grass Queen; Conejo on Leading Wave 4th.

Fat barrows: Conejo, Denker, Denker.

Pen of barrows: Denker, Conejo.

SHEEP.

Rambouillets.—All awards to Bullard Bros., Woodland.

Corriedales.—All awards to University of Nevada, Reno, Nev.

Shropshires.—All awards to Bishop Bros., San Ramon.

Hampshires.—All awards to Calla Grove Farm, Manteca.

Dorset Horns.—All awards to John E. Marble, South Pasadena.

Romneys.—All awards to John E. Marble, South Pasadena.

Merino Type Range Sheep.—All awards to Bullard Bros., Woodland.

Middle Wool Type Range Sheep.—All awards to Bishop Bros., San Ramon.

DRAFT STOCK.

Percherons.—Exhibitors: L. A. Hall, San Jose; H. G. Learned, Stockton; N. W. Thompson, Patterson; M. Bassett, Hanford; Dixon Percheron Horse Co., Dixon; Ruby & Bowers, Davis; James Marwick, Mesa Sarita Ranch, Santa Barbara.

Champion stallion: Bassett, Ithas. Champion mare: Marwick, Marie.

Stallion, four years or over: Bassett, Ithas; Ruby & Bowers, Prince; Learned, Bay Boy.

Stallion, three years and under four: Ruby & Bowers, Big Boy; Ruby & Bowers, Ball.

Stallion, two years and under three: Marwick, Major; Bassett, Hanford; Bassett, Kingston.

Mare, four years or over, with foal at feet: Ruby & Bowers, Mt. Rose and Lady of Yolo.

Mare, four years or over: Marwick, Marie; Marwick, Fredora; Marwick, Liquidatrice.

Mare, three years and under four: Ruby & Bowers, Flora; Learned, Black Bess.

Mare, two years and under three: Learned, Black Beauty.

Mare, one year and under two: Learned, Annette.

Stallion or filly, under one year: Ruby & Bowers, Lady of Yolo.

State classes, same awards as above.

Belgians.—Exhibitors: C. W. Bowers, Davis; C. W. Christensen, Danville; N. W. Thompson, Patterson.

Champion stallion: Bowers, Stevenot. Champion mare, Bowers, Raby.

Stallion, four years or over: Bowers, Stevenot; Christensen, Ardent.

Stallion, three years and under four: Bowers, Brussell.

Mare, four years or over, foal at feet: Bowers, Raby and Liberty.

Mare, four years or over: Bowers, Judith; Bowers, Christabel.

Stallion or filly foal, under one year: Bowers, Liberty.

Produce of dam: Bowers on Raby.

State classes, same awards as above.

Shires:—Exhibitors: A. E. Graham, Montague; Ruby & Bowers, Davis.

Champion stallion: Ruby & Bowers, Montezuma Chief.

Stallion, four years or over: Graham, Catterall Harrold; Ruby & Bowers, Searchlight King.

Stallion, three years and under four: Ruby & Bowers, Montezuma Chief; Ruby & Bowers, Salvador Ringmaster.

Special award of Shire Horse Society of London, England for best registered Shire stallion: Ruby & Bowers, Montezuma Chief.

State classes, same awards as above.

Clydesdales.—Exhibitors: O. H. Brandt, Shellville; E. M. Simpson, Hood.

Champion stallion: Brandt, Merbra. Champion mare: Simpson, Jasamine.

Stallion, three years and under four: Brandt, Merbra.

Mare, four years or over, foal at feet: Brandt, Jean Morrison and foal.

Mare, four years or over: Simpson, Jasamine; Brandt, Victoria; Simpson, Colantha.

Mare, three years and under four: Brandt, Cricket.

Mare, one year and under two: Brandt, Jessica Derby.

Mare, under one year: Annette Morrison.

Mare, under one year: Annette Morrison.

State classes, same awards as above.

Grades and Crosses.—Exhibitors: M. Bassett, Hanford; Ruby & Bowers, Davis.

Gelding, four years or over: Ruby & Bowers, Prince.

Mare, four years or over: Ruby & Bowers, Bess; Bassett, Hattie; Ruby & Bowers, Daisy.

Mare, three years and under four: Bassett, Beauty; Ruby & Bowers, Belle; Bassett, Hugo.

Mare, two years and under three: Bassett, Dolly.

Stallion or filly, under one year: Bassett, Pet.

Jack Stock. Exhibitors: Thomas Curry, Ruth, King & Ruth, Ruby & Bowers, J. P. Yost.

Champion jack: Thos. Curry, Napoleon, Jr. Champion jennet: J. P. Yost, Califa.

Jack, four years or over: Thos. Curry, Napoleon, Jr.; Ruth, King & Ruth, Crackeriack; Ruby & Bowers, Hobo.

Jack, three years and under four: Ruby & Bowers, Sacramento.

Jack, two years and under three: Ruby & Bowers, Oakland.

Jennet, four years or over, foal at feet: J. P. Yost, Califa.

Jennet, three years and under four: Yost, Mary.

Jennet, two years and under three: Yost, Maud.

JERSEYS The PROFIT BREED

The pump has been blamed for much watered milk that really came from poor cows. Why waste feed on cows that skim their own milk when Jerseys will produce the highest percentage of butter fat at the lowest feed cost. **Raise the standard of your herd to the highest degree with Jerseys.** The man who begins with one Jersey is never satisfied until he has a herd. He can see the profit without close figuring. Start now. Write to Breeders for pedigrees and prices. Let us send you the Jersey facts that will open your eyes to the possibilities of this money-making breed.

THE AMERICAN JERSEY CATTLE CLUB, 388 West 23rd St., N. Y. City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited

A. A. JENKINS, R. D. 1, Tulare, Cal.

VENADERA HERD REG. JERSEYS

Herd headed by **Altama Interest, Grand Champion, 1918 State Fair.** Awarded two other championships and 10 firsts, including Aged Herd, Breeders' Young Herd, and get of sire.

Young bulls for sale from dams and granddams in Register of Merit.

GUY H. MILLER, MODESTO, CAL.

RANCHO SANTA MARGARITA

D. F. CONANT, PROP., MODESTO, CAL.

Register of

MERIT JERSEYS

A limited number of bulls for sale.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit cows. Write for information.

W. J. HACKETT, Ceres, California.

N. H. LOCKE CO.

Lockeford, Cal.

Choice young bulls of King's Valet Blood, backed by Records.

Call at the ranch and make selection.

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing.

Holstein Heifers

Buyers who want choice registered Holstein heifers should not fail to investigate the offering that will be made when we disperse the W. H. Ginn & Son herd at

CORCORAN, CALIFORNIA
Thursday, Oct. 10, 1918

Ginn & Son spared no expense when they bought their foundation stock, choosing big, straight breeding animals of high class breeding, and the herd has constantly been improved through the use of well chosen sires. There are few herds of equal size that can show as desirable a lot of heifers as will be found in this sale. Among them are

24 DAUGHTERS OF MERCY SIR PONDYKE, who is by one of the best sons of King of the Pontiacs and out of a 23.39 pound dam.

25 DAUGHTERS OF ARALIA DE KOL PONTIAC SALAMBO, who is by a son of the former world's record cow, Aralia De Kol, and out of a daughter of King Mead of Riverside that recently finished a year with 22097.8 lbs. milk and 950 lbs. butter. The three nearest dams of this bull average over 30 lbs. butter in 7 days and over 1000 lbs. in one year.

A Large Number of

Fresh Cows and Heavy Springers

are in this sale, and 34 cows and heifers are bred to Aralia De Kol Pontiac Salambo, mentioned above, and he himself will be sold.

A TOTAL OF 90 HEAD constitutes this offering, every animal guaranteed to be a breeder, tuberculin tested and sold subject to tuberculin retest unless otherwise stated at time of sale.

Catalog in preparation. Write for one.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

SACRAMENTO CALIFORNIA

Auctioneer—Col. Ben A. Rhoades, Los Angeles.

TYPEY SON OF MODEL FRANCIS GLISTA 173142

from a Daughter of Prince Riverside Walker.

The A. R. O. records of Model Francis Glista's dam, granddam and of his sire's dam and granddam average 30.70 pounds in seven days. His first seven dams average 4.25% fat. The calf's dam made a high record under unfavorable conditions. This and other young stock for sale.

C. C. SLATER Pacheco, Contra Costa County

WANTED

Experienced foreman for 180-acre orchard, San Joaquin county. Must understand pump irrigation. Wife to board men. Modern house.

Room 407 519 California St.

SAN FRANCISCO.

CALVES

RAISE THEM WITHOUT MILK ON BLATCHFORD'S CALF MEAL

Write for free particulars

COULSON POULTRY & STOCK FOOD CO

PETALUMA, CALIFORNIA

Jennett, one year and under two: Yost, Real Lady.
Jack of jennet foal, under one year: Yost, Hope Deferred.
Four breeding animals under four years, get of same jack: Yost on Pay Down.
Two breeding animals, under four years, produce of same jennet: Yost on Califa.

ROEDING ASKS SUGGESTIONS FOR IMPROVEMENT.

After all, what counts most of all in successfully conducting a fair is to establish direct piston action between the hearts of the exhibitors and the directors, and that's just what President George C. Roeding did this year.

He went around among the exhibitors, asked them to mention faults and suggest improvements, and had his stenographer right at hand to take down notes. "We want to see things from your standpoint," he told the exhibitors. "We want to have a record of all the facts so that in preparing for next year's Fair we shall be able to comply with all reasonable requests."

The exhibitors opened up and made many valuable suggestions. They were thankfully received. And now everybody with whom President Roeding came in touch swears by him.

LIVESTOCK DIRECTORY.

SWINE

Poland-Chinas.

AM IN NEXT DRAFT, so will dispose of my few remaining brood sows; several young pigs and herd boar. Herd boar by Big Long Jumbo (227939), out of Black Big Bone Princess (589850). One sow by King's Chief Revenue (247983), out of Candy Kid (513-246). One sow by President (229941), out of Golden Lass (798352). Pedigrees sent same day as animals are shipped. Prices reasonable. Howard C. Peterson, Reedley, Cal., Box 396.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

CLOSING OUT MY ENTIRE HERD of three year's selection. I offer herd boars, bred and open sows and gilts and spring pigs of both sexes. The best blood lines. The big, prolific kind. Write for prices today. J. H. Cook, Paradise, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

FOR SALE—Registered sow weighing about 600 lbs. and bred to Favorites Best. Am drafted, must sell at once. L. P. Grant, B, 46, R. K. Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts, weaned boar pigs. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including grand champion sow, reserve grand champion boar under one year, third aged boar, etc. Frank A. Brush, Santa Rosa Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—A few extra choice young pigs ready to ship. Write for description and prices. R. J. Merrill & Son, Morgan Hill, Calif.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

Duroc-Jerseys.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

COMMITTEE CERTIFIED DUROCS—El Dorado County Duroc-Jersey Swine Breeders' Association. Dr. L. J. Anderson, secretary, Placerville.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

SOME OPEN GILTS and young boars from Taxpayer, Burks Good Enough and King Col. strains for sale. Shipped on approval. F. W. Gardner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California.

SELLING OUT DOS HERMANOS DUROCS. Your opportunity. My herd boar, sows and young stock priced to sell. Hans Duveneck, Ukiah.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholero immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J. H. Minto, Patterson, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P Slocum & Sons, Willows.

DUROCS—Defender, Clinton B, and Golden Model strain; the big type. Allen Thompson, Tulare.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE UP-TO-DATE TYPE of Durocs at J. M. DeVilbiss, Patterson.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS—Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

TWENTY-FOUR GOOD, FRESH MILK COWS for sale, mostly Holsteins. Address, Albert M. Bemmerly, Woodland, Cal.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D., Berkeley.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM—Choice Shorthorns, bred for size and quality. W. O. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting. Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of yearling Hampshire rams, sired by Walnut Hall, and Butterfield rams purchased at Salt Lake, August, 1916; also 12 head of purebred yearling Rambouillet rams. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

SHROPSHIRE RAMS—Some choice registered and grade yearlings. Also some purebred lambs. Call or write. Harry L. Huston, Winters, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

25 CHOICE purebred Rambouillet bucks for sale. Alfred Kuhn, Henleyville, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

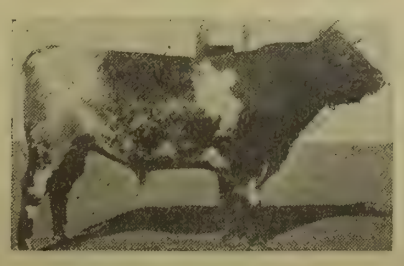
HOLMES STOCK FARM
REGISTERED HOLSTEINS
Best Blood Lines of the Breed.

WITH FIRST SHOWING AT SACRAMENTO STATE FAIR, IN THE MONEY WITH EVERY ENTRY.

Young Stock For Sale
WRITE OR CALL.

R. L. HOLMES, Prop. Modesto, Cal.

INNISFAIL DAIRY SHORTHORNS



Won at Sacramento:
ALL Championships, Grand Championships, Reserve Championships.
22 OTHER PRIZES, INCLUDING 15 FIRSTS.
We offer for sale a few choice young bulls sired by Glenside Royal and out of large cows of good milk production.
Entire herd tuberculin tested.
Alexander & Kellogg, Suisun, Cal.
Farm on Grisly Island.
GLENSIDE ROYAL 408155,
Grand Champion, Sacramento, 1916-1918, and at P. P. I. E.

Poultry for Profit

By Susan Swaysgood, Pomona.

SPROUTING BARLEY.

To the Editor: B. W. M. of Redding should get four or five 50-pound lard tubs and fill them half or two-thirds full of barley, add water enough to cover it at least an inch deep and allow it to soak twenty-four hours, then draw off the water through a hole in the side slightly above the level of the inside of bottom, which is plugged with a cork of convenient size while the grain is soaking. At the end of twenty-four hours take out the cork and tip the tub over so that the water will all drain out to the last drop.

We put four or five tubs on a stand high enough to admit a pail being placed below the tub that is being drained. When drained, cover with a dry sack and let it remain until it sprouts, which will take three to five days, according to temperature of grain room.

We have sprouted oats and barley this way for years and never have any mildewed grain. The tubs are merely washed out with brush and cold water after being emptied. In very hot weather we sprinkle the wet tub with sulphur from a five-cent pepper box. The sulphur appears to drive away lice and mites if used continuously during warm weather. If the sacks begin to mildew, sprinkle them also and hang out on the fence in the sun.

It is not necessary to sprinkle the barley after being soaked twenty-four hours. To save time in examining the tubs to see if the tub to be emptied has stood long enough, we place short sticks on top of sack covers, one for each day it has stood. Cardboard tags numbered from one to five would answer, if shifted one tub ahead when an empty one is refilled and drained.—Samuel Haigh, San Jose.

A BAD CASE.

To the Editor: We moved out to a farm last February and we found the chicken house full of those large fowl ticks under the shingles and in the eucalyptus trees roundabout. We took the chicken house apart, piece by piece, and washed it with stock dip and scraped down all we could from the trees and put some dip on them. But we find that they are coming into the chicken house again and get on the chickens. Then we put kerosene on them. That killed the ticks and pretty nearly killed the hens. We don't know what to do. Please advise us. Where can I get a poultry book that tells how to take care of chickens, etc.—G. P., Denair.

[Better try sulphuring the house. First make every crack tight—clay or mud daubed around the roof where it leaks and stout paper outside over cracks in the wall. Then make a hole such as you would if you were sulphuring fruit and burn a good mess of sublimated sulphur or any strong kind; but unless you have all holes stopped up it will not do a good job. Burn it several hours, all night if possible, then throw the house open to get aired before putting the chickens back again. Send $1 to the Pacific Rural Press for "California Poultry Practice." It tells you what to do for all the ills of poultry.]

Mrs. E. F. Spooner of Saranap is hatching chickens under hens in July and August by setting them in nests made in holes in the ground and protecting the hens from the sun with burlap shades.

Dr. LeGear's Poultry Powder

Shortens the moult!

Long moulting weakens hens and *loses eggs*. Act promptly *now* and hasten Nature's course. Dr. LeGear's Poultry Powder positively will cut down the time required for moulting, strengthen hens' systems, and help you to get early layers, and

Make more Egg-Money this winter

Experiment Station tests and Dr. LeGear's years of actual practice, show that hens *need* a daily tonic during the moult. It gets them through the moult more quickly, counteracts the strain of moulting, and puts them in good condition to lay.

Dr. LeGear's Poultry Powder tones up a hen's system, improves digestion, produces a greater proportion of flesh and feathers from the feed, and stimulates the egg-producing organs. It is my own prescription, used successfully during twenty-six years of veterinary practice and poultry raising. Dr. LeGear's Poultry Powder is

Dr. L. D. LeGear, V. S. (In Surgeon's Robe) Graduate of Ontario Veterinary College (Toronto, Can.) 1892. Nationally famous specialist in treatment of stock and poultry. 26 years' actual veterinary practice.

Guaranteed to produce results

Buy a package from your dealer. If you do not believe that it has benefited your poultry, and made more profits for you, I authorize the dealer to refund your money.

Dr. LeGear's Stock Powders produce perfect digestion, drive out worms, increase growth and production.

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WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

FOR SALE—Eighty pair mated "White King" pigeons, "Giroux strain"; all young birds and guaranteed very fast breeders. Box 1240, Pacific Rural Press.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

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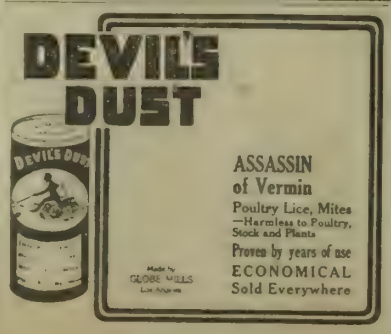

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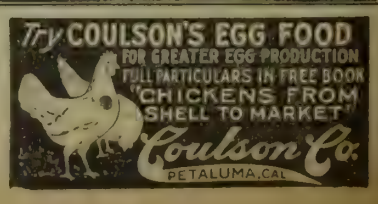

Poultry Breeders' Directory

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Lamm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

HOME CIRCLE

OUR BARGAIN.

Is all our world upon a counter laid?
That is their taunt who say they know us well.
Then let us like true merchants to our trade;
What wares has God to sell?

A world at liberty, a path made clear
For steadfast justice and enduring peace,
Nations released forever from the fear
Of evil days like these.

A sound investment! but—the price is high—
Long hoarded wealth in ruin, flame and steel;
Death lurking in the sea and in the sky—
What say you? Shall we deal?

We take thy bargain, Master of the Mart.
Though we may flinch, we cannot turn away,
Send thy resistless fire upon our heart
And make us strong to pay!

—Amelia Josephine Burr.

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WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA.

GIRLS OF YESTERDAY.

Girls of today are a good deal alike. They learn the same lessons, play the same way, and dress in middy blouses, serge skirts, and bright sweaters. The little girls of long ago were as different as were the parts of Europe from which their colonist parents had come.

Katinka, in old Albany, was a real Dutch girl. Her flaxen hair stood out in two straight braids on either side of her white cap. Her skirts were full and short, and her wooden shoes made a loud tapping as she walked to school over the rough stones of the street. Katinka was always up long before school time, wakened by the jingle of many cow bells. There were great herds of cows in old Albany and it was part of Katinka's work to drive the cows to pasture at daybreak.

Then came breakfast of buttermilk, crullers, cheese and sausages. After school Katinka hurried home to work on the stockings she was knitting. We can almost see her, intent on her needles, seated in the stiff little garden that was bright with tulips they had brought from their homeland—Holland.

In the South, quaint little Chloe, the slender English cousin of Katinka, learned to play on her spinet and tended the roses in her garden. She wore her hair in curls and was dressed in old-fashioned flowered materials and tiny, laced slippers. She was a good little housekeeper, though, and learned from her mother how to brew home remedies from herbs, how to measure the food supplies from the big storeroom, and how to make the sweets and preserves for which the South was so famous.

Chloe was happiest, though, in the beautiful garden of the plantation where she lived. She had flowers there brought from England—hollyhocks, yellow cowslips, sweet peas, honeysuckles, and jonquils. As the little Southern girl in her ruffled sunbonnet, carrying a basket and garden shears, went from flower to flower, she looked like a blossom herself, a real part of the garden.

As Katinka knitted and Chloe picked roses, Emily, the little Quaker girl of old Philadelphia, went, in her gray cloak, on errands of mercy up and down the quaint, narrow streets of the town. Her mother liked nothing so much as packing a basket of delicacies for an ailing neighbor, and Emily always carried it carefully to its destination, walking soberly, for she had been taught that it was unseemly to run. She wore a big poke bonnet that almost hid her demure little face and she said "thee" and "thou" with great care. She could sweep and cook and spin as well as her mother, and when she had not yet reached her teens Emily had to give up school altogether to help with the work of her Quaker home.

Last of all, there was industrious little Patience, the girl of New England. She wore a long, gray frock of homespun with a white handkerchief folded over her shoulders, and a little gray cap bordered with white. Patience's brother went to school in the morning, but she was obliged to remain at home and study with her mother, as she helped spin, weave, and cook. What a wonderful little cook Patience was, though! She could stuff a turkey and make mincemeat and doughnuts. She was able to patch and quilt the warmest kind of comfortables, and she knitted all her brother's winter mufflers and mittens.

Four girls of long ago! Which will you be, or will you try to imitate the industry of all and so be the best kind of American girl?—Carolyn S. Bailey in Queen's Gardens.

BAKED FISH.

The U. S. Bureau of Fisheries has sent to this Coast women to demonstrate the best methods of cooking fish, especially the local varieties that will not stand long shipment. These women want to eliminate the high cost of living and also the bad odors of cooking. To accomplish this latter feat, instead of frying fish they bake it. Their method is to wet the prepared fish in heavily salted milk, to take the place of egg, roll in crumbs and place in baking pan with small amount of oil. Bake rather slowly and an odorless, golden brown dish is the result. To cook enough fish for two meals at one time is an economy, as the left-overs may be used to make soup or creamed dishes.

WHAT DO YOU KNOW ABOUT PIANOS

Assuming that you can "tell a good tone," can you judge the hundred and one things which enter into the making of a Piano, the things which have their part in making and maintaining a good tone? Do you know the differences in plate and scale design? Are you familiar with the various "actions"? Are you a judge of the wood, the wire, the felt, the veneers and all the other materials which enter into the making of a Piano?

Probably not—not one person in a thousand possesses this expert knowledge. After all, when buying a Piano you depend greatly upon the expertness and the integrity of the Dealer or House. **Let your greatest care be the selection of the Piano House.** Tell that House what you would like and what you can afford and they will guide your selection of a Piano with expert judgment and a sincere desire to serve you well. Beware of a "cheap piano"—in the end it is the most expensive. Avoid the alluring statements of some dealers—they are but pitfalls to catch the unwary. Protect yourself by going to a Piano House with a reputation for integrity and fair dealing—you will never regret it.

We invite you to call at any of our stores — or write us asking for illustrated catalogues and prices.

We are dealers in Steinway and other Pianos, Pianola Pianos, Aeolian Player Pianos, Player Music, etc.

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STANDARD OIL COMPANY
(California)

The Gasoline of Quality

SAN FRANCISCO

San Francisco, September 11, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard....................$2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft.................... 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1.................... 2.16
do, No. 2.................... 2.13
do, No. 2.................... 2.09

BARLEY.

There were no developments this week in the proposed Government control of barley prices. The market is dull and inactive both on the exchange and on the street.

Choice feed, per ctl............$2.40@2.47½

OATS.

There has been some inquiry for black oats this week, but no sales are reported. It is said the little stock of this description on hand is badly mixed with barley and practically unsealable.

Red feed, per ctl................$2.50@2.65
Red seed .... 2.75@3.25

CORN.

Corn continues inactive.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked ....$4.20@4.25
Milo maize .... 3.95@4.05
Egyptian .... 4.05@4.10

HAY.

Receipts of hay for the past week were 1611 tons, compared to 1794 tons the previous week. Although these receipts are very light for the season of the year, the market is slow and inactive, with very little demand. The poorer grades are moved with difficulty only. The majority of consumers throughout the city seem to be well supplied and are out of the market at present. The demand for hay at interior points is furnished direct, and does not reach San Francisco. The Government is using some hay right along, but owing to the fact that a great many animals have been removed from the Philippines and Hawaii, the usual trade for these points is lighter than formerly.

Wheat No. 1 ....$23.00@25.00
do, No. 2 .... 20.00@22.00
Choice tame oat................ 24.00@26.00
Wild oat, new................ 19.00@23.00
Barley, new .... 19.00@23.00
Alfalfa, first cutting................ 16.00@20.00
do, second cutting................ 22.00@24.00
Stock .... 18.00@21.00
Barley straw ....50@80c

CALIFORNIA'S CROPS TO DATE.

Crop report as of September 1, 1918, for the State of California, as compiled by the Bureau of Crop Estimates, U. S. Department of Agriculture, and transmitted through the office of the Field Agents for the State of California:

	1918	1917
Corn—		
Condition, per cent..	85	90
Production, bushels..	2,584,000	2,400,000
Spring Wheat—		
Condition, per cent..	..	..
Production, bushels..	..	..
Oats—		
Condition, per cent..	80	89
Production, bushels..	5,767,000	6,860,000
Barley—		
Condition, per cent..	77	91
Production, bushels..	33,791,000	39,150,000
Potatoes, Irish—		
Condition, per cent..	78	86
Production, bushels..	11,244,000	15,225,000
Potatoes, Sweet—		
Condition, per cent..	90	91
Production, bushels..	913,000	1,002,000
Rice—		
Condition, per cent..	90	97
Production, bushels..	6,318,000	5,600,000
Hay, All—		
Production, tons	3,140,000	4,819,000
Quality, per cent....	93	98
Alfalfa—		
Production, per cent.	89	93
Pastures—		
Condition per cent..	68	80
Grain Sorghum—		
Condition, per cent..	89	87
Field Peas—		
Condition, per cent..	84	70
Field Beans—		
Condition, per cent..	82	81
Tomatoes—		
Condition, per cent..	84	85
Cabbage—		
Condition, per cent..	84	86
Onions—		
Condition, per cent..	88	95
Oranges—		
Condition, per cent..	65	50
Apples—		
Condition, per cent..	74	83
Peaches—		
Condition, per cent..	74	91
Pears—		
Condition, per cent..	83	90
Grapes—		
Condition, per cent..	93	93
Watermelons—		
Production, per cent.	88	88
Cantaloupes—		
Production, per cent.	90	95
Sugar Beets—		
Condition, per cent..	90	90
PRICES		
Wheat—cents per bus..	215	212
Corn—cents per bus...	180	175
Oats—cents per bus...	89	84
Potatoes—cents per bus	160	150
Hay—dollars per ton..	20	15.70
Eggs—cents per doz...	48	40

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

FEEDSTUFFS.

The market for feedstuffs is quiet. Coconut cake is scarce, and it is doubtful if any holder could ship as much as a carload on demand. The price was advanced to $45.50 on account of this scarcity. Oilcake was also advanced to $78 on account of the scarcity of linseed. Otherwise the market was unchanged.

New alfalfa meal, per ton......$33.00@34.00
Coconut cake or meal........ 45.50
Cracked corn .... 86.00@88.00
Oilcake 78.00
Rolled barley .... 52.00@52.50
Rolled oats .... 58.00@60.00
Bran, carload lots in S. F.... 23.75
Mixed feed, do, do.......... 25.00
Middlings, do, do.......... 25.75

POTATOES, ONIONS, ETC.

Both potatoes and onions are easier on normal demand. Summer squash is getting scarce and sold at a higher level. Tomatoes are higher, but the stock coming in is of better quality. Peas and beans are higher.

Peas ....8@10c
String beans, per lb................7@9c
Wax beans, per lb................5@6c
Carrots, per sack................75@85c
Rhubarb, San Jose, per box.........None
Summer squash ....75c@$1.00
Cucumbers (hothouse), per box..75c@$1.00
do, Alameda, lugs................75c@$1.00
Eggplant, per box................65@75c
Lettuce, Sacramento, crate.......75c@$1.00
Lettuce, Sacramento, crate........Nominal
Tomatoes, per crate—
Merced ....Nominal
Bay ....$1.00@1.50
Potatoes—
Garnet Chile, on street.............None
Whites ....$2.25@2.50
Sweets, per lb................4¼@4½c
Onions—
River Reds ....None
Yellows ....$1.50@1.75
Australian Browns .... 1.50@1.75
Garlic, new 16c
Green corn, Alameda, per sack..$2.50@3.00
Okra ....5@7c

BEANS.

Beans continue weak. No demand is developing to take care of the old stock and the nearness of the new crop has a depressing effect on prices.

Bayos, per ctl................$ 7.00@ 7.25
Blackeyes .... 6.25@ 6.50
Cranberry beans .... 10.25@10.50
Limas (south, recleaned)...... 12.00
Pinks .... 6.75@ 7.00
Red kidneys ....Nominal
Mexican Reds .... 7.25@ 7.40
Tepary beans .... 7.50@ 8.50
Garbanzos .... 8.00@ 8.75

POULTRY.

While there will be another Jewish festival Monday of next week, the principal feast days are past, and hens and roosters were weaker in consequence. Monday's holiday this week, with another holiday on Thursday of this week, has had a weakening effect on practically all descriptions except geese, which are stronger.

Turkeys, live, young spring, lb....36@38c
do, old ....30@32c
do, dressed, old................34c
Broilers, 1½ to 2 lbs................38@40c
do, 1¼ lbs................45c
do, ¾ to 1¼ lbs................47c
Fryers ....38@39c
Hens, extra, per lb., colored................36c
do, Leghorn ....31@32c
Smooth young roosters, per lb. (3 lbs. and over) ....37@38c
Old roosters, colored, per lb................24c
Geese, young, per lb................25@27c
do, old, per lb................25c
Squabs, per lb. 45c
Ducks ....27@30c
do, old ....24@25c
Belgian hares (live) 18c
do, dressed ....19@23c

BUTTER.

Butter scored a two-cent advance over the high of last week for extras. Butter has been remarkably steady in comparison with the generally advancing market in eggs and cheese, and, while it is high, the general opinion is that it is now in for further advances. The receipts are not heavy.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	54½	54	55	—	55½	55½
Prime 1st	52	52	52	—	52	52
Firsts	49	49	49	—	49	Nom.

EGGS.

There has been a good deal of comment on the street and elsewhere over the high range reached by eggs on the local exchange. Some eggs have been imported which retailed at a lower price than the exchange wholesale price. These imported eggs are of the brown variety, and not so carefully sorted as the eggs dealt in on the exchange. They are fresh ranch eggs, but in comparison with the product of the exchange are designated as "culls." Members of the exchange explain the high price of eggs on the ground of demand for selected eggs and the statement that the people are willing to pay for the fancy product. During the past week the fluctuation of eggs on the exchange was less than it has been for a long time and the close found extras a half cent cheaper than the high of last week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	63½	64	63½	—	64	63½
Extra 1sts.....			Nominal			
Firsts	46	46	46	46	46	Nom.
Extra pullets..	62	62	61	—	61½	61

CHEESE.

The cheese market is constantly showing a broader range of demand. This week Cheddars were dealt in for the first time in months. First California flats were again called. California cheese was in demand at all sessions of the exchange. Oregon cheese of all descriptions was not so much in demand.

California Cheddar, flats, fancy........30c
Fancy California flats, per lb........31½c
First California flats, per lb........30½c
California Y. A. fancy................31c
Oregon triplets, fancy................30c
Oregon Y. A. fancy................30½c
C. S. Oregon triplets fancy................30½c
do, Oregon Y. A. fancy................28½c
do, Long Horn fancy................29c
Monterey cheese ....23@25c

FRESH FRUITS.

The market has not been lively during the week. Plums and peaches are nearing the end of their season. Cantaloupes are not plentiful, but the demand has fallen to such a degree that this description sold at lower prices on ponies and standards. Grapes were more active than any other fruit this week. This fruit is in first-class condition and is in good demand. Isabellas are now arriving in quantity and are in prime condition for the housewife's jelly kettle.

Apples ....$1.50@2.50
Apricots, per crate ....Nominal
Peaches, 4-box crate................75c@$1.25
Figs, black, per box................None
do, double layer ....$1.00@1.50
do, Single Row Whites................65@75c
Strawberries, per chest................$7.00@9.00
Blackberries, per chest................ 6.00@8.00
Raspberries, per chest................9.00@10.00
Loganberries, per chest ....None
Plums ....$1.00@1.50
Cantaloupes, flats ....60@75c
do, ponies ....$1.00@1.25
do, standard .... 1.25@1.50
Watermelons, per lb................1¼@1½c
Pears, Bartlett, per box................$1.50@2.25
Grapes, seedless $1.00
do, Malaga ....$1.00@1.25
do, Fountainbleu .... .90@1.00
do, Tokay .... 1.25@1.50
do, Isabella 1.25

CITRUS FRUITS.

Prices of citrus fruits remain unchanged. It is said there is a downward tendency in lemons. Oranges and grapefruit remain firm.

Oranges:
Valencias, fancy ....$7.50@8.00
Valencias, choice .... 7.00@7.50
Lemons:
Fancy, per box................ 5.50@6.50
Choice .... 4.50@5.50
Standard .... 3.00@4.00
Lemonettes .... 3.00@4.00
Grapefruit, fancy, new................ 5.00@6.00

DRIED FRUITS.

The dried fruit market is inactive from the buyer's standpoint. Apples are stronger and some purchases at 13¼c are reported. The driers who are willing to sell at the prices quoted have been pretty well cleaned out. The prices paid for apples and pears during the past week are said to be above the Eastern prices and this has a tendency to restrict purchases.

Apples ....13@13¼c
Pears ....10½@13c
Prunes, graded, price to growers: gain in dip 11c
Prunes, graded prices to growers:
20-30, inclusive, per lb................15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8½c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121, inclusive, per lb................4½c
122 and up, per lb................4c
Apricots ....12@19c
Figs ....12@16c
Raisins—
Muscats 5½c
Thompsons 6¾c
Sultanas 6½c

HONEY.

Honey is strong at present quotations and some of the beemen are inclined to demand an advance. The local market is absorbing very little honey, and it is a question how much more increase in price the export trade will stand.

White, extracted ....21@22c
Light amber ....18@20c
Amber ....15@18c

RICE.

Paddy rice, 1918 crop................$4.32
Clear No. 1, 1918 crop at mill........ 7.00

Special Citrus Market Report

Los Angeles, Sept. 11, 1918.

The market both in the East and on the coast is strong on Valencias, while lemons have suffered a slight decline. Valencias are selling in New York at unprecedented prices, fancies ranging from $8.50 to $11.25 and slightly over for extra fancy. The total shipments to date for the season, according to latest available reports, are: Oranges, 16,134 carloads; lemons, 5442 carloads. At same date last year there had been shipped 43,401 carloads of oranges and 7531 carloads of lemons.

LOS ANGELES

Los Angeles, Sept. 10, 1918.

BUTTER.

A higher market and good demand was had the past week for all extras. The Eastern markets are all higher, 2½@3c under an increased government demand, and that had a sympathetic influence upon the market here. The receipts for the week were 343,210 pounds against 291,700 pounds the same week last year. The cold storage holdings now are 559,279 pounds against 244,179 pounds the same week last year.

We quote:
California extra creamery................51c
do, prime first 49c
do, first 48c
Same week last year—
California extra creamery................41c
do, prime first 39c
do, first 38c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	50	50	50	50	51	51
1917—						
Extra	41	41	41	41	41	41

EGGS.

While the market here the past week was not so snappy as the week before, all fresh ranch found a ready market. Chicago was up 1½@2c during the week on first and San Francisco advanced ½c during the week. This with light receipts, only 666 cases of fresh ranch, by rail, for the week against 711 cases the same week last year, favored holders and enabled them to maintain a firm market. The receipts by truck continue to run about four times as large as the arrivals by rail, making the supply for the week 3330 cases against 3555 cases the same week last year. The cold storage holdings now are 80,393 cases against 68,501 cases this time last year.

Daily quotations:

1918—	Tu.	Wed	Thu	Fri.	Sat.	Mon.
Extra	57	59	59	59	59	59
Case count ...	53	53	53	53	53	53
Pullets	49	49	50	50	50	50
1917—						
Extra	44½	44½	43½	45	44½	44½
Case count	42	42	38	42	42	42
Pullets	37	37	36½	37	37	37

VEGETABLES.

Market was well supplied and all good fresh stuff in very fair demand.

We quote from growers:
Potatoes, local per lug................75c@$1.00
do, do, per cwt. ....$2.00@2.25
do, northern, per cwt. .... 2.50@2.75
Sweet potatoes, per lb. ....2½@3c
Garlic, per lb. ....8@9c
Onions—Stockton Yellow Danvers, cwt. ....$1.75@2.00
Onions—White Globe, per cwt .. 2.00@2.25
Onions—Small Bermuda, per crate..80@90c
Cabbage, per 100 lbs................$2.25@2.50
Bell peppers, per lb................3@3½c
Chile peppers, per lb. ....2@2½c
Summer squash, local, per lug......25@35c
String beans, per lb. ....5@6c
Tomatoes, home-grown, per lug....30@75c
Eggplant, per lb. ....2@3c
Cucumbers, home-grown, per lug...30@45c
Corn, per lug of 3 doz................50@60c
Lima beans, lb. ....4½@5c

POULTRY.

There was a little more life to the market the past week. Light broilers were in good demand and under light receipts were advanced 1c. Heavy hens were also wanted and are up 1c. Light hens slow sale. Turkeys and ducks steady. Geese dull.

The following prices were agreed upon last Friday, September 6, and hold good until the coming Friday:

Broilers, 1@1¼ lbs. 35c
Broilers, 1½@1¾ lbs. 34c
Fryers, 2@3 lbs 29c
Roasters (soft bone), 3 lbs and up....29c
Stags and old roosters, lb 19c
Hens ....22@29c
Tom turkeys ....30@32c
Ducks ....22@28c
Geese 15c
Squabs, live, per lb. 30c
Squabs, dressed, lb. 40c

FRUITS.

Receipts continue good, but the market was not over supplied the past week and under lighter offerings the tone of the market was better. The market for grapes was very good. Pears steady and in very good demand. The same may be said of plums. Apples selling better and a little higher. Quinces dull but steady. Figs selling fairly at old prices.

We quote from growers:
Figs, Black Spanish, 7-lb box ....35@50c
do, White, 7-lb. box ....30@50c
Peaches freestone per lug ....$1.00@1.25
do, clings, per lug .... 1.25@1.50
Pears, local, per lb................2@3c
Pears, Mountain ....3½@4c
Crabapples, per lug................$1.25@1.50
Plums—Satsuma, per lb ....4@4½c
Nectarines, per lb................3½@4c
Grapes—
Malagas, per lb................2½@3c
do, Muscat, per lb................2@2½c
do, Liberty, per lb................2½@3c
do, Rose Peru, per lb ....2½@3c
do, Tokay, per lb. ....4@4½c
Banana apples, 4-tier $2.25
Apples—Alexanders, 4-tier...... 2.25@2.50
do, 4½-tier 2.00
do, Gravenstein, 4-tier $2.50
do, do., 4½-tier 2.25
do, Bellefleurs, local, per lb ....2½@3c
Avocado pears, small, per doz...50c@$2.00
do large, per doz................$1.00@5.00
Plums, per lb................5@6c
Quinces, per lug ....50@65c

BERRIES.

There was quite a falling off in the receipts the past week and the market was higher on strawberries and blackberries. Raspberries unchanged but firm.

We quote from growers:
Strawberries—
Fancy, per 30-basket crate....$2.50@2.75
Poor to choice, 30-basket crate 2.00@2.25

PRIORITY ACCORDED TO POULTRY AND LIVESTOCK INDUSTRIES.

As an illustration of the importance of the poultry and livestock industries as viewed by the Government in war times, the War Industries Board has, in the Priorities List issued on September 9, placed feed in the first class, immediately following ammunition, explosives, and similar articles directly used in warfare.

Blackberries, 30-basket crate.... 2.50@3.00
Raspberries, 30-basket crate..... 2.75@3.00

MELONS.

There were not so many in the past week and the tone of the market was stronger. Watermelons are selling fairly well. There was a good demand for cantaloupes at last week's prices. Casabas in liberal supply and slow sale. Paul Rose cantaloupes a little higher. Honeydew melons slow sale.

Cantaloupes—
Tip Top, home-grown standard crate .....$1.00@1.10
do, do, pony crate .....65@75c
do, do, jumbo crate.....$2.50@2.75
Columbia, jumbo crate ..... 2.75@3.00
Paul Rose, standard crate.....$1.25
Casabas, per lb.....1½@2c
Pineapple, standard crate .....$1.00@1.10
Watermelons, per 100 lbs..... .75@1.00
Honeydew melons, 16-inch crate. .90@1.00
do, jumbo crate ..... 3.00@3.25

BEANS.

Some new crop beans are now being offered and there was some little doing in limas and Lady Washingtons. All others are neglected. Blackeyes were dull and lower, as the new crop is said to be good.

We quote from growers:
Limas, per cwt.....$11.00
Large white, per cwt. 10.00
Small white, per cwt. 10.00
Pink, per cwt. 7.50
Blackeyes, per cwt..... 6.00
Tepary, per cwt. 8.50

HAY.

The market the past week was duller than ever. Not much coming in and very little wanted. Some little alfalfa was taken by the dairy people, but no one seemed to want horse hay.

We quote f. o. b. Los Angeles—
Barley hay, per ton .....$24.00@26.00
Oat hay, per ton ..... 26.00@28.00
Alfalfa, northern, per ton.... 21.00@22.00
Alfalfa, local, per ton..... 22.00@24.00
Straw, per ton ..... 9.00@10.00

COTTON.

The market the past week worked a little lower. The announcement that the War Industries Board had recommended to the President that steps be taken to stabilize the price of cotton caused traders to hold back and go slow. The announcement by the Agricultural Department that the outlook of the crop September 1 was for only a crop of 11,137,000 bales, against 15,235,000 bales June 25, prevented a break. The market closed Monday in New York: October, 34.07c; December, 33.54c. Spot middling in New York, 35.85c, against 36.60c a week ago. Spot middling in New Orleans, 33.75c.

Special Deciduous Market Report

By J. L. Nagle.

Conditions in most of the Eastern markets, with the exception of New York, remain unchanged. New York, however, on account of the extreme heavy offerings of cantaloupes, Northwestern stock, and increased receipts from California, was unable to take care of its offerings. The market in so far as the demand for fruit was concerned, was in good conditon, but the labor shortages and congested dock and track conditions made it impossible to handle the tonnage. As a result of a conference between the auction company, receivers and railroad officials, additional space was secured and the use of two additional piers was provided, which will probably relieve the situation in a few days. In the meantime cars are held on track and in some instances with insufficient ice, which has caused the fruit to become a little ripe. This applied principally to pears, which are being offered on the market at less than freight charges, which has a depressing effect upon good stock.

The demand for grapes seems to be in keeping with the supply, though some of the San Joaquin County offerings of Tokays, on account of quality, have not sold up to expectations. However, grapes arriving in good condition and showing good color, have so far brought higher prices than last year.

There seems to be little activity in peaches, both clings and freestones are meeting with good demand and it is not unlikely that the season on peaches will close with the market showing a steady advance.

The market remains unchanged on plums as the receipts are falling off.

The movement of wine grapes from the State is very heavy, but on account of the extreme hot weather of two and three weeks ago, some of the cars are arriving showing the grapes in a fermented condition and are causing some losses. As the weather is cooler, shipments leaving the State from now on should arrive in good condition.

The movement of Tokays is very light. The berries are not adding sugar and the color of the majority of the stock is pale and unattractive. It is the opinion of some that a large percentage of these Tokays, on account of lack of quality, will cause a declining market.

Following are the averages for the week:

New York: Plums—Gros, $1.73; Giant, $1.11; Grand Duke, $1.64; Kelsey, $1.39. Pears—Bartlett, $2.44; B. Hardy, $2.17. Grapes—Muscat, $1.82; Tokay, $2.24; Malaga, $1.70; Alicante Bouchet, $1.45. Peaches—Albright, $1.42; McDevitt Cling, $1.57; Wiley Cling, $1.50; Elberta, $1.10; Orange Cling, $1.39.

Chicago: Pears—Bartlett, $1.93; B. Hardy, $1.95. Peaches—Lovell, 77c.; Elberta, 97c.; Hulls Late, $1.04; Orange Cling, 90c. Plums—Kelsey, $1.30; Grand Duke, $1.75; Giant, $1.24; Gros, $1.34; Hungarian, $1.13. Grapes—Malaga, $1.27; Tokay, $1.39; Thompson Seedless, $1.31; Muscat, 95c.

Boston: Grapes—Malaga, $1.33; Tokay, $2.07; Muscat, $1.14. Peaches—Lovell, $1.00; Crawford, $1.10; Elberta, $1.15; Hulls Late, $1.00; Orange Cling, $1.25; Susquehanna, $1.10. Pears—Bartlett, $1.98; B. Hardy, $1.35. Plums—Giant, $1.05; Grand Duke, $1.12; Hungarian, $1.20; Gros, $1.24; Kelsey, $1.31; Diamond, $1.02.

Total shipments by cars from August 30th to September 5th, inclusive:

62 peaches, 10 plums, 235 pears, 1149 grapes.

Total shipments to date, 1918, 12,785 cars.
Total shipments to date, 1917, 11,538 cars.

Special Livestock Market Report

San Francisco, September 11, 1918.

CATTLE—Good weight steers are a little stronger. Other grades are steady. Cows are a shade stronger also. There is at the present time a heavy movement of Western stock eastward, which will likely continue along in November.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11@11½c
No. 1, weighing 1200 to 1400 lbs..11@11½c
Second quality .....9@10½c
Thin .....7½@8½c
Cows and heifers—
No. 1 .....7½@8c
Second quality .....6@7c
Common to thin.....3½@5½c
Bulls and stags—
Good 6c
Fair .....5@5½c
Thin .....4@4½c
Calves—
Lightweight 11c
Medium 10c
Heavy .....8@8½c

SHEEP—The sheep and lamb market are both steady, with a light supply and a light consuming demand.

Lambs—
Yearlings .....12@12½c
Milk .....12@14½c
Sheep—
Wethers .....11@11½c
Ewes .....8½@9½c

HOGS—Hogs are coming in more freely. The price remains unchanged. Indications, however, point to still further increases soon. While much of the stock arriving is in fairly good condition only, the quality on the whole is improving.

The advance in hog values both on the Coast and in the East has been steady and progressive for some time past. Two carloads of hard, grain-fed hogs sold in San Francisco last week at 18¼c, the highest price ever paid in this market. In the East the necessities of the packers have driven the price of choice hogs up to $20.00@20.35, also a record. The market is ceasing to prophesy of the end.

Hogs—
Hard, grain-fed, 100@140.....17¾c
do, do, 140@300.....18¼c
do, do, 300@400.....17¾c

DRESSED MEATS.

Steers, No. 1 .....18½@19½c
do, second quality.....15@18c
Cows and heifers .....10@16c
Calves, as to size, etc.....15@19c
Lambs—
Suckling .....23@25c
Yearling .....22@23c
Sheep—
Wethers 21c
Ewes .....18@19c
Hogs .....25@26c

Los Angeles, September 10, 1918.

CATTLE—The market situation is unchanged. Thin and partly fat cattle are offered freely and the market for them is weak. Choice steers continue scarce.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs.....$9.00@12.00
Prime cows and heifers..... 7.50@ 8.50
Good cows and heifers ..... 7.00@ 7.50
Canners, per cwt. ..... 5.00@ 5.50
Calves, per cwt. ..... 8.50@ 9.50

HOGS—But few really choice hogs coming in and they are in demand and firm at quotations. Most of the arrivals are in only medium to fair condition and slow sale. Prices rule high.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225@275 lbs. ..... 16.00@17.00
Light, 175@220 lbs. ..... 16.50@18.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—Not many coming in and not many wanted. For the few wanted killers are paying quotations.

Per cwt. f. o. b. Los Angeles—
Prime wethers .....$9.00@10.00
Prime ewes ..... 8.50@ 9.50
Yearlings ..... 9.50@10.50
Lambs .....15.00@16.00

Portland, September 10, 1918.

CATTLE—Receipts, 276. Market strong. Steers, prime, $12.00@13.00; good to choice, $11.00@12.00; medium to good, $9.75@11.00; fair to medium, $8.25@9.25; common to fair, $5.75@8.25; cows and heifers, choice, $8.00@9.00; medium to good, $5.75@7.25; fair to medium, $4.75@5.75; canners, $3.00@4.00; bulls, $5.00@8.00; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Receipts, 252. Market higher. Prime mixed, $19.50@19.75; medium mixed, $19.00@19.35; rough heavies, $18.00@18.25; pigs, $16.00@17.00; bulk of sales, $19.35@19.50.

SHEEP—Receipts, 258. Market steady. Prime lambs, $13.50@14.50; fair to medium, $11.00@12.00; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@8.50.

STATE FAIR NOTES.

At the Berkshire donation sale 12 young sows sold for an average of $80, with the top selling at $140. The proceeds will go into the treasury to be used in promotion work.

At the Red Cross sale $2,519 was realized. A Poland-China sow brought $225 and a Hereford calf $325. Governor Stephens opened the sale, and then turned it over to Colonel Ben A. Rhoades.

Lea Bleakmore of San Francisco, owner of Oak Knoll Farm, Lakeport, created quite a sensation in swine circles when he purchased the grand champion Chester White boar, Highlander, for $1,000. We shall tell you later about the model ranch that Mr. Bleakmore has developed and the fine stock he has.

H. C. Muddox, banker of Sacramento, who bought nine gilts at the Berkshire Red Cross sale, also bought the fine under-one-year herd of boar and three sows shown by W. M. Carruthers of Live Oak. Mr. Muddox bought these animals as a foundation herd for his son. The young man certainly has the right stock to start with.

The importance of breeding up was impressed upon hog raisers by a double exhibit in the University Farm building. A scrub sow, two years old and weighing only 120 pounds, was shown, and in the next pen were purebred hogs weighing over 200 pounds at six months. Another practical exhibit was a Chester White sow that had produced 4000 pounds of pork in one year—enough bacon for one soldier and pork for four civilians.

Classified Advertisements

MISCELLANEOUS.

RABBITS FOR SALE—175 does, New Zealand, Flemish, Belgians and American checkered, all breeding ages. 75 does as above, 4 months old, at $1.50. A few fine bucks, some registered. All fine stock. Prices right. If you want to raise rabbits, here's a wonderful opportunity to get started. Come and select your choice. R. Daniels, Walnut Creek, Cal.

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FOR SALE—Holt 30 tractor, Fire Bottom Benicia plow, 28-inch disks. Also 8-foot double disk harrow. Price $2,500. Fair Oaks Ranch, Willits, Cal.

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FOR SALE—A deep well pumping outfit, complete; 100 feet 7-inch discharge pipe. Box B, Menlo Park.

FOR SALE—Sandwich power hay press, 17x22 bale; practically new; $400 takes it. Ceres Hardware and Implement Co., Ceres, Cal.

COUNTRY LANDS.

FOR SALE—160-acre dairy farm, two miles northwest from Dixon (eight miles from Davis State Farm), in the heart of the dairy section. Two silos and all necessary buildings and pumping plants. For price and terms, with further information, inquire of Howard Kirk, Dixon, California.

FOR SALE—20-acre irrigated ranch, with improvements and growing crop; team and farming implements; a bargain. William Paulsen, Chowchilla, Cal.

A HOME to delight a son of Italy. View, air and woods beautiful. Fertile soil. Gravity spring. 9-room home. All modern conveniences. Box 67, Kenwood, Cal.

WANTED.

FARM MANAGER OR FOREMAN—Energetic, scientific, practical, on large farm or estate. Experienced in modern farming. Can qualify in dairying, beef cattle, hogs, alfalfa, beans and grain. Three and half years in present position. AA references. Box 1250, this office.

WANTED—By A-1 farmer, job as superintendent or foreman on hay and grain or fruit ranch. Married. No children. No domestic service for wife. Thoroughly experienced. References. J. H. Smith, Windsor, Cal.

POSITION WANTED to take charge of a hog ranch by a single man, experienced in handling registered stock. Hans Duveneck, Ukiah, Cal.

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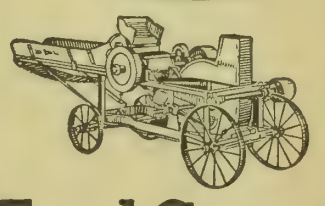

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THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO | SEPTEMBER 21, 1918 | LOS ANGELES

Stato Library

Cover-Crops for the Production of Humus

Written for Pacific Rural Press by John J. Fox

THE USE OF COVER-CROPS for recruiting the productive capacity of the soil probably dates back to prehistoric man. It is Nature's own way of providing the soil with humus, without which none of our commercial crops can live and thrive. Our farmers realize that the time has come when small profit can be obtained for any length of time on our high-priced land without the aid of fertilization. We have stimulated production by good cultural methods and by the application of lime, gypsum, nitrate of soda and other mineral substances, all of which are good as auxiliaries but do not tend to permanently enrich the wasted powers of a producing soil. Farmyard manure has been called the "farmer's magic wand." In England, France, Germany and Scandinavia, in China, Japan, Italy and other old countries this wand is waved continually. But we in California cannot obtain this manure in sufficient quantities for all. And a long haul very often precludes its use. So we have to fall back on the cover-crop very largely—more so since the tractor is gradually replacing the horse.

The science of horticulture is so vast that no general practitioner can ever become familiar with many of its mysteries. Our science is, in fact, the sum of human experience and research and we are adding to it every year both in the field and the laboratory.

A good stand of vetches in a deciduous orchard. One of the best legumes we have. With the use of a rolling coulter, this can be turned under green, decomposes rapidly and its fine root system leaves the soil in nice, friable condition.

The time of year has now come for us to prepare our seedbed and get our cover-crops in. Our choice lies in vetches (all varieties), burr clover, Canadian field peas, winter barley, rye and oats for the north, to which may be added melilotus, buckwheat, Tangier peas and fenugreek for the southern part of the State, and in industries where the time for cover-cropping is deferred, as in citrus and some olive sections.

Preparing Ground and Planting.

A good disking, cultivating or harrowing is all that is generally necessary in an orchard to prepare for cover-crop in the fall. If Oregon or purple vetches are to be used in the orchard, they should be drilled in at the rate of not less than 60 pounds to the acre, and 90 pounds is better for the first year of using. If broadcast, not more than 30 pounds of barley, rye or oats should be used with 60 pounds of vetches on strong ground, as by stooling heavily the grain will choke the vetches out too much or render the plant spindly and weak.

Vetches

like the drill better than being broadcast. They thrive better with close companionship and must be started early if a good stand is to be obtained by plow time. And when plow time comes—in unirrigated sections—turn the crop under, no matter how promising it looks, for the sake of fully conserving your moisture.

Canadian Field Peas

should be drilled in, too. They also make a better stand that way, and too much seed is better than too little—not less than 1½ bushels to the acre. More on light soil. If, because of the impoverished condition of the orchard, the legume refuses to grow, which is not uncommon, then sow 70 or 80 pounds of barley, rye or grey oats to the acre, or on bottom land 50 pounds is enough, and turn it under in March—no later. Then try a mixture containing legumes the following year and you will probably make it. A dressing of nitrate of soda of 100 pounds to the acre about the end of February will help matters along rapidly.

Burr Clover

is a great favorite in sections where it germinates freely. It is indigenous to the soil of California, it makes an early start, roots deeply, yet has countless little roots that disintegrate the soil and is one of the best nitrogen producers. It makes a good cover-crop if started early, before the ground becomes chilled and the nights cold. Only hulled seed should be used and about 20 pounds of seed to the acre—more on very light soil. If land is very much out of condition, this only grows to about six inches, then goes off color and ripens by the end of March or early in April in a dry season. In this case a cereal must be plowed under or a coating of manure given to provide conditions suitable to a good legume stand.

Barley, Rye and Oats

will practically always provide some sort of crop to be turned under. Another advantage is that where legumes have been constantly used these cereals help to cleanse the condition of the soil, which is one of the advantages derived from rotation of crops. And if rotation be profitable in the field it should also be profitable to the soil of an orchard. There is no doubt that experiments of this kind will have to be tried. Who knows that it may not have beneficial results in certain sections where aphis and other small insects have become so numerous on vetches and other legumes that are planted year after year as to be the despair of the citrus grower? I believe it is axiomatic that, wherever large areas are given over to one crop industry, there will that crop's enemies appear in numbers or degree sufficient to threaten. A change is necessary for everything that lives and grows.

General Advantages of Legumes.

Legumes leave the mechanical condition of the soil in much better shape than any of the cereals, besides having greater manurial value. After burr clover or vetches the ground turns up friable and kindly, while the thick, coarse roots of barley and rye make it turn over lumpy and solid by comparison. Then the ground needs more working down and sometimes it leads to overworking, depending on the condition of the soil and the weather, also method of handling it after plowing.

I have not yet mentioned the horse bean, which also belongs to the vetch family, because it is hard to obtain. The Windsor bean, which is called the horse bean, is one of the same variety. It also has a deep-penetrating tap root that will go through the average plowsole. Its chief objection is the black aphis that appears on the terminals in spring and sometimes injures the crop considerably. When the real horse bean comes I think it will prove one of our profitable crops. The same with the white lupine when it is grown in commercial quantities. At present there is no seed to be obtained and nobody is growing it for seed in commercial quantities.

Where a good, heavy stand is obtained, the crop must be rolled down or a heavy chain used to turn the crop completely under. For if the ends of plants are allowed to stick out between the furrows fermentation is delayed or incomplete. Everything must be thoroughly buried and if a float is run after the plow so much the better.

Every district must really find out for itself the cover-crops best suited to its locality. And, even at that, so diverse are conditions of soil, drainage, altitude, moisture and climate that no rules can be definitely laid down to apply to all. Each farmer must put his own brains to work in the application of any rules.

The cover-crop must be sufficiently green when turned under to occasion its rapid fermentation. Even where irrigation is practised, a matured crop does not undergo sufficiently rapid decay and is inclined to interfere with the proper functions of the dust mulch. The cover-crop may be supplemented with dressings of lime (occasionally) and commercial fertilizers as is seen desirable.

(Continued on page 300.)

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EDITORIALS

BACK AGAIN AT THE OLD STAND.

WE WERE very seriously at the war fronts last week and as things are going so well over there and looking so well for the Liberty Bond drive over here, we slack no duty by returning this week to the normal autumnal occupation of a Californian, which is to speculate and prophesy as to what the rainfall of the new crop year will be. And we hasten to a first word on that subject because the professional weather prophets have not yet been soaked out and limbered up even by the very unusual September rainfall of this year. Possibly, however, there is really no need to hurry, for these prophets should now be somewhat slow and reticent from the way they got the prophetic breath knocked out of them in last year's collapse of their predictions. It will be remembered that the thermometrical prophet promised us about a third more than the normal rainfall and we really received about one-half less: while the sun-spotter tried to blacken the sky with storms all through the months during which nature persisted in blueing it to the tourist's taste. The result was that we had to live and work through a season than which there were only four drier in all of our American-Californian history, with only 11.48 inches dropped in a bunch and the crop-year dry at both ends.

WHAT DOES SEPTEMBER RAIN MEAN?

WE SHALL not attempt to preach upon what a heavy September rainfall means. We do not know what it means in terms of the season's prospects and therefore we preach not. Our present purpose is to keep other preachers from assaulting the public ear. There is always a great temptation to remember parallel weather occurrences and to draw categorical conclusions which are irresistible if one has no contrary category with which to defend himself. We propose to furnish each reader with a gas mask with which he can defend himself from stupefaction by the oldest and other inhabitants, thus—

SEPTEMBER AND SEASONAL RAINFALLS.

Year	Rainfall in Sept.	Seasonal	Year	Rainfall in Sept	Seasonal
1849-50	None	33.10	1884-85	.33	18.10
1850-51	.33	7.42	1885-86	.11	33.05
1851-52	1.03	18.46	1886-87	.01	19.04
1852-53	None	35.26	1887-88	.29	16.74
1853-54	.46	23.87	1888-89	.08	23.80
1854-55	.15	23.76	1889-90	None	45.85
1855-56	None	21.66	1890-91	.31	17.58
1856-57	.07	19.91	1891-92	.77	18.53
1857-58	None	21.81	1892-93	.02	21.75
1858-59	None	22.22	1893-94	.21	18.47
1859-60	.03	22.27	1894-95	1.05	25.70
1860-61	None	19.72	1895-96	.77	21.25
1861-62	.02	49.27	1896-97	.52	23.43
1862-63	None	13.74	1897-98	.10	9.38
1863-64	.03	10.08	1898-99	1.06	16.87
1864-65	.01	24.73	1899-00	None	18.47
1865-66	.24	22.93	1900-01	.46	21.17
1866-67	.11	34.92	1901-02	.78	18.98
1867-68	.04	38.84	1902-03	None	18.28
1868-69	None	21.35	1903-04	None	20.59
1869-70	.12	19.31	1904-05	5.07	23.45
1870-71	.03	14.11	1905-06	None	20.42
1871-72	None	30.78	1906-07	.18	26.17
1872-73	.04	15.66	1907-08	.11	17.35
1873-74	None	24.73	1908-09	.13	25.57
1874-75	.02	20.56	1909-10	.80	19.52
1875-76	None	31.19	1910-11	.05	25.49
1876-77	.38	11.04	1911-12	None	14.06
1877-78	None	35.18	1912-13	1.25	11.97
1878-79	.55	24.44	1913-14	.08	20.46
1879-80	None	26.66	1914-15	.02	27.41
1880-81	None	29.80	1915-16	.01	27.12
1881-82	.25	16.14	1916-17	1.68	15.78
1882-83	.26	20.12	1917-18	.02	11.48
1883-84	.42	32.38	1918-19	2.53	.....

The foregoing figures are inches of rainfall from observations in San Francisco, which is usually counted central and representative pluviometrically as well as geographically. Of course, the record for September of this year is incomplete, but we are probably justified in claiming that no one cares to have any more water added to it—though we may get more water without changing the seasonal significance of it.

SIGNIFICANCE OF SEPTEMBER RAINFALLS.

A PARAGRAPH under this heading need not be long, for we greatly doubt if September rainfall has any significance in forecasting the character of the crop year. Let us see first how September stands in our three wettest and three driest years, viz.:

Year	September	Seasonal
1861-62	.02	49.27
1867-68	.04	38.84
1889-90	...	45.85
1850-51	.33	7.42
1863-64	.03	10.08
1897-98	.10	9.38

Or try to see directly what follows the wettest Septembers, viz.:

Year	September	Seasonal
1904-05	5.07	23.45
1916-17	1.68	15.76
1912-13	1.25	11.97
1898-99	1.06	16.87
1894-95	1.05	25.70
1851-52	1.03	18.46

These are all of the rainfall years during the last seventy which have opened with more than an inch of rain in September, and they are nothing to be proud of. But our position is that none of these years has been our best and that actually September has no significance either when it gives most or least precipitation, although people with short or defective memories will be trying to make much of current experience in both ways.

UNDESIRABILITY OF SEPTEMBER RAINS.

AS September rains are not significant of the character of the season they usher in, are they of value in themselves? The California judgment, born of pioneer experience, is that they are more of an injury than a benefit and it is fortunate that they are usually absent or in such small amount as to be negligible. When they are heavy enough to do much wetting they interfere with the latter part of the harvest season, which it is California's distinguished advantage to count upon as long, warm and dry. In this way they catch and injure sacked grain and baled hay which still awaits hauling to cover and they fall with all the destructive power and pleasure of the Huns upon the unfinished harvest of beans, hops, late cuttings of alfalfa, grapes, raisins, prunes, peaches and other sun-cured fruits, and they muss up the land for the rice harvest. As the development of California agriculture has vastly increased the output of late-harvested crops, September rains have become a much more serious affliction than they were in pioneer days, when uncovered grain and hay were chiefly injured and when the ruin of dry feed and the too-early starting of seeds of pasturage which was likely to miss moisture enough to keep them growing, were most loudly deplored. These things are enumerated, of course, for the edification of newer Californians who are apt to enjoy the delights of the dust-settling and air and plant washing by the heavier September rains, without thought of the injury they are doing. It is fortunate, of course, that the first reports of such injuries are usually overdrawn and much exposed produce which looks very sad in the wet is restored to value by the absorptive power of dry air and soil, but still the losses are often serious. Members of our staff are out as we write in sections where most injury is menaced and interesting notes of their observations may be found elsewhere in this issue.

Of course, as our agriculture advances in efficiency, we shall be better organized to protect products from too-early rains. Already there has been much gained in this direction and more improvement is in sight. Soon we shall have all our valley grain in elevators before the end of August, which is the driest and safest month of the year, and we shall have shed-roofing to cover all the hay—except that which is being held in well-made stacks. We shall also have capacious dry-houses to finish the fruit-curing when the sun strikes on his job. A better labor supply and larger possession of power machinery will reduce the bean dangers by an earlier finish of the harvest. All these and other ways of speeding up work and protecting the products of it will baffle the September storm invaders.

WHAT GOOD IN SEPTEMBER RAINS?

THERE are few unmixed evils—even the present war, which is the world's worst and most abominable in the purposes of those who made it, will leave us a better world. Like unto it is this September rain—great though its local losses may be in places. Ever since the rains stopped last spring with only about two-thirds of the normal precipitation we have been preaching the need of getting some supplementary water on the trees, not only for the sake of the current crop but for the next one also, and in some cases for the very life of the trees. More orchard owners did summer irrigation this year than ever before and yet there was a large preponderating area of deciduous trees upon which no irrigation could come to help the trees meet the crisis of two years' dessication. Last week's rain will act as an addition to last winter's rainfall—not to start new growth but to compensate for evaporation which might have destroyed the trees before their root systems could get relief from rains starting normally late in the autumn. In this way the rain has been beneficent—a surety of future production.

The year which is now beginning, for the September rains open our autumnal springtime, should be the greatest gardening year of our history. The way to do spring gardening in California is to begin in the fall—he who hesitates until the narrow-minded Eastern almanac tells him it is spring is apt to be lost. Wherever the rain, which in places has been twice as great as in San Francisco, has wet the ground to the bottom of a spade-thrust, go confidently to the preparation of the ground and the immediate planting of all garden plants of which the leaves or roots are the edible portion, for they are practically hardy against all California valley frosts, and add peas, for they, too, scorn our kind of frost. If you hurry these things in now, you will have salads and relishes for Thanksgiving and green peas and boiling roots and cabbages for the holidays. The way to do this is to begin now successive planting which will keep you pulling your living from the earth of your own garden until the end of the war or until the regenerated German people celebrate the Fourth of July, 1919, in Berlin—under the upturned marble noses of the stuffy old drones of his Hohenzollern ancestry which the kaiser has set up. All this is very easy to do if you know how, and the how to do it is described in detail in our charming story book, entitled "California Vegetables in Garden and Field," which the publisher of this journal has kindly consented to send you for the sacrificial price of $2 per copy—and if you cannot make $20 or $200 for your own nutrition from the first reading of it, it will not be the fault of the September rains.

Of course, early work in the garden is but one side of the shield. The rain has been enough to start field work over large areas of the State and early sowing of winter-growing grains, roots and forage plants, also for early start of alfalfa and cover-crops, will suggest themselves. Our staff writers are at work on the practical details of all such undertakings and we shall expect them to corruscate in these lines in every coming issue. The main thing now is not to speculate on rain but to get the land busy!

AMERICAN GIRL PROPAGANDA.

FROM much reading of tender tributes in the letters of American soldiers to the delightful companionship of young women of France, who hail them as delivering knights out of story books, we have arrived at much concern over the future of our American girls. We might sigh over the fate of our girls when the boys come back; but it is worse than that, for we fear that too many of them will not come back: that is, will not come back alone—which is all that matters from a girlish point of view, for a man pre-empted is a man lost. For these soldiers' letters say so much about the glory of combined French and American arms—which, of course, is all right for a soldier, if you know what kind of arms he is

writing about. It is all right for a soldier of ours to be full of the glory of allied arms up to his neck, but it is the glory of arms around his neck which gives us concern and anxiety. And when the letters bashfully refuse details of such supreme matters they do hint at the sparkle of French eyes and the charm of broken English on French tongues, even though they hasten to enlarge upon the devotedness of French young women to home-making and to their self-helpfulness in providing for their own wants—even to the making of entrancing crinolinear dewdads for the adornment of their persons from back-number Yankee flour sacks! Now it strikes us that all that is rather dangerous stuff for an American soldier to get under the left side of his tunic, for the portent of it to us is that there will be mighty few American soldiers coming back alone—if the supply of French girls holds out, and the statisticians say there are plenty of them!

And what starts us on this gloomy reflection is that recent announcements of American war policy will hopelessly handicap our American girls from doing anything effective to save our young men from falling in this French war of conquest. For though the French nation as such repudiates a war of conquest and only wishes to regain certain old French ladies called Alsace and Lorraine with whom the Germans eloped forty-four years ago, the French young woman is surely in for conquest and her objective is a certain young, upstanding, solemn young fellow whose name in modern parlance is Sammy. How does our war policy help her? Well, read this, which is telegraphed from Washington this week:

According to the monthly business review of the Federal Reserve Board, the number of women entering industry will be greater than the number of men withdrawing for military service. These women are spending more of their new earnings for clothing. Retail dealers in all cities where women recently have left their homes to work elsewhere report booming business. This is contrary to the policies of economy urged by all Government agencies as a war measure.

And this seems to imply that it is our war policy to discourage our young women from spending their self-earned money to secure all that they need to make them irresistible and forces them to send to their sweethearts somewhere in France photographs of girls in old-fashioned, dingy duds while their rivals dance about and dazzle these warriors with flour-sack creations of pleats and flounces, branded "drifted snow"—with all the suggestive allurements thereof. Manifestly what we need is an American girl propaganda. The Federal Reserve Board should issue a new circular telling our money-earning girls to bedeck themselves with all the new and pretty things they can buy and when thus encharmed the Government should fill the billets in French villages near the front with certified photographs of them with such inscriptions as this:

"These American girls earned the money to buy their own lovely clothes. They can not only do that, but buy clothes for you also! Bring home your hearts, young Americans!"

Of course, there would be a lie in it—which seems to be necessary in modern propaganda. We do not care whether a well man who will let his wife pay for his clothes comes back or not. But the danger of losing our man-power through a Government policy which aims to make our girls as unattractive as possible must be counter-attacked in some way or there may be more citizens of American paternity in France than in the United States!

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QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Gummosis of Apricot.

To the Editor: I enclose limb from apricot tree. This tree is a large, healthy tree, but produced only half a dozen 'cots, very large in size; but the fruit is all split open. The entire tree shows exudation of sappy gum. Is this sour sap? If so, how can it be corrected?—J. L. S., Walnut Creek.

This is an old trouble which has not yet been definitely diagnosed by the experts and we cannot give more satisfactory answer to your question than we did to other questions about gummosis in our issue of September 7. It is not demonstrated whether the trouble is local in the top of the tree or results from root affection, or whether it may proceed from either. Speculation as to causes includes extremes of heat and cold or one coming on the heels of the other. It sometimes affects a single limb and sometimes the whole tree. It sometimes kills the tree and sometimes the tree recovers. Our opinion is that the lack of fruiting and the cracking of the fruit are not necessarily connected with the cause of the gumming, for we have seen plenty of good fruit on branches which were gumming badly. We prefer not to call it "sour sap" because we find branches gumming badly and still carrying good fruit and foliage and no fermentation discernible. The only corrective treatment which now seems to us rational is to give the tree as good growing conditions as possible—removing danger of standing water by drainage and danger of too great autumn drying out by summer irrigation and growing a summer cover-crop to lower soil temperature. All these things should make for promotion of health and vigor in the tree.

Irrigation and Fruit Buds.

To the Editor: I have early shipping peaches that do not bear every year, but on all of the twigs there is a growth from one to two feet and the top branches have sent out a new growth three and four feet in length. Would you think such trees require a late irrigation in order to mature fruit buds? Do you think a midsummer irrigation, after the fruit is off, would make them bear more regularly?—J. B. T., Ceres.

The strength of fruit buds does not depend upon the amount of wood growth made early in the season but upon the holding of the foliage on that growth green and active through the late summer and early autumn. Therefore, a good early growth of new wood does not settle the question. If your trees show signs of too early dormancy by yellowing of the leaves, an irrigation after fruit picking may insure a following crop. If, however, the foliage remains green as late as this date, for instance, it is likely that irrigation is not necessary and lack of bearing must be traced to some other cause.

Why Not Crop the Land?

To the Editor: I have a field that is quite sandy and I wish to improve its fertility and its water-holding capacity by adding humus. It was in alfalfa for six years, but the last two years in beans—giving a crop of seventeen 80-pound sacks of teparies per acre in 1917, but not so good this year. I am told to sow 30 pounds of vetch and 10 or 15 pounds of barley per acre. Would not rye be better than the barley? Would it be necessary to inoculate the vetch with soil bacteria at a cost of $2 per acre?—J. T. S., Denair.

If you wish winter feed, rye and vetch is a good proposition, and in your case rye is better than oats because it will do better on sandy soil. There is no sense in inoculating seed to be sown on land which has successfully carried alfalfa and beans for six years. Increasing the organic matter by growing cover-crops is a good thing and will make a sandy soil more retentive, but after six years with legumes it would be a reasonable rotation to make the land give you a large yield of grain or sugar beets or some other saleable crop, which it ought to be amply qualified to do if it gets moisture enough.

Fall or Spring for Alfalfa.

To the Editor: Is it advisable to plant alfalfa up here in the hills this fall or wait until the latter part of March, next spring?—E. L., Lake county.

If you have to wait for rains to get the ground ready and you are likely to have sharp frosts rather early, it is safer to wait until spring, when there is less chance of losing your seedlings, which usually will not have time enough to get frost-resistant. But there are places in the hills where they are pretty sure to come through. It depends upon local conditions.

Fruit Trees in Old Corrals.

To the Editor: I have a piece of ground that was used for a corral, and trees on this ground do not thrive. Would lime help correct this?—B. T., Ceres.

Your old corral evidently has more richness than fruit trees can tolerate. It is possible that too much acidity in the soil, due to fermentation of excess organic matter, may be the trouble, and in that case lime will be corrective. Old corrals should not be set with trees until after a period of cropping with grain, squashes or other vegetables.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 17, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	1.08	1.81	.67	64	52
Red Bluff	6.96	7.08	.21	100	60
Sacramento	3.56	3.56	.14	88	58
San Francisco	2.53	2.53	.01	80	54
San Jose	6.25	6.25	.15	80	58
Fresno	...	.01	...	92	58
San Luis Obispo	.60	.61	.12	82	56
Los Angeles	.10	.22	...	98	64
San Diego	.06	.17	...	94	66

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Rodent Control—An Achievement

[Written for Pacific Rural Press by John J. Fox.]

The operations of the Rodent Control Division under the State Commissioner of Horticulture have had wonderful results. Owing largely to the work of G. H. Hecke, the State Commissioner, rodent control was included in the horticultural statutes by action of the State Legislature of 1917 and the law became effective July 27, 1918.

Many county horticultural commissioners got work under way in their counties, through educational campaigns and with the help of their farm centers — the first of which was in San Luis Obispo county. The U. S. Department of Agriculture, through its Bureau of Biological Survey, represented by Biological Assistant W. C. Jacobsen, did a great deal of the educational work. Following these campaigns, each county commissioner participating took an active interest in the enforcement of the law.

The Biological Survey also was cleaning up Government lands under Jacobsen's direction. G. H. Hecke saw immediate need for cleaning up State lands, as well as to have a force of field men to work and to demonstrate proper methods of control. Mr. Hecke succeeded in obtaining an appropriation from the Board of Control to establish such a department through war emergency funds. In January, 1918, W. C. Jacobsen was appointed superintendent of the new Rodent Control Division, with S. V. Christierson as assistant superintendent.

A big spring drive against the squirrels then took place, in which all county horticultural commissioners participated. A school children's contest from April 29 to May 4 was announced by Governor Stephens and for squirrels killed Mr. Hecke offered prizes amounting to $200.

A total of 104,509 squirrel tails were turned in by school children. From Lassen county alone the children sent in 31,293 tails after the contest closed.

California was divided into five rodent control districts, each with a field assistant in charge. Each field assistant has charge of cleaning up State lands in his district as well as leading the educational work for the county. Hundreds of demonstrations have been given by these men.

A system for co-operative purchase of poison supplies was inaugurated by the Rodent Control Division with the U. S. Biological Survey. As a result the county horticultural commissioners have been able to save the farmers of California thousands of dollars.

Many thousands of acres of State lands have already been cleared of squirrels.

At the State Fair at Sacramento the exhibit of this division attracted a great deal of attention. Many mounted groups in habitat had been prepared and were on display, together with a number of study skins of the various squirrels, gophers, rats and other rodents.

During the late fall one of the issues of the Monthly Bulletin of the State Commission will feature the ground squirrels of California—life history, habits, control, history of work in the State and results accomplished.

In the coast region an active campaign against pocket gophers has been started—to continue through the winter. In the spring an intensive campaign will be waged to get those ground squirrels that have escaped this year. This systematic State-wide campaign has been successful: (1) War-time exigency demands conservation of foods both from farm and on the range; (2) every county in California is concerned; (3) a suitable law is at hand to govern the operations of the officers having the work in charge.

In looking back it is really remarkable to think we have so long allowed these destructive little pests to increase and multiply and replenish the earth at the expense of our stock and our granaries.

It has been estimated that in grain feed and fruit they have cost us $30,000,000 a year to keep.

This is the greatest individual work the State Commission of Horticulture has ever administered and it is to be hoped that in future the squirrel will be looked upon with the same horror as the rat. May the warfare be kept going. This has been our most expensive year in the matter, but it has been money exceedingly well spent.

J. P. Herring of Oakland, State Taxidermist, collected, mounted and prepared all the exhibits in this division at the State Fair, the various groups being very artistic and life-like.

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Little Leaf of Prune and Peach

To the Editor: I send specimens of prune twigs from the orchard of S. A. Benson and the peach twigs from A. Gunnarson of Kingsburg to see what is the matter with the trees.—G., Kingsburg.

[Answer by Professor W. T. Horne of University of California.]

The peach trouble seems without doubt to be a form of little leaf, but developed late in the season and involves only the late growth. The early leaves appear to be normal, or nearly so, but the later ones are pale and exhibit the usual characteristics of little leaf. It seems probable that this might be considered a slight or incipient attack of little leaf disease.

As to whether these plants will show full development of little leaf next year, or whether the trouble will tend to disappear, I am unable to predict. Little leaf as a disease appears to be rather poorly understood by pathologists, but apparently it is due to some influence existing in the soil, and these specimens would suggest that the conditions in the soil which bring about little leaf had become active only late in the season, and it is possible that this condition will disappear again during the winter. It would seem that in cases of this kind there might be hopes of stimulating the trees so that they might overcome the disease, either by steadying the water supply or by increasing the available plant food, or both.

The prune twigs seem to be affected in about the same way, but the trouble, if it is little leaf, as it appears to be, has not progressed so far. The spotting and burning of the leaves is such as might be due to extreme exposure to drying conditions, in which the latest growth does not have the needed amount of water and the development is accordingly abnormal.

The series of diseases due to drouth and the little leaf condition offer a field of study which would be very interesting to a plant pathologist who would be sufficiently well trained in various phases of plant physiology and the related sciences, but there seems to be nothing very conclusive nor satisfactory to say at the present moment.

Berkeley.

Cover-Crops for the Production of Humus

(Continued from first page.)

One question that is repeatedly asked, year after year, is: "Is it necessary for me to sow a cover-crop where a heavy stand of weeds and native grasses grow each year?" It is not necessary. So long as a good stand of burr clover, miner's lettuce, "filaree" and other native plants grow thick enough to make a good stand, there is no need to spend good money for seed. But a good stand of weeds will not come up perpetually in an orchard if plowing is done at the right time and done thoroughly. And that is when the crop is lush and green. If the weed crop consists chiefly of mallows, wild mustard and wild radish, it must be turned under very early, before it becomes woody, or it will not rot sufficiently and will interfere with the effectiveness of the tilth throughout the whole year. To let any crop mature before it is turned under is to rob the soil of nutriment that it needs and then returning it again to be made over. The immature crop takes a large portion of its tissues from the air and moisture. But

THE CHIEF ADVANTAGES ARE

(1) that it readily ferments and becomes available as plant food; (2) that its mechanical action renders the soil more friable throughout and more easily worked; (3) more retentive of moisture and the maintenance of an equable temperature in the soil. I have dwelt on this phase of the cover-crop because its importance is paramount, and my opinion is based on experience, observation and comparing notes with others.

In another article the subject of artificial manures and their relation to the cover-crop will be dealt with. To neglect this important matter till injury to the soil becomes apparent is bad stewardship and poor business. A really rundown and exhausted soil takes a long time to recover. It wears out the pocketbook, the patience and the enthusiasm of the best intentioned who undertakes it. Any man with pride in himself and his business desires to leave his land in better condition than he found it. Our best bottom lands seem to have no limit to their unaided productiveness, deterioration is so slow—but it is certain. Our thin sandy loams and benches, however, wear out very quickly if not carefully farmed.

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¶ You farmers who have worked hard—and no one works harder—to get together your property, what does it mean to you?

¶ Your property—your farm and buildings, your crops, your stock, your farm implements and, too, your home—all of these represent years and years of work that you have done.

¶ Everything that you enjoy as the result of your work comes to you and stays with you because the heroic soldiers and sailors of Uncle Sam are standing between you and the bloodthirsty, murderous Hun.

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GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Irrigation Overcame Atrophy.

William Wheeler of St. Helena, Napa county, has nine acres of French prunes that gave him 23 tons of green fruit at eight years old. We remember when this young orchard at four years old was suffering from die-back through malnutrition. The bark on trunk and limbs showed dead, shrunken areas, like anthracnose, and many good limbs died back entirely because the sap flow was shut off. Mr. Wheeler dug a well and installed a pumping plant and now irrigates once a year—about the middle of May. He says the old condition has entirely disappeared and the trees are strong and thrifty. He only has to go eight feet to water. The soil is a gravelly clay loam and clay loam.

"Woman's Land Army the Thing."

This is the dictum of F. M. Cowell. And further: "Our wives and daughters have gone to work in the canneries, not because they need the money which they earn but because they realize that our tomato crop must be saved and it will spoil if they do not lend their efforts. There has been a shortage of labor here for awhile. The activities of the Woman's Land Army will doubtless be added to and extended next year."

Large Vineyard Sale in Kings County.

The Lucerne Vineyard, located five miles north of Hanford, and consisting of 1320 acres of land, has been bought by Wylie M. Giffen of the Raisin Growers' Association of Fresno. This vineyard is said to be one of the largest in the world of Muscat grapes. The price paid is reported to be $600,000. This year's crop, including the trays, representing a value of $150,000, goes to the new owner.

School Help.

Mr. Morehead, president of the Sutter County Farm Bureau, said at the State Conference of Farm Advisers at Sacramento that he had never had more satisfactory help in hoeing his 1200 acres of beans than the Oakland-Berkeley school boys that he employed this year. They knew nothing of their duties when they came, but quickly learned what was required of them and took pride in doing good work.

New Bulletin.

The subject of seedless grape production in all its phases will be set forth in a bulletin to be issued shortly by the College of Agriculture, University of California. Write for it.

Thompson Seedless grapes are now on the trays and Muscats (raisins) are now half picked. So far the harvest season has been very favorable.

Good Returns in Lake County.

G. H. Lyon of Lakeport will harvest 80 tons of Bartlett pears this season from 10 acres. This should net him about $330 a ton at this year's prices. Mr. Lyon claims that if he had had water for irrigation he could have greatly increased his tonnage.

Serious Storm Damage in the Santa Clara

[Written for Pacific Rural Press by John J. Fox.]

After a special trip of observation through the prune section of the Santa Clara Valley, the writer can only remark, "The half has not been told" at this writing (September 16). If 25 per cent of the crop of prunes is saved here, it will be fortunate. I visited dry yard after dry yard and orchard after orchard, at Milpitas, Santa Clara, Meridian, Saratoga, San Jose and Evergreen. To mention a few: The Sorosis orchard at Saratoga had over six acres covered with trays. The fruit is practically doomed. I do not think 10 per cent can be saved. A half company of men from the Eighth U. S. Infantry were at work here, but had been put to work picking peaches.

FRUIT MADE MUSHY BY RAINS.

The prune trays had all been canted up to keep them off the ground, but in many places you could run your finger through the assembled fruit like so much jam—fermented clear through. Lester Bros., at Meridian, had 3500 trays of fruit out. It is practically all gone and the fruit on the ground is much of it green with mould—impossible to save it. Bradford & McClay, in the Evergreen section, will save, they think, about 40 tons dried out of an expected 250 tons. They are trying running a small evaporator so far as it will go; also shifting the fruit to dry trays. Only half of their fruit is on the trays, the balance being on the trees or on the ground. And there it lies. The women and children have not been able to pick, as the ground was too wet and muddy.

REPORT OF PRUNE AND APRICOT ASSOCIATION.

The Prune and Apricot Growers' Association has made an exhaustive survey of the orchards and dry yards in the valley and have definitely concluded that it will be impossible to make any good prune product from any possible salvage of badly damaged fruit. This decision was arrived at owing to the fermentation that has set in and penetrated the meat, destroying its sugar content. The value of any further work the growers may do is so problematical that no further recommendations are being made by the association.

Though a large portion, perhaps more than half, of the crop was on the trays, most of the rest was in the orchards and a negligible quantity in the bins. Latest reports from Butte county is 33⅓ per cent loss, and other Sacramento Valley sections report similar loss. But with the good weather they are likely to get the damage will probably be no greater than has been reported. Visalia had no rain and is safe. Napa and Sonoma have not been so badly hit as the Santa Clara Valley, but bad weather conditions, fogs, etc., may still do damage.

GROWERS UNDISMAYED.

The one bright circumstance to be noted is the grit displayed by the growers in meeting the situation and doing all that can be done to save the fruit. Not a single man that I saw was lying down to it, though the loss is grievous. Every man was at work trying to do the best he knew how.

A. C. Kuhn of Evergreen, near San Jose, sulphured some of his fruit, but wasn't satisfied. Now he is dipping everything over again and will sort out the good stuff later. It is too far gone and too tender skinned to be pawed over on the trays and when dumped is simply shaken out into place.

THE SILVER LINING.

The young 'cot trees are making new growth and this disastrous rain has certainly saved thousands of trees that would have gone up if we had a dry fall and put all the others in good shape for next season. It is an ill wind that blows nobody any good.

Conditions in the San Joaquin.

San Joaquin County Commissioner Harry Ladd reports as follows: "Table grapes in this county are hurt very badly in some vineyards where the crop is low on the ground; in others, where the grapes hang high and the bunches are loose, there is very little damage. The wine grape situation is as follows: Zinfandels are practically ruined, while Missions are not hurt much. Some of the Bouschet are hurt quite badly

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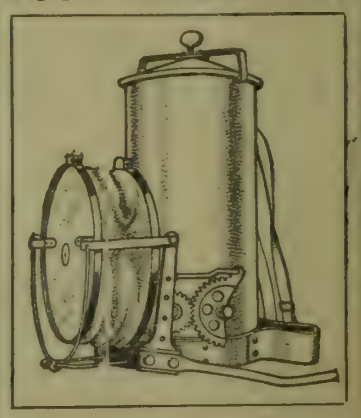

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where down on the ground. Tomatoes are being rushed to the canneries and most ripe fruit will be saved. The general crop for the fall will be helped. Only the early harvested beans are hurt and these only in small quantity. Almonds were about all harvested before the rain. Others will be discolored some, but I do not think any will be spoiled."

Rains Not an Unmixed Evil.

J. C. Loomis of Modesto writes as follows: "The rain has done great damage to local bean crop, estimates varying from 100 per cent loss to 50 per cent on early planted beans. Many growers say that their beans are sprouting right in the pod. Hay damaged some, but rain will add considerable to season's tonnage if it can be cured later, as land was dry and last cutting would have been short. While the rains have caused heavy losses here, they will stimulate alfalfa planting 100 per cent this fall."

Napa's Loss Comparatively Light.

Henry Wheatley of Napa sends in the following word: "It is at present impossible to state just what damage will result from the rain, as much depends upon the weather during the next week. If we have fair drying weather from now on, probably 10 to 15 per cent will cover our loss, but with continued dull weather or another rain it might go to 50 per cent, as most of the fruit on the trays is in a very unsafe condition."

HORTICULTURAL NOTES.

As high as $300 per tons is being paid for olives this season.

W. E. York, an old prune grower of St. Helena, says he has for 20 years grown prunes here without irrigation. His trees this year are breaking down.

While the exact degree of damage to the raisins caused by recent showers has not yet been determined, it is quite generally believed that it will be very slight.

Peach exports to Canada from the United States will be permitted by license from the War Trade Board.

The Oakdale almond crop this season is the largest in the history of that district.

Shipments of California table grapes to Eastern markets will be reduced 50 per cent as a result of the damage from the recent rain, says the secretary of the State Commission of Viticulture. Growers will lose heavily.

Approximately 13,000 tons of California dried peaches, representing 65 per cent of the peach crop of the State, have been secured for Government purpose, the Federal Food Administration for California has announced.

Two hundred soldiers from Camp Fremont have been put to work throughout the Santa Clara Valley gathering the prune crop, which has been badly damaged by the recent rainstorm. Up to 2000 men, as needed, have been offered the growers by the War Department.

The Fresno district peach crop was pretty well under shelter, about 50 per cent of the crop being in the packing houses, according to the secretary of the California Peach Growers. A large part of the remainder is under sheds, and other quantities are boxed and covered.

The marmalade factory established by Crawford & Co. at Anaheim for two or three years has grown rapidly. Plans are now being made by Exchange members to take over this plant and operate it through the General Exchange. All culls will be accepted at the local houses and the proceeds prorated among the growers.

Lodi received the heaviest rainfall for the month of September that it has had in years. The total for the season is 3.29 inches, all of which fell this month. The rain did severe damage to the grapes. If the weather stays damp and rainy it means the grapes will mold and rot, while on the other hand if it turns dry and a cool wind blows for a few days the bunches will dry out somewhat and a great many can be shipped.

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EGYPTIAN CORN
You can use both hands and cut twice as much in a day with the
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as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers. Pair (right and left) $2.50, from your dealer. *Dealer; order from any jobber.*
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SELECTED SEED
Delivery to you by prepaid Freight
Delay buying until you have compared my samples with seed others offer.
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"I need it too, I can tell you. I'm getting more fruit this year than my horses could ever move to market.

"Why do I say I bought it with dynamite? Because if it hadn't been for Hercules Dynamite I never would have had the money to buy it. I wouldn't have needed it anyway because I wouldn't have had the fruit to haul I have now.

HERCULES DYNAMITE

is responsible for my bumper crops. To begin with I plant the trees in blasted holes instead of spade-dug holes. As a result my trees bear a year earlier than they ordinarily would. They give finer fruit and more of it year after year. The death rate is unusually low too. You never saw such healthy orchards.

"Then I help keep them healthy with Hercules Dynamite by cultivating the soil down around the ends of the roots so they grow better. I tell you it pays at all points. That motor truck proves it."

You ought to use dynamite yourself. There is a book, "Progressive Cultivation," that tells all about it. The reading of it will mean money in your pocket. It is sent free on request. Mail the coupon below, *today*.

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Alfalfa Grows on Swamp Land

[Written for Pacific Rural Press by R. E. Hodges.]

Many a man is afraid to buy a tractor because there are wet spots in his fields. Many a man runs tillage implements through wet spots year after year, using extra power to do it and extra seed to plant those spots and perhaps extra power or difficulty harvesting around them; but he gets nothing off from them except in such a dry year as the present. They are often the richest spots in plant food, but at the same time may also be too alkaline to grow crops even when not too wet. Generally these spots that are now farmed at great expense for nothing could be drained and the alkali more or less removed at a cost that would be repaid by the first two or three crops. The crops themselves would be practically clear profit, for they would require little more work than is now put on them.

When L. B. Dutton looked over the ranch that is now his in Santa Clara county, he found a willow swamp of two or three acres in one part of which he unexpectedly fell into a twelve-foot hole and only saved himself by grabbing one of the willows. He has found half a dozen springs in that swamp which now run a six-inch drain-tile nearly full all the year around, except as noted below. The water-table stood about 18 inches under the surface as an average for the whole ranch.

Before buying the place, Mr. Dutton bored 12 feet deep at various places and 14 feet at one place. He found sediment adobe, gradually changing to solid black adobe, at 18 inches. This was about 10 or 11 feet thick and resting on disintegrated sandstone 18 to 24 inches thick lying on solid rock of the same nature as rock in the mountains a few miles away. This rock probably forms the bottom of a bowl which drains water from far away to the district in which Mr. Dutton lives. In addition to this, the creek has overflowed his 75 acres of alfalfa and young pears twice in the past three years, so it was like a sea. Yet the alfalfa on that 75 acres produces tall, uniform, heavy crops, its roots go 3½ to 4 feet deep, and the young pear trees which were planted a year ago last spring look generally thrifty. Where they are not so good as the rest is where more surface dirt was taken off in leveling. The pear trees were planted in the alfalfa before the tile got in its full effect, and the digging showed alfalfa roots rotted off a foot below the surface. Alfalfa now feeds to the bottom of the drains.

SYSTEM OF INSTALLATION.

The 75 acres have a uniform slope of about 4 inches per 100 feet, high places having been graded into low ones. About 25,000 feet of 4-inch tile were laid uniformly 4 feet deep in straight lines 132 feet apart and emptying into a straight main on one side of the field, starting at its upper end with 5-inch tile 4 feet deep and enlarging to 12-inch tile 9 feet deep. A manhole was put into this main drain about every 500 feet and another was put into the swamp with several laterals leading to it and a 6-inch line leading out of it. The ditches were dug by a machine which made them 14 inches wide and 4 feet deep as fast as a slow walk, throwing dirt up on one side. Grade stakes had been set up on a definite level, so the operator could sight over them from his seat and raise or lower the digger to keep the bottom of the ditch practically on the same grade regardless of irregularities of the surface.

STOPPAGE BY ROOTS.

The only trouble with the tile is stoppage by roots, especially where weeds replaced alfalfa in the swamp. Alfalfa was planted in the spring of 1916 before the drains had taken full effect on the swamp, and weeds choked out a good deal of it on that area. The weed roots have choked the drains more or less and have thus added to the moisture and favored their own growth while injuring what alfalfa is left. Mr. Dutton is not certain that alfalfa roots stay out of the drains, but the drains have choked up at only one place and it seems reasonable that alfalfa roots which rot off where soil is not well drained would stay out of drain tile. The roots in the tiling always become slimy and wash out in the spring time, presumably having rotted through the winter. But because they have stayed in the tile all winter they have prevented drainage when the most water is on the ground. Roots have been cleaned out by digging out a few sections of tile at intervals and pulling a home-made cleaner through. The cleaner is a wooden plug about 6 inches long and 1½ inches in diameter, with nails driven through and projecting from its sides. A wire is pushed through as far as possible and tile are dug up there at its forward end. The cleaner is then hooked on and pulled through. But it costs more to clean out than did the original installation. Perhaps more manholes at the troublous places would make cleaning cheaper. But, regardless of these minor troubles, Mr. Dutton has a fine alfalfa field where alfalfa could not thrive without drainage, and he has thrifty pear trees which are enabled to make use of 4 feet of fertile soil because excess water is quickly removed.

Water Enough, but Not Too Much, is Ideal and Practicable

PLANTS must have water enough to dissolve and greatly dilute the elements of fertility. But water must not fill all the spaces between soil particles, for that kills the bacteria which are necessary to make the elements of fertility soluble. Water which would settle by gravity through the soil is a detriment to plant growth. It should be removed. No way of removing it is equal in permanence and convenience to tiling. Tile cannot remove water that would benefit the crops. Now, while the best footing can be had, is the time to put in drains to make wet spots productive and not a cultural detriment to the field.

This article tells of a case where alfalfa grows vigorously on adobe land overflowed like a sea in two winters out of three. Its roots feed almost to the bottom of drain tile laid four feet deep and 132 feet apart. Before the tile got in their good work, alfalfa roots rotted off a foot below the surface, and standing water averaged 18 inches below the surface. They now feed almost to the bottom of this drain tile laid four feet deep and 132 feet apart.

COLUSA RICE ACREAGE BIG.

Rice in the Colusa district is generally in as good condition as last year and there is double the acreage of 1917, according to J. G. Zumwalt of Colusa. About a quarter of the land owners have suffered for water, but there is not over 10 per cent loss. The S. V. I. Co. has 26,000 acres of rice.

We saw an old almond orchard near Paso Robles brought back into profitable bearing by being heavily cut back for new wood and thoroughly sprayed. The only criticism we have to make is that the large cuts were not properly protected and finished.

Barley Market Will Continue Low

THE committee appointed by the California Grain Growers' Association to investigate the possibility of selling this year's barley at fair prices reported, through Chairman T. A. Kilkenney of Dixon, to the "Association" at Sacramento as follows: The present low price is due to (1) an abnormal barley crop produced in the Middle West on account of last winter's high prices; (2) the abnormal wheat crop, which reduces the demand for export barley; (3) a diminished demand for brewing; (4) a diminished demand for horse feed on account of tractors and trucks; (5) a diminished demand for barley as a human food; (6) elimination of speculative buying due to the fixing of middlemen's profits by Food Administration action. While the California barley yield per acre is subnormal and the cost of production abnormal, all that can be hoped for is the Galveston or New Orleans price, less cost of transportation and handling. There is little demand for barley in this market or any other. The committee recommends planting wheat wherever it will do well, as the price of wheat is fixed for next year. This is the more important from the growers' standpoint on account of President Wilson's suggestion, as mentioned by J. L. Davis of Madera, that he did not set the price of wheat for two years because if the war ends in 1919 the Government would lose $500,000,000 due to the immense stocks of wheat in remote countries. This indicates that the authorities figure on a lower price of wheat at the end of the war, and incidentally the prices of other grains will go down accordingly. This was said as a point showing the necessity of growers organizing to save the industry from reaction.

Start Right to Grow More

NEVER before has there been so loud a call for more and still more grain, coming from all points of the compass. Never did you face so great an opportunity to help the world and yourself. Never were good tillage tools so necessary!

Good tillage implements—like **Deering, McCormick** and **Osborne** disk harrows, peg and spring-tooth harrows, cultivators, etc.—make mellow, uniform seed beds, free from lumps, moisture-holding, allowing crops to grow to vigorous full yield. Real cultivation means more bushels and more dollars, and the dollars will pay for your investment.

Deering, McCormick and **Osborne** disk harrows have these big, new improvements: The **Third Lever**, which controls the depth of penetration, regardless of soil condition. The **Exclusive Attachment of the Tandem**, which forces the tandem always to cut the ridges left by leading gangs, yet allows perfect flexibility at turns.

Remember the other tried and thoroughly-satisfactory features—built-in angle steel weight boxes; adjustable forecarriage; tall, hard oilers, convenient and protected; 4-wear wood bushings, improved scrapers, etc.

This year every added bushel counts doubly. Start right with right seed beds. See the local dealer and write us now about **Deering, McCormick** and **Osborne** tillage tools.

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Our plant and seed cleaning machinery are so located and equipped as to make us the most important dealers in Alfalfa Seed and other field seeds. In procuring Alfalfa Seed, we cover the entire country, selecting our stocks from the best districts. This seed is then cleaned up to our standard of purity, which is seldom, if ever, equalled by others. It behooves all buyers to obtain our samples and prices before buying elsewhere.

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How many kills to YOUR *shot pattern?*

MOST hunters agree that three shots or more are essential to a *kill*. Less than three may mean a *cripple*, no matter what the size of shot or its velocity. Hence uniform pattern, i. e., an even spread of shot is essential to successful shooting, in the field or at the traps.

The secret of good patterns is in the *control* of the powder explosion. Good, evenly distributed patterns are the direct results of a correct system of wadding scientifically adjusted to the bore of the gun and the load. The wadding, like the piston head of a gas engine, must give the explosion something solid to work against, so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance to the explosion so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.

The Winchester System

Winchester Wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the Winchester *Base Wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work.

Though the explosion is almost instantaneous, it is none the less *Progressive*, the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle* where it is most needed.

Meanwhile, under the heat and pressure of combustion, the tough, springy, *Winchester Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* the shot evenly.

At the muzzle the shot pellets slip out without jamming while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash. All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

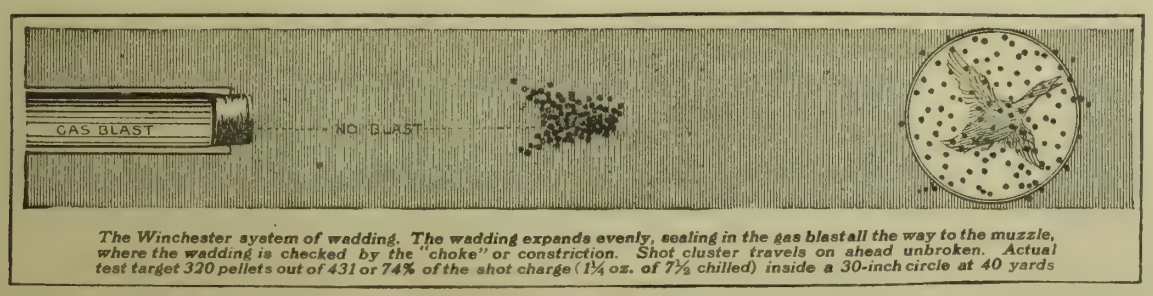
The Crimp. The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Waterproofing and lubrication. In the cold damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester waterproofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and splitting in dry weather.

Uniform shells. From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. $100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps be sure your shells are Winchester Leader and Repeater for Smokeless; Nublack and New Rival for Black Powder. Write for our Free Booklet on Shells. **Winchester Repeating Arms Co., Dept. Y-11. New Haven, Conn., U. S. A.**



The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where the wadding is checked by the "choke" or constriction. Shot cluster travels on ahead unbroken. Actual test target 320 pellets out of 431 or 74% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-inch circle at 40 yards

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Manure

A mixture of cattle and sheep manure from animals fed on cotton seed meal and cake and alfalfa (highly nitrogenous foods) aged for several years under climate conditions that remove moisture but prevent leaching and fermenting.

No odor.
No flies or insects.
No weed seed or foreign matter.
Many times plant food values of ordinary manure.
Guaranteed contents.
Nitrogen, 1.5 to 2%.
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Potash K^2O water soluble, 4 to 5%.

We are shipping GROZ-IT in immense quantities to Southern and Eastern states, where present freight rates make it $10 per ton more than cost to you.
Place your order now to insure delivery.
Sold in bags or bulk.
Write for circular and prices.

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Try our new brand of sublimed 100 per cent pure Ventilated Sulphur for making Paste — Atomic Sulphur.

For Lime Sulphur Solution, use our "8" Brand Refined Flour Sulphur, which we will furnish at a price so cheap that you cannot afford to purchase ready-made solutions.
We are equipped to make immediate shipment. Send for illustrated booklet; also price list and samples.

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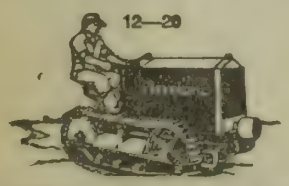
Cleveland Tractor



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Field and Garden Notes

Imperial Grain Growing.

Imperial county grain growers do not worry about packing the subsurface soil even after subsoiling eight to eighteen inches deep, as many are now doing instead of plowing. They settle the seedbed with water after plowing or subsoiling dry, according to B. D. Irving of that county. After the irrigation, the land is disked two to four inches deep and a "float" smoothes it to level up for irrigation. The soil is generally heavy, and when disked after irrigation is left in small clods, which dry out. To get seed into soil sufficiently moist to bring it up would require such deep planting that it could not come up in a good stand. It is, therefore, drilled shallow and flooded to bring it up. Baking is pretty well avoided by irrigation every two to four weeks, depending on the weather.

Enough Bean Bags Available.

Enough bean bags are available already in California for the crop, which will not be larger than last year, though the acreage was increased, as stated by E. H. Ward of the W. A. Plummer Mfg. Co. However, dealers have not been buying so much as usual on account of the small margin fixed by the Food Administration Grain Corporation agreement. The old standard 18x32 ten-ounce burlap bags, holding 80 to 85 pounds, are quoted to growers at 21½c each, dealers being allowed one cent profit. But on account of bursting and tearing of these light weight bags the 19½x34 twelve-ounce burlap 100-pound bags have come into general use. These are quoted at 26 cents to the grower. Both prices are in bales of 500 each at San Francisco.

Selling Beans to Government.

To the Editor: Whom should we address to sell our crop of beans to the Government?—A. M., Los Angeles.

[The Government is not buying old beans. For the new crop, H. Clay Miller of the California Food Administration, San Francisco, is the buying agent. He will appoint local committees to inspect and receive the beans. What the Government and allies will require is not now known, but there is no intention to fix a price on any beans except those which the Government and allies shall actually buy.]

Horsepower for Threshers.

To the Editor: What horsepower is required to run Case stationary grain threshers?—Subscriber.

[It is generally figured that a Case separator alone requires about a horsepower per inch length of the cylinder, according to Mr. Brown of that company. Blowers require five to ten horsepower additional, depending on weight, amount and dryness of straw and size of separator; and the feeders require two to six horsepower.]

Lake County Bean Cannery.

A. Mendenhall, who owns the Clear Lake cannery at Upper Lake, says he has the beans to furnish work for double the help he is able to get. He is now putting up about 700 cases per day, but could put up 1600 if he had help enough. The principal variety is the crease-back, seed of which were brought over here from Iowa by his father in 1852.

Potatoes, Fifty to One.

Fifty pounds of potatoes per pound planted was the experience of Frank Silliman of Santa Cruz county with H. A. Hyde's Oregon strain, Pride of Multnomah and White Star seed potatoes. One hundred pounds of each were planted under commercial conditions as a trial in Mr. Silliman's regular fields.

Hay Shippers' License.

Farmers shipping hay produced by themselves are not required to have a license under the food control bill, but failure to secure a license before engaging in hay shipping as a business is punishable by fine and imprisonment.

Beware of substitutes!
Buy the original Germain's

Hairy Peruvian ALFALFA

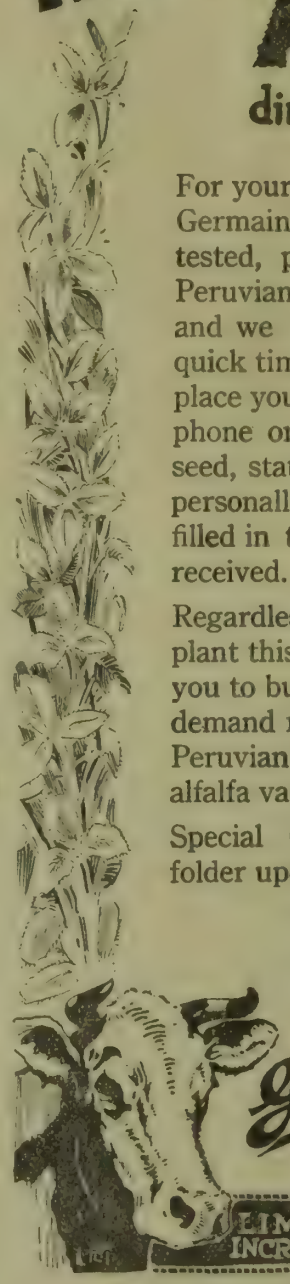
direct from the introducers!

For your *own protection* order *ONLY* Germain's specially-selected, proven, tested, pedigreed, true-to-type Hairy Peruvian seed. Our supply is limited and we may be over-sold in double quick time. To avoid disappointments place your order at once. Wire, telephone or write for a reservation of seed, stating amount wanted—or call personally if you can. Orders will be filled in the order in which they are received.

Regardless of whether you intend to plant this fall or next spring, we advise you to buy your seed now. Increasing demand means increased prices. Hairy Peruvian is rapidly displacing all other alfalfa varieties.

Special Germain's Hairy Peruvian folder upon request.

Before planting, inoculate seed with FARMOGERM and in sure a quicker growth, a larger crop and earlier maturity.



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Established 1871
Seed & Plant Co.
N. E. Corner
Sixth & Main Sts.
Opp. P. E. Depot
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LIMITED SUPPLY - INCREASED DEMAND.

2½ MORE TONS per ACRE

The surface of any spindle shows rough through the microscope. But the powdered mica in Mica Axle Grease fills up this roughness and makes spindles smooth as glass. Then the grease works better and lasts twice as long. No hot boxes. Get a can from your dealer today.

STANDARD OIL COMPANY
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Agricultural Notes

DATES OF FAIRS.

Dates for fairs in California are:
Oakland Land Show and Exposition—September 9-October 6.
Fresno County, Fresno—October 1-5.
Southern California, Riverside—October 8-12.
California Liberty, Exposition Park, Los Angeles—October 12-26.
Livestock Show, San Francisco—Nov. 2-10.

Placer county has fourteen boys and girls' clubs raising vegetables, poultry, pigs, rabbits, and sorghums.

The Caruthers tomato cannery is paying $14 per ton for tomatoes; $15 is paid on contracted crops.

Raisin City dairymen are "up against it" on account of the help situation. Some will soon have to quit.

The Delta Farms Reclamation District recently voted $560,000 bonds for the purpose of putting up 13 miles of levees.

Farmers near Raisin City are selling alfalfa in the stack at $16; $20 is being received for first-class baled alfalfa on the cars.

Walnuts in the Goleta district of Santa Barbara county show some effect of blight; but the yield is likely to be around normal tonnage. Last year it was above normal per acre.

Rains early in September in the Palo Verde Valley, Riverside county, are reported to have washed cotton aphis out of existence and insured a good crop without further irrigation.

Irrigation canal leakage draining into an old lake bed has kept one crop of rice in Stanislaus county growing thriftily while others on higher ground were not getting enough water.

A bumper crop of Chevalier barley in the Salinas district was lying in bundles in the fields when the rain came. The fields were rather miry, for nearly six inches of rain fell in three days.

Lompoc Valley bean threshing started this week in the higher fields, as beans on the valley floor are always somewhat later. Large threshers are more numerous this year than heretofore.

Lima beans around Goleta are a light crop, with considerable vines. A yield of seven or eight sacks per acre is estimated. Some fields not yet cut are making a second growth, which will interfere with harvesting.

There were 90,779 bags of beans in storage, September 1, in San Francisco and Oakland warehouses. Receipts for the month previous were 30,401 bags, according to Chief Grain Inspector Henry C. Bunker of San Francisco.

A. H. King, gardener for the St. Helena Sanitorium, has some very fine lima beans, a variety which is not supposed to grow very well in this part of the State. Mr. King says he can succeed only with the pole variety. The bunch ones do not do well.

Cotton boll worm and the tarnished bug do some injury to cotton in all sections of the State, but boll weevil has not yet been introduced. Thrips are reported as the cause of some dropping of leaves and squares in the Fresno Egyptian cotton district.

Scott Miller has proved the climate of Templeton, San Luis Obispo county, good for Bermuda onion seed by raising two acres of the plumpest kind of seed. G. A. Nehrhood proposes to grow five acres next year. They have no irrigation but a rather foggy climate.

Santa Ana growers claim that California's walnut crop will be the bumper one this year. It is also predicted that it will command a higher price than last year. In the last few weeks early crop estimates have been revised and it is now thought that No. 2 nuts will run about 5 per cent and Jumbos about the same.

The first lima beans to be sold around Santa Ana, Orange county, were those sold from the Irvine ranch early in September at 11½c and 12c. This ranch annually plants about 23,000 acres of limas, mostly without irrigation. The yield this year is expected to be about nine sacks per acre, as against seven and a half sacks last year.

Loss of over 4,000,000 bales of cotton by drouth during July and August throughout the cotton belt, but particularly in Texas and Oklahoma, is indicated by Government forecasts. Present conditions indicate the equivalent of about 11,000,000 500-pound bales. The acreage planted was next to the largest ever. Arizona and California crops are reported as in the best condition of any.

Styleplus Week the nation over

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America's only known-priced clothes

Now going on—this Fall season exhibit—staged in every city and town where Styleplus Clothes are sold.

While thousands of Styleplus suits will be sold, the big object is to show the public what values we can produce by centering our volume on a few grades, thus permitting us to manufacture scientifically at low cost.

This season when clothing prices are *up* you can buy a Styleplus at a price never considered unreasonable for a good suit of clothes. The Styleplus plan of supplying reliable quality at known price helps you more than ever in times like these.

Wear Styleplus Clothes and you march in Uncle Sam's great thrift army because you make both sides of your dollar count. Visit a Styleplus Store during the coming week.

Sold by one leading clothing merchant in most cities and towns. Write us (Dept. AA) for Styleplus booklet and name of local dealer.

HENRY SONNEBORN & CO., INC. Founded 1849 Baltimore, Md.

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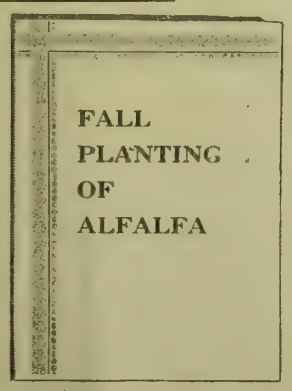

Get the full benefit of recent rains by planting alfalfa right away.
This booklet describes best methods of land preparation. You should have it. Sent free on request.
There are seven kinds of Green Gold brand alfalfa seed. One is particularly suited to your needs.
New crop seed now ready for delivery. Prices mailed on request.

BOMBERGER SEED CO.

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Dealers in PAPER — **Blake, Moffitt & Towne**
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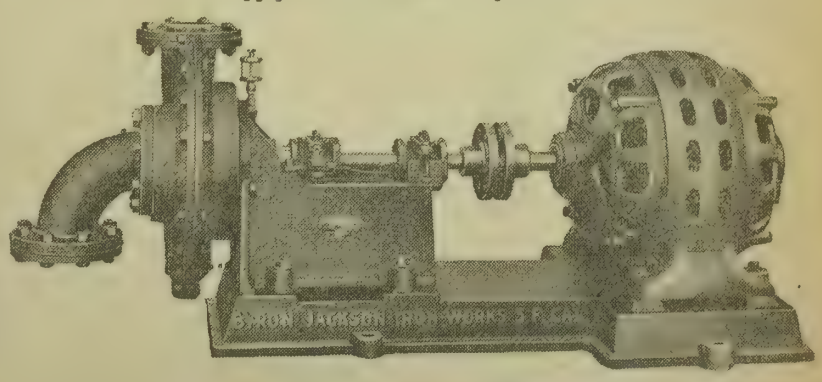
Independent buyers have been offering 18c for Calimyrna figs.

UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



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New Catalog No. 60-A for the asking.

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LOS ANGELES SAN FRANCISCO VISALIA

Beet Sugar Lime Fertilizer

The most readily available form of lime, having been hydrated, contains a little nitrogen, potash and phosphoric acid. Is thus a mild, complete fertilizer. Cost six to seven dollars per ton in bulk in car lots, f. o. b. cars the siding nearest your ranch, south of Chico and north of Tehachapi.

CHICKEN MANURE

The richest of all manure, is the most economical, handling and freight cost being the same for others as for the highly concentrated chicken manure. Car lot bulk shipments only.

Sole Distributor:

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U. S. Dept. of Agriculture license J-764.

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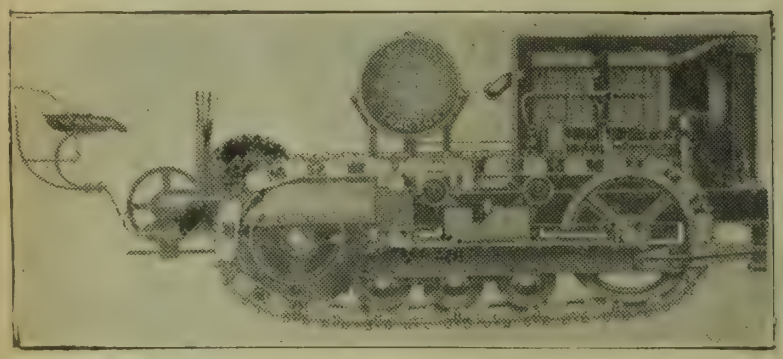
"LITTLE HUSKY"



8-16 FARM AND ORCHARD TRACTOR

The "LITTLE HUSKY" is completely made in our Los Angeles shops. It is *not* an assembled machine—is *not* an experiment—but a tractor *you* will want to own. Descriptive literature sent on request.

Dealers—Write us for territory.

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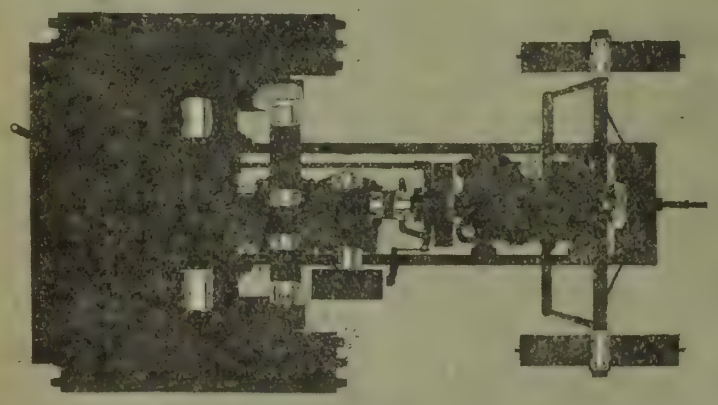
THE HOMER LAUGHLIN ENGINEERING CORPORATION

2652 Long Beach Avenue, Los Angeles

The LAUSON 15-25

DUST PROOF-ALL GEARS ENCLOSED



The Full Jewelled Tractor

Every one knows the value of the watch with the "Full Jewelled Movement"—it can be depended upon. In the LAUSON 15-25 we have followed the full jewelled idea by equipping it with 24 sets of Hyatt and Timken heavy duty Roller and Ball Bearings. These mean to the tractor what the jewels mean to the watch movement. They insure easy running, no friction, dependability, long life, power.

Combined with LAUSON dust-proof design—all gears enclosed and running in oil—and LAUSON rugged construction, the LAUSON owner has real tractor insurance for field or belt work, year after year.

Full particulars about the LAUSON 15-25—the economical farm power unit for all farm work—will be sent on request. Our nearest Sales and Service Station will gladly arrange a demonstration on your farm.

Builders of Lauson Frost King Engines

For twenty-three years LAUSON Frost King Engines have been the standard of farm engine excellence— 1½ H. P. to 28 H. P.

THE JOHN LAUSON MFG. CO., 1030 Main St., New Holstein, Wis.

Distributors for California, Oregon, Arizona and Nevada:
THE DE LAVAL DAIRY SUPPLY CO., SAN FRANCISCO, CAL.

State Fair Machinery Observations

(Concluded from last week.)

Fairbanks Semi-Diesel Engine.

The semi-Diesel engine operated by Fairbanks-Morse & Co. throughout the Fair time attracted much favorable comment. Though of 15 horsepower, and burning low grade fuel, it was almost noiseless, no vibration was noticeable, and the exhaust was clean. It was cooled by connection with city water, and the waterjacket stood around 90 degrees F. The engine was reversed and ran equally well, apparently It was hitched to a long line-shaft running several dead engines and a centrifugal pump which kept a waterfall running over a weir.

Waterloo Boy Owned by Deere.

The Waterloo Boy 12-25, now owned by the John Deere Plow Co., was on exhibit, hitched to a Van Brunt seed drill about 10 feet long. This tractor has four wheels, three-point suspension, large internal gear drive, and two horizontal cylinders.

Emerson-Brantingham Tractors.

One of the new tractors shown at the State Fair was the Emerson-Brantingham, a four-wheel type, which has been manufactured four years in the East and is handled in California by Brock & Skidmore of Berkeley. It is of 12-20 horsepower, has four cylinders cast in pairs, large enclosed internal drive gear, coal oil burning attachment, transmission and differential all together in one casing, very heavy crank case and engine to reduce vibration, gear-driven fan, connecting-rod bearings three inches wide and held together by four bolts instead of the two commonly used. A self-steering attachment is available but scarcely necessary, as the machine keeps well in line.

Power-Adjustable Double Disk.

A specially ingenious yet simple labor saver seen during the Fair is the power-adjusting Roderick Lean double disk harrow, by which the tractor driver from his seat loosens a lever ratchet, backs the tractor to set the disk at an angle and goes ahead. At the headlands, if he does not want to repeatedly make the turn under full load of angled disks, uselessly chewing up soil already cut to powder, he simply loosens the ratchet without getting off the tractor and the angle of the disks straightens out. It is said by Western Manager R. B. Wheeler of the Roderick Lean Co. to be the only automatic disk harrow on the market. The power adjustment is obtained by means of a clevis as long as the angle-iron tongue of the harrow (about two feet), which slides forward and backward in the tongue, being engaged and released by the lever ratchet mentioned above. Attached to the sliding clevis by individual clevis connections are two "reaches" which operate the outer ends of the rear gangs. The clevis is also attached to the inner ends of the forward gangs. The tractor hooks into this clevis and when the ratchet is loosened it pulls forward and straightens the disks. When the tractor backs up and the ratchet is engaged to the tongue, as soon as the tractor moves forward it pulls the disks by means of reaches from the tongue to the outer ends of the front disks and the inner ends of the rear disks to their working angle up to 20 degrees. The clevis connections for the "reaches" between forward and rear disks provide full universal joints and entire flexibility. Roderick Lean tillage implements of all kinds except plows, though long well known in the East, are comparatively new to Western farmers, but will soon be on the market everywhere.

The Walking Tractor.

Fageol tractors, invented by R. Hamilton, a Sonoma county vineyardist for his own work and especially for muddy soil, have been elaborated during the past two years by the Fageol Motors Co. into commercial durability. The engines run 1200 r. p. m., developing 18 horsepower and 1000 to 3000 pounds on the drawbar, the equivalent of six or eight horses. They have four-foot rear wheels, each of which "walks" on 32 legs, about 10 inches long, and arranged in pairs. There is no grease cup on the machine, the working bearings being lubricated by filling the transmission case with 600W oil. The motor is furnished with usual lubrication. The factory has been putting out four or five tractors a day for the past few weeks.

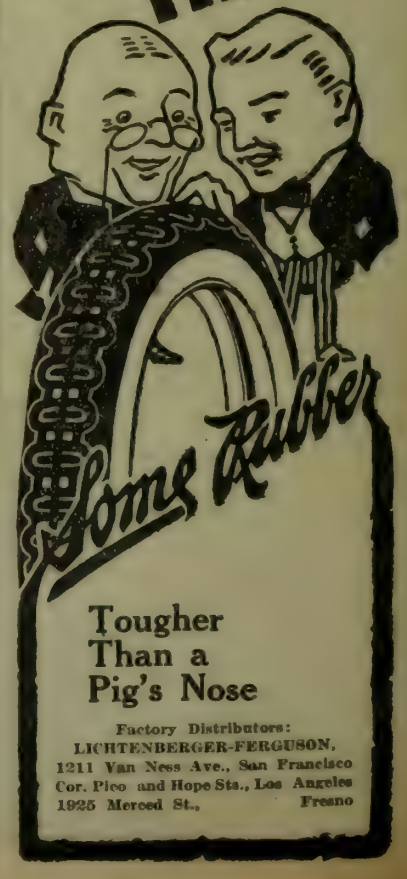
Russell Rice-Bean-Grain Thresher.

The Russell rice, bean, and grain harvesters were worth a good visit. One of them, opened for inspection, has a 40-inch feeder and cylinder with the rear end 64 inches wide and carrying 16 feet of shakers and a 64-inch shake shoe. The extra width is to spread out and loosen straw so grain may fall from it within the machine. To help along with this object the 15-bar cylinder is closely followed by a four-wing beater; which does not permit straw to wrap around it. Straw passes over fingers to separate most of the grain under this beater and then proceeds to a spiral beater, which spreads it out the full width of 64 inches. From the spiral beater it is shaken toward the back over a "corrugated grain pan," which prohibits the grain and straw from standing still or coming back. Two rows of fingers crosswise of the machine toss the straw upward as it passes over them, thus further loosening it. The grain pan is braced lengthwise and crosswise to prevent any sagging, which would deliver grain unevenly to the cleaner.

Pelton Irrigation Pumps.

Pelton water wheels are known the world over; but Pelton irrigating pumps have as yet become but little known. Their exhibition at the State Fair, pumping water into a tank with direct drive connections for both electric and gas motors, was a good introduction. Their frames are cast all in one piece to avoid the wracking and loosening of bolts. Their bearings have ring oil lu-

NORWALK TIRES



Tougher Than a Pig's Nose

Factory Distributors:
LICHTENBERGER-FERGUSON,
1211 Van Ness Ave., San Francisco
Cor. Pico and Hope Sts., Los Angeles
1925 Merced St., Fresno

brication, recently enlarged bearings, and a new water box to automatically seal the bearing to prevent entrance of air and to keep the bearing cool.

Eight-Cylinder Tractor.

An eight-cylinder V type gas tractor, the "Common Sense," made in Minneapolis and handled in California by J. O. Humphrey of Oakland, has a single bull wheel behind with two steering wheels in front. It has a chain drive on each side of the bull wheel from the 40-horsepower motor. On high, at the rated speed of 1200 r. p. m., it makes 3½ miles per hour. A leveling screw keeps the outfit level with one wheel in the furrow. The tractor weighs 6000 pounds, has a wheel base of 9 feet, 7½ feet wide in front and 4 feet in the rear, and 6 feet tall, the highest point being the cover over the bull wheel.

Exhaust Cools Radiators.

Tractor radiators cooled by use of the exhaust are the ones used on most of the Avery sizes. They are composed of vertical copper tubes in circles, with an open circle several inches in diameter in the center. Upward into this open center the exhaust escapes, drawing cool air past the tubes from all sides without use of a fan.

Caterpillar Track Improvements.

Caterpillar tractor track links have been in two pieces bolted to the shoe plates. As these persisted in twisting and loosening the bolts, an improvement has been made which eliminates this difficulty. The two pieces are cast as parts of a malleable plate casting, which fits a considerable area of the under side of the shoe and when bolted on cannot be twisted.

One-Man Tractor Harvester.

We can run a Case tractor 20 feet ahead of us "in case" we ride on the I. H. C. grain binder in the tractor tent containing the regiment of Cases. This binder is hitched by a long tongue to the tractor, which is steered by square rod universal joints which reach from a bevel gear on the steering post of the tractor back to the seat on the harvester.

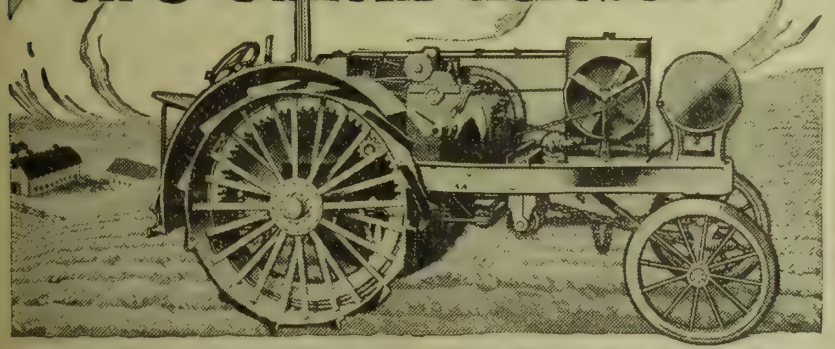
I H C Tractor Improvements.

Changes made in the International Harvester Co.'s 8-16 model include an Ensign carbureter instead of the "mixer," a vertical high air intake instead of the low horizontal one which previously allowed too much dust to get in, levers forward from the seat rather than backward from it. This engine has a four-cylinder motor lubricated solely by a force-feed system which drips used oil onto the ground or into a receptacle. The chain drive is not lubricated even with the waste oil.

TRACTOR COURSE. NOV. 11-19.

The tractor short courses to be held at University Farm, Davis, November 11 to 19 and November 20 to 22, are of two different natures, one for beginners, one for experienced men. At least ten of the best makes of tractors will be used for practice work in the beginners' course, which will be similar to those held at Davis in 1916 and 1917 and at Riverside in 1918. It covers the fundamental principles of engine operation and repairs and of tractor driving. The experienced men's course, lasting three days, is more in the nature of a conference to bring every student up to date on tractor improvements and practice. Demonstration of repair jobs will be a feature. Enrollment costs $1. Rooms and board may be had at University Farm dormitories and cafeteria or elsewhere, as desired. Only 180 can enroll in the beginners' course, enrollment being in order of application to the Dean, University Farm, Davis. Those taking the beginners' course may remain for the other. The growth of these courses has been phenomenal and a great many will be disappointed when they apply too late.

Plowing Record 8 Acres per Day on 8 Gallons Kerosene



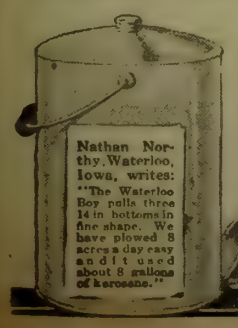
WATERLOO BOY

Original Kerosene Tractor

The Waterloo Boy plows more miles of furrow per dollar of fuel cost, because our patented, inbuilt kerosene manifold is different from every other. It refines kerosene into a powerful explosive gas—gets full power from every drop of fuel.

Excess Power for Emergencies

The Waterloo Boy has demonstrated its ability to do good work in all soil conditions—gumbo, hard pan, sod and flooded land—uphill and downhill. Guaranteed 25 H. P. at belt is ample for threshing, silo filling, etc.



Easy operation and long life are assured by simple, strong construction; perfect automatic lubrication, dust proof gears, bearings and wheels, reliable ignition, Hyatt Roller Bearings throughout, complete accessibility of working parts.

It will pay you to investigate this tractor.

Illustrated Catalog FREE on request. Write for it Today.

Waterloo Gasoline Engine Company

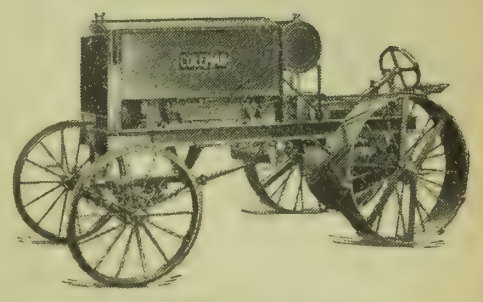
6003 W. 3rd Ave. Waterloo, Iowa

facts—

Simplest
most efficient
most dependable

The Coleman Tractor

is the **simplest** because it has fewer working parts — less parts than any other tractor of equal power rating on the market. The **worm drive** is the simplest application of direct power transmission — takes fewer parts. All the way through the tractor, the **Coleman** is simple — a feature that appeals with tremendous force to the farmer who has use for a tractor.

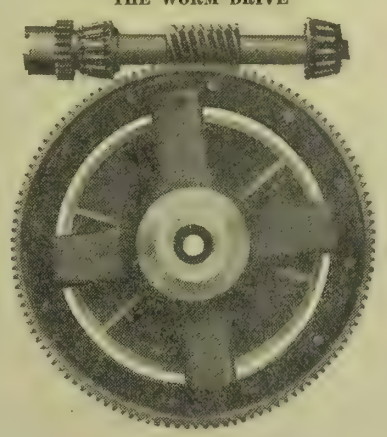


COLEMAN 16-30 H.P.

motor-power

The Coleman Motor is the famous Climax engine of four cylinders, 5-inch bore by 6½-inch stroke, and is governed to a speed of 750 r. p. m. Its full water jacket includes provisions for cooling even the spark plugs, a feature so necessary in burning Kerosene. **The Governor** is of the throttling centrifugal type, fully enclosed and easily adjustable. Oversize connecting rods and main bearings provide positive insurance against bearing trouble, and a full force-feed oiling system guarantees perfect lubricating of all wearing and moving parts at all speeds, and under all conditions. **The Cooling System** includes a well-proved type of radiator (Perfex) and a centrifugal water circulating pump. **The Pistons** are provided with leak-proof rings to give perfect compression and to prevent the fuel from leaking past the pistons into the crank case. The Climax engine, in short, is the perfect tractor engine, built to give service, under all conditions. Construction throughout is of the very best materials we are able to obtain—the very finest workmanship has been put into each part. The **Coleman Tractor** is, mechanically, as perfect a tractor as it is possible to build—and **fully guaranteed.**

THE WORM DRIVE



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The farmer, anxious to own a tractor insuring dependable power for all farm work, and equally anxious to escape the loss of time, labor and money that go hand in hand with a complicated tractor, will prefer the **Coleman.** It is the tractor that answers the demand of the times.

The Worm Drive. The extreme simplicity of the Coleman Tractor is due to the successful and proved application of a well-known power principle, the worm and worm gear. The old-fashioned jack screw is one of the simplest and most powerful mechanisms in existence. The Straight Line Worm Drive of the Coleman cuts fuel-consuming, machine-wearing friction, resulting in the least friction of any tractor yet built. **Guaranteed for life of the tractor.** The worm gear in the Coleman Tractor is simply the jack screw principle applied to the tractor. The famous Liberty truck used by the American Army in Europe has the worm drive. Government technical experts selected this type because it has demonstrated its superiority under the most trying conditions.

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Handling the Herd Bull

[Written for Pacific Rural Press by R. H. Whitten.]

A MAN who had been arrested for abusing his mother-in-law came up before the judge for sentence, and was fined $55. "Your honor, I thought the fine was only $50 for striking a mother-in-law," he protested. "It was," the judge replied, "but now there is a $5 war tax on amusements."

How I wish that every farmer who abuses his bull could be made to pay a similar fine—war tax and all. And by abuse I mean not only beating the daylights out of the bull with a club, but also improper feeding and care, lack of exercise, overwork in breeding—in short, general mismanagement.

We read and hear much about the feeding and care of dairy cows, but few men have a true appreciation of the importance of the bull in the herd, and he does not come in for his share of attention in the study of feeding, exercise and care.

In feeding and caring for a dairy cow the results are apparent at once. But with a bull they do not begin to be apparent until his calves are born, and are not wholly apparent until the heifers come into milk. Yet it must not be forgotten that the bull is more than half the herd—a great deal more. For instance, in a herd of twenty cows the individual female influences the outcome of only one mating a year, but the bull puts his influence into twenty matings. Consequently, from a breeding standpoint the feeding and care of the bull is twenty times as important as that of any single female in the herd.

EARLY CARE PAYS.

From the birth of the young bull, or from the time a calf is bought to be grown out for a herd-header, the owner should see that he gets the best of care and feed. Too many farmers pay a long price for a very well bred calf and then allow him to practically shift for himself and mature "by guess and by gosh." Breeding and type are necessary, but no more so than size, constitutional vigor and temperament, and the most promising youngster on earth will not become a good breeder unless he is developed properly.

For the first six months the young bull should be treated the same as his sisters, except that he should be kept on skim milk longer. Heifers are generally weaned from milk at about four months, but the young bull should be kept on it for six months or longer. The aim should be to produce a growthy, thrifty animal, and this end can be secured with more certainty through the feeding of milk, with grain and good roughage like alfalfa, than in any other way.

A mixture of ground barley, middlings and oilcake meal in the proportions of 6:3:1 makes a fine grain ration for young calves, but middlings and shorts are almost unobtainable at present, so must be omitted, or one of the proprietary feeds can be substituted. A teaspoon of blood meal added to each feed will prevent scours and aid in the development of bone and muscle.

BEGIN TRAINING AT SIX MONTHS.

When the youngster is six months old he should be separated from the heifers. A light ring should be placed in his nose and he should be taught to lead and to stand when tied. Even at this age it is best to use a staff instead of the abominable chain or rope, as he will learn to keep his head up and will never know what it is to even want to come at you.

After six months he may be given a liberal allowance of roots or beet pulp, in addition to grain and all the leguminous hay he will clean up readily. Silage is not a very good feed for a growing bull and should be used sparingly. It is not recommended in large quantities for a mature bull, as it may make him an uncertain breeder. While the bull is growing he should not receive more than five pounds a day, and when full grown not more than ten to fifteen pounds. Salt should always be before the young bull, and a handful of powdered charcoal mixed with the feed occasionally will prove beneficial.

Young bulls will take all the exercise they require if turned out in a small field or a corral. It is a mistake to pamper them, and they will do better if kept out in the open air all the time, with simply a shed enclosed on three sides, as protection from the sun, rain and wind.

No one should be allowed to pester the growing bull. More than one good calf has been spoiled by being teased when young. This may be commenced in play, but it is sure to end in disaster.

BE PATIENT BUT FIRM.

Bulls are stubborn animals, and a world of patience is necessary in handling them. Firmness and complete mastery are also essential, and a bull should never be allowed to even suspect his own tremendous strength. Never for a moment allow him to have his own way. Always make him do things your way.

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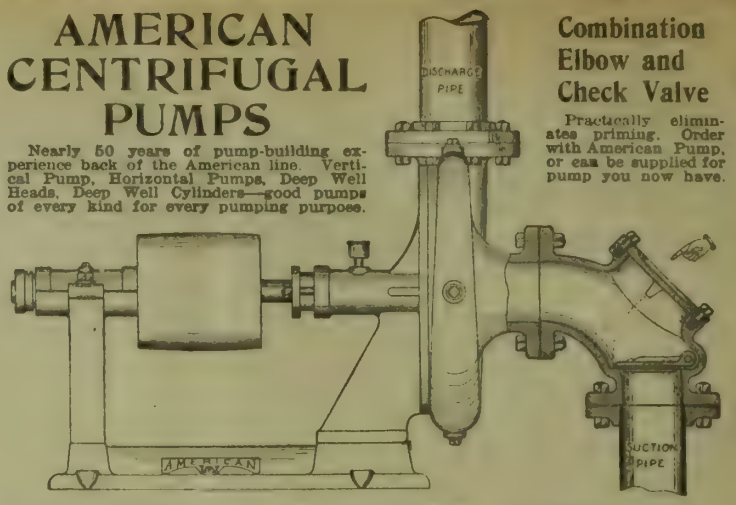
Nearly 50 years of pump-building experience back of the American line. Vertical Pump, Horizontal Pumps, Deep Well Heads, Deep Well Cylinders—good pumps of every kind for every pumping purpose.



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THE STANDARD SINCE '88

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This is easier said than done, and you may have a few hard struggles when the bull is young, but a stout bull lash that will snap and sting about his heels will prove a good persuader, and after he has once given in to you he will surrender more easily thereafter.

But don't attempt to whale the stuffing out of him. He will understand firmness, but he never will stand for abuse. A bull is surprisingly intelligent and quick witted, cunning and treacherous, and if he is abused he will await his chance to get even with you. And when that chance comes—look out or it will be you for the obituary columns.

WHEN TO BEGIN SERVICE.

After the bull is twelve months old he may be used for light service—say once every two weeks—but it is best not to use him much until he is about fifteen months old, and even then he should be used with extreme care. Overwork from being allowed to serve too many cows when young is a serious mistake, for it is impossible to do justice to either cows or bull, and the results are a ruined bull and an unsatisfactory crop of calves.

If handled properly during the first two years of breeding, a bull should give good service for many years. At two years he should be equal to any reasonable amount of service, but should never be allowed to serve more than two cows a day, and these services should be as far apart as possible. Don't allow him to waste his vitality by repeated service to the same cow. One good service is as good as a dozen.

FEED FOR MATURE BULLS.

After a bull has reached maturity, it is surprising how little feed it takes to maintain him in proper breeding condition. Many bulls do not receive any grain at all—nothing but alfalfa. A liberal amount of grain would improve their looks, but perhaps would lessen their potency, so their owners sacrifice looks for usefulness.

However, most mature bulls, especially during the breeding season, can make use of a reasonable amount of grain without becoming impotent, and as the more exercise a bull gets the more feed he can stand, it is much better to make him take plenty of exercise and feed him from four to eight pounds of grain a day than to allow him to become lazy and feed him nothing but alfalfa.

EXERCISE THE MOST IMPORTANT.

Exercise—that's the great factor. The average bull is short lived, and generally is sold young because he has become fat, lazy and impotent from lack of exercise. He has been kept in a bare corral, with nothing to induce him to exercise, and no bull under such conditions will exercise enough voluntarily. Consequently, some artificial means must be provided, and if this is done the bull will be kept in a vigorous physical condition and can be retained to a ripe old age.

Exercise hardens the muscles, promotes digestion and assimilation, and maintains vigor. To be effective it must be regular, and an hour's exercise daily will prove more beneficial than three hours' exercise every third day.

Various methods and contrivances have been devised for exercising bulls, such as an overhead trolley, a merry-go-round, a tread power, and work in the yoke. When the last two methods can be made to fit in with the general scheme of farming, they are to be recommended, as work is actually accomplished by using the bulls. But the overhead trolley and the merry-go-round have been used with indifferent success—or rather, a much simpler method will give as good or better results.

This is the use of a heavy barrel. Get a substantial oil or vinegar barrel and fill it with water so that it will not fall to pieces from the shrinking of the staves. Put it in the bull pen and see the fun. Perhaps you will think that the bull can't handle anything so heavy, but watch him. He will roll it all around the yard with his head and will have the time of his life. Never mind if he blusters and bellows.

(Continued on page 314.)

A home-made crate that makes the breeding of cows easier and safer.

BREEDING CRATES ADVISABLE.

No twentieth century dairyman will allow his bull to run with the herd; neither will he allow a 2000-pound bull to serve a fifteen-months-old heifer outside of a breeding crate. Many successful breeders use a crate at all times, considering it easier and safer for both cows and bull, especially in muddy weather and in cases where cows do not stand well.

Crates like the one illustrated have been used on a great many California dairy ranches with entire success. They can be cheaply made without the aid of a carpenter, but

FOR LEASE

Summer Sheep Range

Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the

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TYPEY SON OF MODEL FRANCIS GLISTA 173142

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The A. R. O. records of Model Francis Glista's dam, granddam and of his sire's dam and granddam average 30.70 pounds in seven days. His first seven dams average 4.25% fat. The calf's dam made a high record under unfavorable conditions. This and other young stock for sale.

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My Range Bulls are Shorthorn Show Bulls

All of them have been at the Fairs and have generally won something. Their get are uniform, vigorous, and hardy, raised to service age on the range. King Lancaster, three times Grand Champion at the State Fair and now 13 years old, is still getting fine calves. My bulls won Grand Championships every year for eleven years (1904 to 1914, inclusive), except 1907, when I showed only calves. I have a breeding herd of 400 cows and can supply service bulls in car lots, but they are going fast. Write me your wants pretty soon or come and see.

Shropshire and Merino Sheep also for sale in any quantity

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Four Head—Two to three years old.
Six Head—Ten to twelve months old.

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ORMONDALE SHORTHORNS

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Suited for either the range grower or breeder.

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Shorthorns and Berkshires

WRITE FOR FULL PARTICULARS

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The Sheep that bring the Big Prices are the kind to buy

Rambouillets

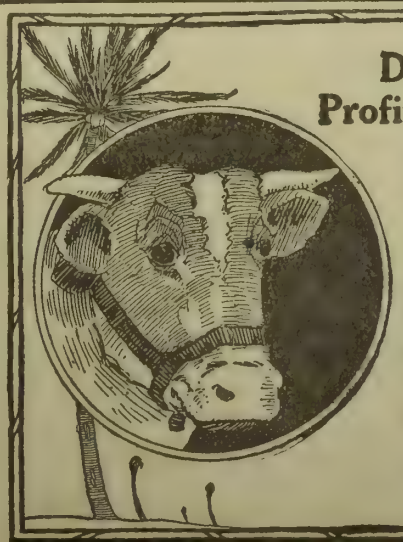
I purchased at the Salt Lake sale 31 head of the best (Butterfield, Quealy and Bullard strains) to head my breeding ewes. I have about 100 big, smooth, heavy-wooled rams for sale.

J. BIDEGARAY FRESNO, CAL.

FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena



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is a nourishing, economical, profit producing form of food for cattle and poultry.

Mix it with your rations and watch the results. FREE SAMPLE and a copy of our booklet containing valuable information on the subject of "SUCCESSFUL FEEDING" gladly sent on request. Write today. If your DEALER can't quote prices write us direct.

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California Liberty Fair

Exposition Park :: Los Angeles

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$60,000.00 IN PREMIUMS

Largest Live Stock Show

EVER HELD IN THE WEST

From 1,500 to 2,500 head of animals will be on exhibition

Public Auction Sales a Feature

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DO NOT MISS THIS GREAT SHOW

Send for Premium List, now ready. Headquarters, Central Park, Hill Street, between Fifth and Sixth. Pico 3776.

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Fresno District Fair

Fresno County Fair Grounds

OCTOBER 1st to OCTOBER 5th

The Best Equipped Live Stock Exhibit in the State will be a Feature of this Fair

Every farmer and rancher who can possibly attend this big Fair should make every effort to come, for it will be a Fair of tremendous interest to him. This will be the best equipped Live Stock Exhibit in the State—and should be of tremendous interest.

Cattle, Hogs, Sheep and Poultry Exhibits

Some of the best prize-winning stocks in the country will be exhibited at this fair. Already there are entries in every class—cattle, hogs, sheep, and poultry will be exhibited.

A Big Rodeo Horse Races

A big special feature this year is a Rodeo and Wild West Show, featuring some famous strings of horses and riders. Horse racers are a feature.

War Time Fireworks

The fireworks this year will be the display of the night signals that are being used on the battle fields. Other features for night-enjoyment are scheduled.

Food Displays

Food displays are being given much attention this year. There will be some fine exhibits in this class.

Auto Races

Auto races will be a feature the last day. Several races, with famous drivers will be run.

Auto Smash

A sensational feature — where two autos going at the rate of 50 miles an hour, crash into each other.

EXCURSION RATES ON ALL RAILROADS

LIVESTOCK QUERIES

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

BREEDING SOWS BEFORE WEANING LITTERS.

To the Editor: My sows are farrowing late this fall, and I want to breed them so that they will farrow early in the spring. How can this be done without weaning the pigs too early?—A. J. L., Visalia.

[Answered by Livestock Editor.]

Instead of waiting until weaning time to take the sow away from her pigs, separate them temporarily at the time you want to breed her. Keep her away from them over night, or through the day for a few times. She will soon come in heat and can be bred just as successfully as at the customary time. If this is done, she can be left with her pigs for ten or twelve weeks instead of the usual eight weeks, if desired.

COWS HAVE INDIGESTION.

To the Editor: One of my cows first showed signs of sickness by being stiff in all four legs; did not eat much, but has never really refused feed. Now one hind foot is swollen just above the hoof and one eye is bad. Also she has trouble getting up and down. Another cow bloats every day on dry hay. Sometimes she bloats before she eats, and after eating the swelling goes down. Other times she is all right when she goes into the barn, yet we have to use the rubber hose in a few minutes. We have used the trocar on her three times.—Mrs. I. O. W., Los Molinos.

[Answered by Dr. Edward J. Creely, San Francisco.]

Both cows are sick from digestive disturbances caused from eating something that irritates the bowels. First cow is foundered, second cow has indigestion. Founder is an inflammation of the sensitive structure of the feet, and an irritation of the bowels will cause a secondary inflammation of the feet through the lymphatic system.

For founder give at one dose 1 pound glauber and 1 pound Epsom salts, dissolved in ½ gallon warm water, after which give 1 ounce saltpetre three times daily in a bran mash. Keep the hoofs wet night and day for several days. Bathe the eye with boracic acid, 1 tablespoon, water 1 quart.

The cow with indigestion should first be given 1 quart raw linseed oil, 4 tablespoons turpentine, 3 ounces sweet spirits nitre. Then twice daily give 2 tablespoons of the following mixture in 1 cup warm water.

Olive oil	1 quart
Pearson's creolin	4 ounces
Spirits turpentine	4 ounces
Sulphuric ether	4 ounces
Oil peppermint	20 drops

Give an occasional purge of salts, and be particular not to overfeed, give unaccustomed cold drinks, feed too new hay or too much straw, bran, roots, potatoes, oilcake, whole grain, chaff or weeds.

FEEDING VALUE OF SKIM MILK.

To the Editor: Please tell me how to figure the value of the skim milk I feed to hogs.—F. M., Ramona.

[Answered by Livestock Editor.]

When grain is fed in connection with skim milk, 100 pounds of the latter is worth six times the price of hogs; when no grain is used, it is worth five times as much.

To illustrate: If hogs are bringing 17 cents and you are feeding skim milk without grain, it is worth five times this amount, which is 85 cents per 100 pounds. You will see from this that at the present price of hogs skim milk has a very high feeding value.

Butterfat Contest at State Fair

[Written for Pacific Rural Press.]

The contests in the dairy production classes are always interesting and instructive. This year there were entries by the following: W. J. Higdon, Tulare; Holsteins; D. F. Conant, Modesto, Jerseys; J. E. Thorpe, Lockeford, Jerseys; J. S. Gibson Co., Williams, Holsteins; C. D. Hayworth, Modesto, Jerseys; Guy H. Miller, Modesto, Jerseys; Dr. H. W. Hand, Orland, Jerseys; S. F. Williams, Orland, Jerseys. The three-day tests were conducted under the able direction of Prof. F. W. Woll of the University Farm and the awards were made as follows:

Cows, four years or over: Higdon, Senorita Ciruela Mechthilde 3rd, 7.95 pounds; Higdon, Model Bonnie Echo, 6.79 pounds; Conant, Lady Kate's Rosette, 6.56 pounds; Conant, Mamie Owl, 6.04 pounds.

Cows, thirty months and under four years: Gibson, Queen Pontiac Ch. Korndyke, 5 pounds.

Cows, under thirty months: Miller, Lucile of Venadera, 4.70 pounds; Hand, Brilliant Jersey Queen, 4.49 pounds; Thorpe, Rose of Mossdale, 3.59 pounds; Williams, Alta La Fosse, 3.47 pounds.

Bright Prospects for Liberty Fair

[Written for Pacific Rural Press.]

We don't know what the initials of C. R. Thomas stand for, but if we were to venture a guess we would say "Certainly a Rustler." You ought to have seen this live wire at the State Fair, signing up livestock exhibitors for the Liberty Fair at Los Angeles. He secured the promise of 51 exhibitors, and of course there will be many more who did not show at Sacramento—not only from California but from adjoining States—some from Colorado and possibly from Canada.

The barns as originally planned have been completed, but the entries have so far exceeded expectations that six or eight additional buildings will have to be erected. The exhibits of cattle and hogs will be larger than at the State Fair, and the goat show will be the biggest the world has ever seen. Altogether it will be a real livestock show.

Beet Tops Made Prime Beef

One of the big cattlemen of Southern California has a policy of not keeping a cow over winter if she does not prove with calf. Last year 14 out of a bunch of 60 pure-bred five-year-olds failed to get with calf, so he fattened them on beet tops until they averaged 1595 pounds. Their meat was displayed in Los Angeles windows as prize Christmas beef.

But one word of caution to anyone who may decide to use beet tops. The leaves contain oxalic acid and when fed in large quantities they tend to purge the animals and cause digestive disturbances. Consequently, it is better to feet the beet tops in connection with such dried roughages as hay, corn stover or straw. Or 3 ounces of chalk or ground limestone to every 100 pounds of tops may be used to counteract the effects of the oxalic acid.

Doings of Breed Associations at State Fair

LIVESTOCK SALE DATES.

Sept. 26—W. D. Trewhitt, Hanford, Poland-Chinas.
Oct. 9—Kings County Poland-China Breeders, Hanford.
Oct. 10—W. H. Ginn & Son, Corcoran, Holsteins.
Oct. 17—Second Modesto Sale, Modesto, Holsteins.
Oct. 24—Berkshire Congress, Liberty Fair, Los Angeles.
Nov. 12—A. W. Morris & Sons, Woodland, Holsteins.
Nov. 21—First Tulare Sale, Tulare, Holsteins.

CATTLEMEN'S ASSOCIATION ACTIVE.

Three different meetings of the California Cattlemen's Association were held at Sacramento during the State Fair.

The first was a get-together of cattlemen from Zone No. 2, covering the Sacramento district. It was addressed by President Nares, and the main subject discussed was the necessity of organization and cooperation. It is probable that a local livestock association of cattlemen in Sacramento, Yolo and Solano counties will soon be formed.

The second meeting was between the cattlemen and the Cattle Protection Board, which has in its hands the enforcement of the "Hide and Brand Bill." Because of the small revenue resulting from inspection fees, it was decided that cattlemen themselves should act as inspectors. Many names of cattlemen willing to act have already been submitted, and the plan will be put in operation as speedily as possible.

The third meeting was of the by-laws committee appointed at the June convention at Davis. The committee approved the form of constitution and by-laws for counties, zone and the central association as submitted to them, and recommended their adoption by the different units.

A call has been issued to all of the local livestock associations throughout the State to convene during October, if possible, to elect delegates to the different zone conventions to be held during the first half of November.

SWINE BREEDERS PLAN IMPORTANT WORK.

State Food Administrator Ralph Merritt expressed a desire that the swine breeders get together for mutual benefit, and at a meeting of the directors of the California Swine Breeders' Association, held during the State Fair, it was decided to launch a movement for a big membership and to start a campaign to put the industry on a more stable basis.

Shortly a definite program of procedure will be announced. One of the first moves will be to secure better marketing conditions, so that the small hog raiser may obtain the full market value of his animals.

Also, the organization is preparing to go before the next Legislature with a proposed law for the inspection of mill feeds. It would be a sort of pure food measure for the livestock man and would require all makers of proprietary feeds to indicate the food value of the contents upon each bag.

A bill intended to accomplish the same purpose was before the last Legislature, but no one was there to push it and it died on the files. This year both the Swine Breeders and the Cattlemen's Association will back it.

JERSEY JINGLES.

Jersey breeders were urged by Judge Peter J. Shields, at their banquet at the State Fair, to give their breed more publicity and put Jerseys "back on the map" again. He told them that they had the best breed, but lacked the animation to keep their breed before the public.

Other rousing speeches were made by Guy H. Miller, Ruland Hardy, Prof. Gordon H. True, Judge F. H. Scribner and J. W. Henderson, Jr.

Eight new members were admitted, and officers were elected as follows: President, Dr. H. W. Hand; vice-president, Guy H. Miller; secretary, J. E. Thorp; treasurer, N. H. Locke; directors, C. G. Marchus, E. E. Greenough, Mrs. Ruth Hardy, S. F. Williams, Dr. Grass.

DUROC-JERSEY DOINGS.

Great enthusiasm was worked up at the banquet and election of officers of the Western Duroc-Jersey Breeders' Association, held during the State Fair. A special drive for members was inaugurated and big things were planned for the coming year.

The following officers were elected: President, F. M. Johnson; vice-president, H. H. Braly; secretary, J. E. Thorp; treasurer, V. F. Dolcini; directors, H. M. Way, Donald Graham, H. P. Slocum.

Meetings will be held at the Los Angeles and San Francisco shows.

POLAND-CHINA PROGRESS.

The annual meeting and election of officers of the California Poland-China Breeders' Association was held during the State Fair and the following were elected: President, W. Bernstein; vice-president, George V. Beckman; secretary and treasurer, A. D. McCarty; directors, Fred Gatewood, H. I. Marsh, M. Bassett, W. A. Young.

Several important matters were brought up and, as many of them are of interest to all swine breeders, they will be covered more fully in a later issue.

BERKSHIRE BRIEFS.

The Berkshire breeders had a jolly good time at their banquet, held during the State Fair. James Mills proved an ideal toastmaster, and entertaining and instructive talks were given by Prof. Thompson and Prof. True of the University Farm, Prof. Wilson of the University of Nevada, Judge Peter J. Shields, J. L. Thatcher, A. B. Humphrey, Frank B. Anderson, J. Francis O'Connor, Chas. Maurer, and Joe Wilson.

SHORTHORNS PRAISED.

John E. Robbins of Horace, Ind., made the Shorthorn breeders happy when he told them at their annual banquet that the animals he judged at the State Fair compared favorably with those he had judged at Eastern shows.

A. W. Foster, president of the association, acted as toastmaster, and other speeches were made by W. S. Guilford, C. R. Thomas, T. T. Miller, T. W. Dibblee, Prof. Gordon H. True, D. J. Stollery, W. Hawkins, and Prof. Wilson of Nevada.

Trewhitt's Dispersal Sale

POLAND-CHINAS

September 26th

—at—

HANFORD FAIR GROUNDS

Owing to other business, I am compelled to close out most of my herd of tried

POLAND-CHINA SOWS

I will sell at auction 60 head of tried sows, bred and open gilts. These sows and gilts are from the best herds in the United States, a great many of them are from J. W. Pfander's herd of Clarinda, Iowa, who sold the highest priced Poland-China sow ever sold in America. If you want the best, come or send your bid.

I will also sell my three herd boars—all Eastern bred.

WRITE FOR CATALOG.

W. D. TREWHITT

HANFORD - - CALIFORNIA

SIXTH SEMI-ANNUAL SALE

OF

KINGS COUNTY POLAND-CHINA BREEDERS ASS'N

Wednesday, October 9th 1918

AT

Kings County Fair Grounds, Hanford, Cal.

80—HEAD—80

Registered Poland-China Boars and Sows

To be sold without reserve. From the best herds in Kings County.

CONSIGNORS:

M. Bassett
W. Bernstein
J. M. Bernstein
J. A. Crawshaw
C. G. DeRaad
Dimmick Bros.
W. L. Haag & Son
W. S. Hubbard & Sons
H. D. McCune
E. G. Myer
F. D. Ross
Trewhitt Bros.
C. A. Vaughn

Auctioneer: Col. Ben A. Rhoades.

For information or catalog, write F. D. Ross, Secretary, Hanford, Cal.

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO. LOS ANGELES

GILTS BIG TYPE PROLIFIC

Poland-China gilts from stock selected for prolificacy, big show type, from the best blood of Kings county, but now located in Solano county. Also a few service boars. Ask us about their breeding or come and see them.

DIXON HEWITT & HEWITT CALIFORNIA

CHESTER WHITES FOR PROFIT

HIGHLANDER, the $1000 Grand Champion Boar heads our mammoth herd, bred for large litters, rapid growth and easy feeding qualities. Service fee, $100; sows guaranteed safe in pig. Some corking good March pigs for sale.

OAK KNOLL FARM Box 338 LAKEPORT, CAL.

SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

During the past testing year 281 breeders of Holsteins divided $14,712.25 prize money among themselves. This is the amount that the A. R. O. department of the association distributed. Fifteen new 40-pound records were made. There are now thirty-five 40-pound cows.

State Fair Sales

[Written for Pacific Rural Press.]

Alexander & Kellogg of Suisun sold a fine Dairy Shorthorn bull calf to Cox Bros. of Los Banos; also a bull to H. Griepe, Stockton, and a heifer to W. Palmer, Davis.

Highland Stock Farm of Fair Oaks sold for $1,000 the grand champion Chester White boar, Highlander, to Lea Bleakmore of San Francisco, owner of Oak Knoll Farm, Lakeport.

Young & Clark of Lodi sold Poland-China boars to Thos. Purcell, Grand Island; Stevens & Bell, Maxwell; H. H. Windmiller, Elk Grove; American Beet Sugar Co., Chino; J. W. Wakefield, Acampo.

Jack Borge of Los Banos sold a Duroc boar to the American Beet Sugar Co., Chino, and one to Dr. Fred G. Burris, Woodland. He bought three sows and a boar from Dr. Weldon of Sacramento.

E. Miner of Lodi sold a Poland-China boar to Heath Bros. and two sows to S. W. Kidd, both of Ione. Mr. Miner won his first blue ribbon at the Fair this year and was as tickled as a boy with his first pair of boots.

John M. Bernstein of Hanford sold three fine six-months-old pigs, two gilts and a boar, to the Hacienda Chiclin Ranch, Drujillo, Peru, South America. The gilts were daughters of the noted boar, President, and the boar by Model Wonder.

Dixson & Dixson of Hughson took five Duroc gilts and a boar to the Fair and were offered such a good price for them by W. G. Myers of Arbuckle that they sold them to him. Afterwards they bought a corking good boar from J. M. DeVilbiss of Patterson.

J. H. Cook of Paradise, who is going to war, sold his great young boar, Forest View Bob, to C. Roy Marshall of Sebastopol. This massive herd header is by Caldwell's Big Bob, the 1122-pound world's grand champion, and out of a Long King-Big Bone sow.

H. P. Slocum & Son, Willows, sold their junior champion Duroc boar, Uneeda Model Col. 3rd, to D. O. Brant of Elliott-Brant Rancho, Owensmouth, for a long price. This boar was one of the outstanding individuals of the show. The same concern sold a boar to A. M. Bemmerly, Woodland, and their junior yearling sow to G. C. Craig, Owensmouth.

H. I. Marsh of Modesto probably made the banner sale at the Fair, disposing of his prize herd of Poland-Chinas to Fred Hartsook, the noted photographer, whose ranch is at Lankershim. The herd consisted of the famous boar, I B A Wonder, six sows and one gilt. The first prize sow weighed 900 pounds and the second 840 pounds. Mr. Hartsook will have Mr. Marsh show this grand herd at Los Angeles and San Francisco.

HANDLING THE HERD BULL.

(Continued from page 311.)

Don't try to stop him. That is merely an indication of vitality—the very thing you want.

If you have two bulls and they are dehorned (they certainly ought to be), keep them in the same pen. All animals like company, and dehorned bulls running together play enough to get the needed exercise, yet never hurt each other. At the start they will fight it out to see which one is the boss, but after that they will live together in peace.

VICIOUSNESS NO DETRIMENT.

If you have a bull that is vicious or ill-tempered, don't think of getting rid of him on this account alone. The most prepotent and therefore the most valuable bulls that have ever been known to the dairy world have been more or less vicious. The same nervous force which makes a bull ferocious also counts for production. So have an equipment that will enable you to handle him with safety, but keep the vicious bull. Get rid of his opposite—the sluggish, inactive one.

Don't make a pet of any bull. Never trust the most gentle one. Be on your guard at all times, and handle bulls as though they were vicious, for no bull ever lived a natural lifetime without having vicious moments. Don't allow a gentle bull to make necessary the services of the doctor or undertaker. It is better to be a live dairyman of judgment than a dead one of conceit.

SAN FRANCISCO SHOW AN EYE-OPENER.

"This exhibition will open the door to new possibilities in livestock production and development on the Coast," says Joseph E. Painter, the genial manager of this great enterprise. "Exhibitors are making heavy entries, realizing that the thousands of persons who will pass through its gates will afford a wonderful means of advertising their animals and attracting buyers." And we might add—just as good a means for those who are in the market for stock to find the best to be had.

The show promises to be a hummer. There will be classes, not only for breeding herds, but carloads of fat and feeder cattle and swine; classes for single steers in purebreds, grades and cross breeds. There will be a carcass contest and many other interesting features. Don't forget the dates—November 2 to 10.

Breeders intending to exhibit should bear in mind that entries close October 5. Don't wait until the last minute. Send in your entries now.

Purebred Registered
HOLSTEIN CATTLE

Are you paying for the privilege of milking your cows or do they actually make good? The Department of Agriculture estimates that the average cow yields 155 lbs. of butterfat per year, while it takes 170 lbs. just to pay expenses.

Some dairymen are making a big success, so many must be running at a loss. If you have any of these average cows, get rid of them and get some profitable ones.

Send for FREE *Illustrated Descriptive Booklets*

The Holstein-Friesian Assn. of America
F. L. Houghton, Sec., Box 230, Brattleboro, Vt.

FOR MILKING MACHINES

Clear and Clean as Water

B-K keeps tubes and cups sweet and clean. Penetrates milk solids—kills the bacteria. Is clean—harmless—cannot taint milk. B-K makes rubber parts last longer—cannot harm metal. Used and recommended by Milking Machine Manufacturers for years. Cheapest in actual use—sold under guarantee. Get B-K today—end sour milk troubles. Send us your order and your dealer's name. Send for dairy bulletins and "trial offer."

General Laboratories—Madison, Wis.
3441 So. Dickinson St.

We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it.

BREEDING DATE BOOK — HERE —

California Breeders Sales & PedigreeCo.,
C. L. Hughes, Sales Manager,
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TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal

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EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
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RAISE THEM WITHOUT MILK
ON BLATCHFORD'S CALF MEAL
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PETALUMA, CALIFORNIA

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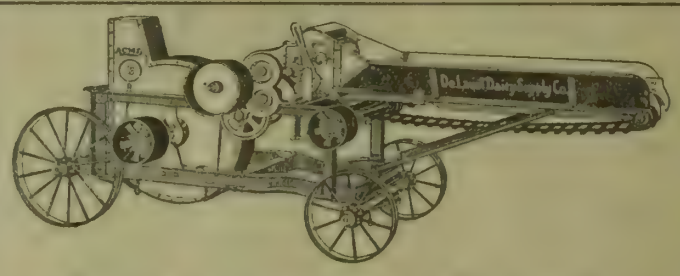

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THE SPIRAL KNIVES CUT CLEAN
THE STEEL FRAME MEANS DURABILITY

INSURE a well packed, evenly cut silage by filling the silo yourself. The Acme Silo Filler will pay for itself in one season, by chopping your dry feed and making alfalfa meal.

Feeding hay in bulk is wasteful—chopped feed is all eaten. Don't lose $3 to $5 worth of hay out of every ton you feed. Chop it with an Acme Cutter.

A Size for Every Dairy. *Catalog on Request*

De Laval Dairy Supply Co.
SAN FRANCISCO

IDEAL GREEN FEED SILOS
Leak Proof Permanent

Calco WATERING AND FEEDING Troughs

THE Calco Individual Feeding and Watering Trough is made of Armco Iron—rigid construction—is easily cleaned—can be bolted down to prevent overturning—saves feed and is economical.

Calco Troughs cost less than wooden disease traps—and last for years.

Diameter	Depth	Length	Price
10¼ in.	5 5-16 in.	40 in.	$3.70
10¼ "	5 5-16 "	60 "	4.50
14 "	7 3-16 "	24 "	4.55
14 "	7 3-16 "	120 "	9.60

Other sizes from 24 to 120 inches priced from $2.95 up.

Order one Calco Trough—you will want others. Advise size wanted and we will ship immediately.

Circular describing Calco Troughs and other hog products upon request.

California Corrugated Culvert Company
LOS ANGELES, 417 Leroy Street — BERKELEY, 406 Parker Street

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Grand Champion
Herd of Hampshires
FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.
Best families.
Finest individuality and clean-cut markings.
Call or write.

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

VETERINARY BOOKS NOT FREE.

Some time ago it was announced in this Journal that books on diseases of horses and diseases of cattle might be obtained on application to the Bureau of Animal Industry, United States Department of Agriculture. A recent communication from this bureau conveys the information that these books were issued as congressional publications and allotted to Senators and Representatives for distribution. The department received no allotment. The books may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at $1 each.

LIVESTOCK DIRECTORY.

SWINE

Poland-Chinas.

AM IN NEXT DRAFT, so will dispose of my few remaining brood sows; several young pigs and herd boar. Herd boar by Big Long Jumbo (227939), out of Black Big Bone Princess (589850). One sow by King's Chief Revenue (247983), out of Candy Kid (513-246). One sow by President (229941), out of Golden Lass (798352). Pedigrees sent same day as animals are shipped. Prices reasonable. Howard C. Peterson, Reedley, Cal., Box 396.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

CLOSING OUT MY ENTIRE HERD of three year's selection. I offer herd boars, bred and open sows and gilts and spring pigs of both sexes. The best blood lines. The big, prolific kind. Write for prices today. J. H. Cook, Paradise, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

REGISTERED POLAND-CHINAS of choice breeding and careful selection. C. C. Roberts, Rt. A, Box 411, Chico, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts, weaned boar pigs. C. B. Cunningham, Mills, Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Shipped on approval. Satisfaction guaranteed. Cholera immune. Write for booklet and prices to Robinson & Ward, Fair Oaks, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal

SPECIAL OFFERING—Three registered Berkshire brood sows, regular producers of large litters, now bred to outstanding boars of Rival Champion blood. Write today for full description and prices. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

SOME OPEN GILTS and young boars from Taxpayer, Burks Good Enough and King Col. strains for sale. Shipped on approval. F. W. Gardner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

RANCHO DEL SUR DUROCS—Few gilts bred to Orion Cherry King boars. Some good spring boars. Donald H. Graham, Lancaster, California.

SELLING OUT DOS HERMANOS DUROCS. Your opportunity. My herd boar, sows and young stock priced to sell. Hans Duveneck, Ukiah.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholero immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J. H. Minto, Patterson, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

DUROCS—Defender, Clinton B, and Golden Model strain; the big type. Allen Thompson, Tulare.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE UP-TO-DATE TYPE of Durocs at J. M. DeVilbiss, Patterson

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer Young stock for sale A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

TOYON FARM HOLSTEINS—Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose. Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland. Cal.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

FOR SALE—Four-year-old registered Jersey bull, a direct descendant (25 per cent) of King's Valet, Imp. (No. 79143), and a very beautiful animal, with many records behind him. Chas. Nelson, Elk Grove, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D., Berkeley.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

SHORTHORNS—Carruthers Farms, Live Oak, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM—Choice Shorthorns, bred for size and quality. W. O. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

SHROPSHIRE RAMS—Some choice registered and grade yearlings. Also some purebred lambs. Call or write. Harry L. Huston, Winters, Cal.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

300 HEAD young sheep for sale. Bred for December lambing. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

25 CHOICE purebred Rambouillet bucks for sale. Alfred Kuhn, Henleyville, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

SECOND MODESTO SALE

80 Registered 80

Holsteins

MODESTO, CALIFORNIA
Thursday, Oct. 17, 1918

Including the largest number of high record cows, high record bulls, sons and daughters of high record sires and dams, bred to the highest record sires, ever sold at public sale in the San Joaquin Valley. Among them:

A BEAUTIFUL 27-89-POUND COW, in calf to a 29-pound son of Prince Gelsche Walker.

A 26.90-POUND JUNIOR FOUR-YEAR-OLD DAUGHTER of Gordon Glen Pontiac. She is due to freshen October 20 to King Segis Alcartra Abbekerk, 30-pound son of the $50,000 bull.

A 23-POUND FOUR-YEAR-OLD, bred to a 29-pound son of Sir Chimacum Wayne, and she is a beauty.

A 21.90-POUND THREE-YEAR-OLD DAUGHTER of Spring Farm King Pontiac, bred to the twice grand champion bull, King Segis Alcartra Prilly, and due to freshen on November 7.

AN 18.51-POUND JUNIOR TWO-YEAR-OLD DAUGHTER of King Segis Pontiac, bred to King Segis Alcartra Prilly.

A DAUGHTER OF KING KORNDYKE SADIE VALE, out of a good record dam, and bred to King Segis Alcartra Abbekerk.

A DAUGHTER OF PRINCE GELSCHE WALKER, and she made 577 pounds butter in one year at two years two months. She will be fresh by sale time.

A 20-POUND COW that made 644.09 pounds butter in 320 days, and she is heavy with calf to Prince Alcartra Korndyke, son of Tilly Alcartra.

AN 18.21-POUND JUNIOR THREE-YEAR-OLD DAUGHTER of a 30-pound cow and a 37-pound sire, heavy with calf to the twice grand champion, King Segis Alcartra Prilly.

A 20.98-POUND SENIOR THREE-YEAR-OLD, due to freshen in November to King Segis Alcartra Abbekerk.

A GREAT COW that made 25.01 pounds butter in seven days as a senior four-year-old and at mature age made 18,362.3 pounds milk and 814.23 pounds butter in one year. She is fresh and milking heavy right now.

A 17-POUND JUNIOR TWO-YEAR-OLD, due to freshen November 8 to King Segis Alcartra Prilly.

AND DON'T FORGET THE BULLS.

There will be several real herd headers in the sale, including a 30-pound bull, two 29-pound bulls, and others with high record backing, both short and long time records.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

SACRAMENTO - - CALIFORNIA

Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

Poultry for Profit

By Susan Swaysgood, Pomona.

LET ALL HELP TO RELIEVE THE POULTRY FAMINE.

The Pacific Coast is already beginning to face the shortage in table poultry that I have been telling you about lately. Prices on all kinds of poultry went up two cents a pound last week, and that just at a time when the market is supposed to be glutted with hens of light weight that have been thrown out as non-producers, or the molting hens. Heavy colored hens at 29c a pound—does not that price suggest to every farmer or rural resident a means of turning grass and a little grain into money?

THE HEN A VITAL NATIONAL QUESTION.

The question of raising chickens, ducks and rabbits, if only to supply your own wants and that of one other family not so favorably situated, ought to appeal to all of our readers, because it is of vital interest to the nation. Better put your thinking cap on, Mr. Farmer, and see where a good flock of hens would come in to rustle some of the waste on the farm into good chicken meat—chickens, bees and fruit, with a little patch of alfalfa on the side for dessert for both bees and chickens. What if you do have to buy a few sacks of grain, if you keep good hens they will put it to good use and return the money with interest.

The man who puts all his eggs in one basket may carry the load a little easier when everything is in his favor, but if an accident happens to the basket where is he? If he has ever so little in another basket, it relieves him that much.

CHICKENS RELIEVE A LOW EXCHEQUER.

This is not all surmise, folks—I've been there. Sonoma county never was known to have a failure of crops, but there have been odd years when the prune crop has been so light through late rains or frosts that if it had not been for my poultry I could not have paid the interest on the mortgage and pay other debts, to say nothing of living. It was up to the poultry to do the trick, and they did it under much less favorable prices than we have now.

Whenever I felt my exchequer getting low, the first thought was to get in and raise some chickens, and they always paid my expenses and gave me a good margin of profit. As a get-rich-quick business there are lots of things better than poultry farming, but as a reliable source of increase to the general fund there is nothing to beat it.

If you have not a flock already, this is a good time of year to start in with either a few hens or a hundred little chicks. By starting in with hens you can learn much from them during the winter, and if you already have some knowledge of chicks you can start in very cheaply by getting baby chicks from one of the hatcheries advertised in the Rural Press, who are reliable. Business men of today must advertise all the time to inspire confidence in themselves and their wares; those that don't do it lose out.

SEPTEMBER SUGGESTIONS.

This is the month of changes, when cool and perhaps damp nights are more contrasted with hot, sultry days, so that unless poultry is given care we may call September the trouble-making month. Colds are more easily taken by hens that have been laying heavily all summer and are a little out of condition, perhaps owing to the molt, and colds neglected soon progress into roup. So that this month extra care should be exercised to prevent colds. See that the roof is good and waterproof. Nothing causes colds more quickly than a leaky roof. See that there are no cracks around the perches; if a draught strikes a chicken on the head, it has to be a strong, well-conditioned fowl to resist taking cold. A draught under or over the roosting place does not cause much trouble, but when it is directly on them look out. Another thing that is dangerous is a mixed fence. So many ranches have a picket fence between field or orchard that one is tempted to use one side as a fence in yarding the farm poultry; but it does not pay. These nice mornings the hens seek the sunny picket fence and a cool wind, amounting to a draught, strikes them on the head. Next thing we notice sneezing, and closer inspection shows that the eyes are watery. If these things are noticed quickly enough, the cold can be nipped before it develops into roup. A good physic is the quickest way to cure incipient colds—about four or five ounces of castor oil to one hundred hens is perhaps the best remedy. Serve in moist mash just before they go to roost. It is best to dissolve the oil in the right amount of warm water to mix the mash, then the oil will be more evenly distributed. See that all the fowls get some of the mash, and if any is left pick it up and serve, with more mash mixed with it, for breakfast.

Coal oil can be used if nothing else is available—about a pint to one hundred hens, mixed with warm water. A little tonic may be given to good advantage after the oil, such as a tablespoonful of powdered sulphate of iron to each dozen hens in either dry or moist mash for a week or two. This increases the appetite and helps build up the resisting powers.

PTOMAINE POISONING.

To the Editor: My six-months-old pullets have been dying. They are fine and healthy, and suddenly are taken with a weakness in the legs and cannot walk at all. Then they begin to shiver and tremble. They live about four days and only drink large quantities of water till they die.—J. W., Brentwood.

[Your pullets are getting some sort of poisonous meat, gopher, squirrel, mice, or maybe dead chickens; but it is something that is producing ptomaine poison. Look around and clean up all outlying premises. Medicine is very little use when far gone, but if you find out early give each fowl ten drops of tincture of nux vomica in a little warm water, then keep water before them with ten drops of the tincture to a quart of water. Continue this until they recover.]

Poultry Breeders' Directory

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. September chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

FOR SALE—Eighty pair mated "White King" pigeons, "Giroux strain"; all young birds and guaranteed very fast breeders. Box 1240, Pacific Rural Press.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B 144D, Pomona, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

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Devils Dust has been tried and proven by long usage, thousands and thousands of packages have killed millions and millions of lice and mites.

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War Time Conditions

Save--Use

The Shortest Shortening by a Long Way

Use One-Third Less

For Sale Everywhere

ATTENTION LADIES!

Visit our booth at the Tractor Demonstration. See and Sample the many delicious dishes made with the aid of

VIOLET BRAND SHORTENING

45 WAR RECIPES

Mailed free upon request—or ask for them at our booth, at the

TRACTOR DEMONSTRATION

Los Angeles = September 17-18-19-20-21

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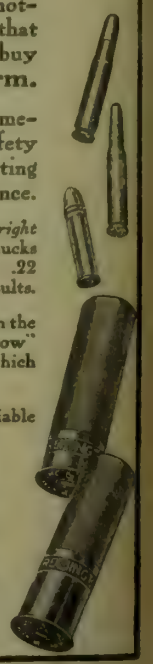
WHETHER .22 repeater for the boy or autoloading shotgun for yourself, a high power autoloading rifle for that well earned deer hunt or a pump gun or rifle for general use, buy a Remington UMC and know you are getting the *right* arm.

Every Remington UMC shotgun or rifle is *right* in every mechanical detail—hammerless, with solid breech, has positive safety lock and either autoloading or slide action. And *right* in shooting qualities, balance, fit, material, workmanship, finish and appearance.

Buy Remington UMC Shotshells or Metallic Cartridges and add the *right* finishing touch. For example, for squirrels, woodchucks and other small animals, the Remington UMC .22 cartridge with hollow point bullet gives best results.

The wonderful Wetproof process used exclusively in the manufacture of Remington UMC Smokeless "Arrow" and "Nitro Club" Shotshells, produces a shell which can be exposed to wet for hours without harm.

In *black powder* shotshells, buy the old reliable Remington UMC "New Club," now wetproof sealed at turnover (crimp) and top wad.



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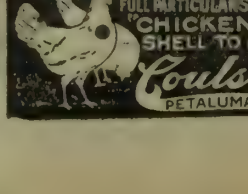

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WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.

EUREKA, CALIFORNIA.

"MY WAGE."

"I bargained with Life for a penny,
And Life would pay no more,
However I begged at evening
When I counted my scanty store;

"For Life is a just employer,
He gives you what you ask,
But once you have set the wages,
Why, you must bear the task.

"I worked for a menial's hire,
Only to learn, dismayed,
That any wage I had asked of Life,
Life would have paid."

—Jessie B. Rittenhouse.

THE TIME WHEN TOPSY STAYED.

Little Myrtle was having a hard time, she thought. Anyway she wasn't happy, for who could be "feeling nice," she said to her mother, "when folks had to stay in the house just because it was all wetty outdoors and the wind was a-blowing."

And mother answered, "Why, dear, you've got so many nice dolls and other playthings—I should think that any child with all that you have could be happy."

"Well, I can't," pouted Myrtle. "If only Dorothy would come, or I wasn't so tired of everything, I might."

"There's Topsy," said mother, looking out of the window, "she's bringing back the waists that her mother has been laundering. Go to the door, dear, and tell her to come in and get warm."

"Topsy," said mother, as the little black girl was standing before the fire, "do you think you could be happy to have to stay in this room for one afternoon, and play with eleven dolls, a doll bed, a buggy, dishes and ever so many other toys?"

Topsy showed her white teeth. "Yes'm, I'd like it mighty well," she laughed.

"But you'd get so tired you wouldn't know what to do next," said Myrtle.

"I could make a big, big house with those blocks, and put a nice big chimney (she called it chimbley) in it with my spools."

"Oh, could you?" cried Myrtle, delightedly. "Well, I'll get some spools—a whole lot of them—and you shall show me how to make an old-fashioned chimney."

Myrtle's mother smiled her assent, so they set to work. They made the house on a plan that Myrtle had never thought of, then Topsy showed her how she had made the chimney in her house, although her blocks were those she got from the men who were building across the street.

When they had the chimney up, Topsy laid some toothpicks on the hearth, then she set the doll's cradle near, "to keep warm,' 'she said.

They set the toy piano across one corner; then Topsy thought of something else nice, and, with much laughter, they made a lady of spools to sit on the piano stool, because, as Topsy said, the spool-lady would sit up straight and the doll-lady would fall off.

They set out the table, and got out the dishes; then Topsy spied a piece of old linen from which Myrtle's mother was cutting some dish towels, and she said to Myrtle, "If your mother will let us have the colored border, we'll cut out the birds in it and make something pretty."

Of course mother was glad to let them have the pieces; then she gave each of the little girls a pair of scissors, and they set to work to cut out small, round pieces—each piece had a red bird in it. These were used as doilies to put under plates and saucers. They nearly covered the whole table with these doilies, and even placed some on the dresser in the doll's bedroom, and finally they made a scarf for the little rocking-chair, pulling out threads to make a fringe.

"Mother, mother, just look! I never did have such a pretty house before," cried Myrtle, gleefully.

"I think you'll have to thank Topsy for giving you some new ideas," laughed mother; "but now it is dark almost, and I shall have to send Topsy home as soon as I can get a piece of cake and an apple for her."

"And I'll give her one of my dolls," said Myrtle, generously.

After Topsy was gone, Myrtle said, "Why, mother, I could have had a good time before if I'd just have made myself do things whether I wanted to or not."—Mary S. Hatch.

FRUITS IN SEASON.

Educate the family to demand fruit acids as an accompaniment of meat. Fruit is food; serve it well and better health will repay your good cooking.

With bacon, serve apples baked without sugar, or cut the apples from the core without peeling, place in a deep pan with a very light sprinkle of sugar and half a cup of water. Cover and steam until tender, remove cover, brush top with syrup and brown in hot oven. Serve hot.

Ripe peaches or pears steamed until just tender through make an appetizing sauce for meats. Peel, but do not cut. Cook in a saucepan, tightly covered, with just enough water to prevent burning. Allow one tablespoon of sugar to a dozen peaches or pears. Be careful not to overcook.

Blue plums prepared in the same way are especially good with chicken. Peaches or apples quartered and cooked clear in a thin syrup with a bit of lemon make a delicious accompaniment for chicken. Serve rice with this combination.

FRUIT BUTTER.

Fruit butters can be made without sugar. Add one quart of apple syrup or grape syrup to one quart of fruit pulp. Boil down to a thick buttery consistency and seal hot. This is a tart butter and an excellent relish. If a sweet butter is wanted, add sugar, sorghum or molasses when these are available, reheat and seal.

NEW RULING ON FLOUR.

Housewives will be interested to learn that a new ruling on the amount of white flour that may be purchased has gone into effect. Hereafter you may purchase four pounds of white flour for each pound of substitute flours.

CIDER JELLY.

Sweet cider jelly can be made without sugar. Boil apple syrup until the jelling point is reached. This jelly makes an excellent relish with meat.

Willie came to his mother with an expression of anxiety on his face. "Mother," he asked, "if a poor, hungry little boy was to come to the back door and ask for something to eat, would you give him that piece of pie that was left over from dinner?"

"Yes, Willie, of course I would," said the mother.

Willie's face cleared.

"All right," he said, "just wait a minute till I run to the back door."—The Continent.

Convert
your old-fashioned
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The combination of beauty and simplicity contained in Pacific Plumbing Fixtures make them the vogue. Their added convenience, and the amount of unnecessary work they save, will more than compensate for their moderate cost.

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Tells How To Have a Smoother Working Ford

—one that goes into low or reverse steady and quiet, without that jump and jerk—that minds the brake quick and sure, and stops with velvety smoothness, instead of noisy chattering and racking vibration which causes repairs and ruins the rear end. Tells what users say about

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—how it outlasts several sets of ordinary linings because less pressure is needed. Has made records of 10,000, 15,000—up to 50,000 miles of perfect service. Also tells about Cork Insert No-Slip Fan Belts and better Brake Lining for big cars.

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War Time Thrift
All Time Comfort

In patriotic support of our government in these war times—absolute thrift—the wisdom of purchase and elimination of waste—is not only a necessity, but a positive duty.

Do you realize that smoke, soot and fumes is waste?—Loss of fuel?—That from forty to sixty per cent of the heat from wood and coal goes up the chimney?

You can stop all of the loss quickly—make clean gas from coal oil in your own stove. Better still—buy your fuel cheaper than ever.

"The simplest thing in the world" does the work—clean, safe, cheap. Of all the times, this is the time to investigate the "Premier."

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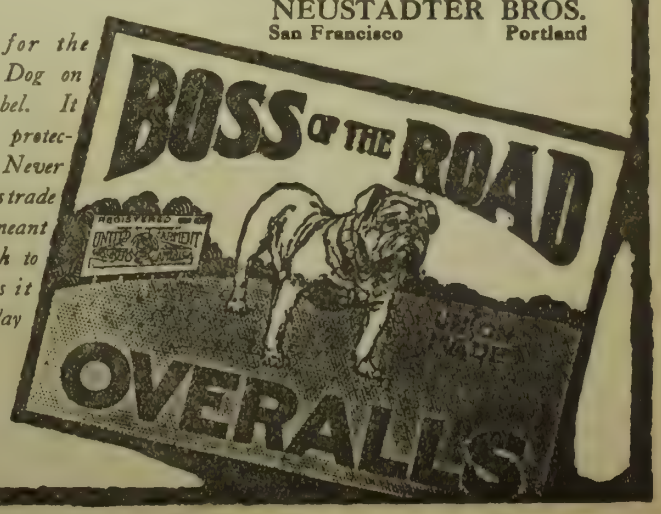
Look for the Bull Dog on the label. It is your protection. Never has this trade mark meant so much to you as it does today



Agricultural Summary

The New Almond Crop Prices.

At a meeting of the representatives of the California Almond Growers' Exchange, the following opening prices were authorized: Nonpareil, 25½c; I X L, 24c; Ne Plus, 22c; Drakes, 18c. These prices are to the trade, from which cash discount and expenses must be deducted. They are merely the best guess as to the market on the day they were fixed. They may later be lowered or advanced, as conditions require. Trade papers will quote higher prices, as the Exchange is trying to advance the market. At the end of each season a certain number of members complain that they have not received the prices as to the trade. From this price the cost of selling, warehouse expense, brokerage and cash discount have to be deducted. The Exchange will advance to members before it receives a dollar from sales approximately one-half a million dollars. The first advance has gone out promptly, which is: Nonpareil, 15c; I X L, 14c; Ne Plus, 13c; Drakes, 12c. Further advances will be made as fast as sales warrant. We understand that somewhat higher prices will be obtained by the association than those published.

Storage Butter, Eggs, Cheese.

The figures below are compiled from incomplete returns received by the Bureau of Estimates, Department of Agriculture, to requests sent out to the various storage plants of the United States for information. They are sufficiently full for purposes of comparison:

Commodity—	Holdings Sept. 1, 1917 (Pounds)	Holdings Sept. 1, 1918 (Pounds)
Creamery butter ...	107,776,392	100,503,488
Process butter	3,180,789	4,396,902
American cheese....	91,545,232	54,184,739
Case eggs	*6,369,312	*6,202,239
Frozen eggs	19,631,413	19,668,992
Swiss cheese	663,912	775,712
Brick & Munster Ch.	416,988	455,922
Limberger cheese ..	414,007	439,923
Cottage cheese, etc..	1,338,726	1,422,928
Cream and Neufchatel cheese	65,685	87,544
Other cheese	711,700	4,008,787

*Cases.

The 1919 Wheat Price Explained.

The price of $2.20 a bushel, minimum, guaranteed by the Government for the 1919 wheat crop is based upon No. 1 hard white wheat delivered at the terminal station. On other grades the price is lower. In the intermountain country, which applies to Nevada and Arizona, a minimum guarantee of $2 per bushel is made for the No. 1 grade f. o. b. loading station. In other words, if the freight rate from the f. o. b. shipping point to the nearest terminal exceeds 20c per bushel, the $2 minimum is effective.

The Apricot Market Dilemma.

It appears that heretofore about 70 per cent of California's apricot crop has been sold abroad, leaving 30 per cent for home consumption. The war has practically suspended the export of this fruit, throwing about three times the normal volume on the home market. Furthermore, apricots require more sugar than most fruits, and sugar is shy and purse proud. It looks as though the apricot grower is up against it until a restoration of normal export conditions is brought about.

Heavy Cut on Citrus Shipments.

The total shipments of oranges, lemons and grapefruit from California for the year ended August 31 aggregated 25,233 cars, or 42 per cent only of the previous year's shipments. The sum of $47,311,818 was received by the growers for their fruit. The short crop was due to the extremely torrid weather of June last year and the consequent heavy drop.

Tomatoes $20 Per Ton.

Healdsburg tomato growers, with a heavy crop, are to receive $20 per ton from the California Packing Corporation, regardless of their previous contracts. It will be remembered that at the beginning of the season a semi-governmental contract price of $15 was offered and accepted by many growers.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, Sept. 18, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard....................$2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft.................... 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1.............. 2.16
do, No. 2.................... 2.13
do, No. 2.................... 2.09

BARLEY.

With the sale of barley to brewers prohibited, the market is stagnant and it is said that bankers are beginning to call barley crop loans. This, with the fact that barley must soon be moved out of storage to make room for the coming crop, has created a condition which may occasion serious loss.

Choice feed, per ctl............$2.40@2.47½

OATS.

The oats market is slightly stronger, but it is still inactive. There has been some inquiry for seed oats.

Red feed, per ctl..............$2.50@2.65
Red seed .... 3.00@3.25

CORN.

There is practically no demand for corn, but the limited stock on hand is strongly held.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked ....$4.20@4.25
Milo maize .... 3.95@4.05
Egyptian .... 4.05@4.10

HAY.

Receipts of hay for the past week were 1331 tons, compared with 1611 the previous week. These receipts are light for the season of the year, but the market has been dull and inactive. The recent heavy rains, which are extraordinary for this time of the year, will no doubt have a decided bearing upon the hay market of the future. There is a great deal of alfalfa hay yet on the rivers as well as in the interior districts, and as Central California had abnormal rainfall a great deal of this hay is sure to be materially damaged and will no doubt be shipped to this market to be disposed of. This market is in no condition to receive damaged hay, which must be used immediately, and it would be well for shippers to consult with their consignee before shipping this hay.

Wheat No. 1 ....$23.00@25.00
do, No. 2 .... 20.00@22.00
Choice tame oat.................. 24.00@26.00
Wild oat, new.................. 19.00@23.00
Barley, new .... 19.00@23.00
Alfalfa, first cutting.......... 16.00@20.00
do, second cutting.......... 22.00@24.00
Stock .... 18.00@21.00
Barley straw ....50@80c

FEEDSTUFFS.

The rains have had no effect upon the feedstuff market as yet, but early grass will have its effect. Rolled barley was somewhat weaker.

New alfalfa meal, per ton......$33.00@34.00
Coconut cake or meal.......... 45.50
Cracked corn .... 86.00@88.00
Oilcake 78.00
Rolled barley .... 51.00@52.00
Rolled oats .... 58.00@60.00
Bran, carload lots in S. F.... 23.75
Mixed feed, do, do.......... 25.00
Middlings, do, do.......... 25.75

POTATOES, ONIONS, ETC.

The heavy rains have had a marked effect on the vegetable market, and many green vegetables are temporarily off the local market. Potatoes were depressed 10 or 15 cents, but recovered. Onions were dull at unchanged prices. Peas and beans are off the market and none are expected for several days. Tomatoes were damaged, but are again on the market. Green corn is of poor quality and difficult to sell at the lower quotations.

Peas ....None
String beans ....None
Wax beans, per lb..........................None
Carrots, per sack..........................75@85c
Rhubarb, San Jose, per box..........None
Summer squash ....75c@$1.00
Cucumbers (hothouse), per box......None
do, Alameda, lugs ....$1.25@1.50
Eggplant, per box..................75c@$1.00
Lettuce, Sacramento, crate............None
Tomatoes, per crate—
Merced ....Nominal
Bay ....$1.00@1.75
Potatoes—
Garnet Chile, on street..............None
Whites ....$2.25@2.50
Sweets, per lb..................4¼@4½c
Onions—
River Reds ....None
Yellows ....$1.50@1.75
Australian Browns .... 1.50@1.75
Garlic, new 16c
Green corn, Alameda, per sack..$2.00@2.50
Okra ....5@7c

BEANS.

Rain damage talk put a little strength in the old crop and advances were made of three descriptions. The trade as a whole is marking time until the new crop begins to come in.

Bayos, per ctl..................$ 7.25@ 7.50
Blackeyes .... 6.50@ 6.75
Cranberry beans .... 10.25@10.50
Limas (south, recleaned)...... 12.00
Pinks .... 6.90@ 7.10
Red kidneys ....Nominal
Mexican Reds .... 7.25@ 7.40
Tepary beans .... 7.50@ 8.50
Garbanzos .... 8.00@ 8.75

POULTRY.

The market for poultry continues firm, with several slight advances in price. Receipts are normal.

Turkeys, live, young spring, lb....36@38c
do, old ....30@32c
do, dressed, old..........................34c
Broilers, 1½ to 2 lbs..................39@42c
do, 1¼ lbs..............................45c
do, ¾ to 1¼ lbs..........................47c
Fryers ....38@39c
Hens, extra, per lb., colored..........36c
do, Leghorn ....32@33c
Smooth young roosters, per lb. (3 lbs. and over) ....38@39c
Old roosters, colored, per lb..........24c
Geese, young, per lb..................27@28c
do, old, per lb..........................25c
Squabs, per lb..........................45@47c
Ducks ....29@30c
do, old ....25@27c

BUTTER.

Butter has shown a steady advance in price throughout the week, closing at the top. This advance is said to be legitimate, brought about by the falling off in receipts. Even at 59½c, butter in San Francisco is said to be cheaper than in any of the large Eastern centers. The U. S. Food Administration has notified butter dealers that after September 15 no licensee shall manufacture and sell units of butter in print form that weigh less than one pound. This does not apply to retailers and does not prevent manufacturers disposing of their stock, already manufactured, up to January 1st next.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	--	56	57	58	58½	59½
Prime 1st	62	52	52	—	52	52
Firsts	—	52	55	55	55	55

EGGS.

Eggs slumped off 3½c for extras and 6c for pullets from the quotations of a week ago. The cause is a mystery to dealers. Receipts were normal during the week and the only explanation suggested is that short-term storage eggs, less than 30 days, may now be sold as fresh, according to a recent decision of the Federal Food Administration. There is a disinclination on the part of consumers to pay the high prices asked.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	—	62	62	61½	61	60
Extra 1sts			Nominal			
Firsts	46	46	46	46	46	Nom.
Extra pullets	—	57½	57½	57½	56½	55

CHEESE.

Fancy Oregon triplets again took the leadership of the cheese market, advancing to 31½c. With the exception of California Y. A. fancy, all descriptions of California were weak. There was no demand for the cold storage Oregon cheese. Monterey cheese is selling at a higher figure.

California Cheddar, flats, fancy........30c
Fancy California flats, per lb........30½c
First California flats, per lb........29½c
California Y. A. fancy..................31c
Oregon triplets, fancy..................31½c
Oregon Y. A. fancy......................30½c
Monterey cheese ....24@27c

FRESH FRUITS.

The fruit market was seriously affected by the rains and for several days there were few arrivals. Berries were damaged, but they are again on the market. Peaches are coming in in larger quantities than ever, but the stock is green and unattractive. Grapes are the dominant fruit on the market at present.

Apples ....$1.50@2.50
Peaches, 4-box crate..................75c@$1.25
Figs, black, per box..................None
do, double layer ....$1.00@1.50
do, Single Row Whites..........75c@$1.00
Strawberries, per chest ....$8.00@12.00
Blackberries, per chest.......... 8.00@10.00
Raspberries, per chest.......... 9.00@12.00
Plums ....$1.00@1.50
Cantaloupes, flats ....40@65c
do, ponies ....$1.00@1.25
do, standard .... 1.50@2.00
Watermelons, per lb..................1¼@1½c
Pears, Bartlett, per box..........$1.50@2.50
Grapes, seedless $1.25
do, Malaga ....$1.00@1.25
do, Fountainbleu ....None
do, Tokay ....$1.25@1.50
do, Isabella .... 1.00@1.25
Persimmons .... 1.25@1.50

CITRUS FRUITS.

There are few oranges on the market, and the best were advanced to $8.50. Lemons are plentiful and sell on a narrower range of price. Lemonettes and grapefruit are unchanged.

DRIED FRUITS.

The rains of last week did serious damage to the prune crop in Santa Clara Valley. Black figs in the northern part of the State were practically wiped out. The white figs in the northern part and about Modesto were badly damaged, but most of this description comes from the Fresno district and were not damaged.

Apples ....13½@14c
Pears ....11@14c
Prunes, graded, price to growers: gain in dip 11c
Prunes, graded prices to growers:
20-30, inclusive, per lb..............15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8½c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121, inclusive, per lb..............4½c
122 and up, per lb......................4c
Apricots ....12@19c
Figs ....13@17c
Raisins—
Muscats 5½c
Thompsons 6¾c
Sultanas 6½c

RICE.

Paddy rice, 1918 crop..................$4.32
Clear No. 1, 1918 crop at mill........ 7.00

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, Sept. 16, 1918.

All markets showed a decided improvement this past week over the week previous. This was due to a large extent to lighter receipts, though the offerings were about as heavy as the previous week, on account of the great number of cars that had been parked at terminals.

Overripe pears that had flooded the New York market from the Northwest and certain points in California have about been disposed of, and good, firm stock met with a ready sale.

There is a decided improvement in the grape market, the market advancing on good quality Tokays and Malagas, and indications are that on account of the light receipts now in transit there will be a noticeable advance this coming week.

Few peaches and plums are appearing on the market.

The heavy rain in the upper San Joaquin and Sacramento valleys during the past few days has unquestionably damaged the Tokay crop at least 50 per cent. It will also have the effect of forcing discontinued shipments of wine grapes, which to a large extent had not been previously arriving in good condition. Fortunately the rain did no damage to the Malagas or Emperors or any other fruits in the Fresno district.

Scarcely better than 20 per cent of the Tokay crop had been marketed, and, though favorable weather conditions may dry out a certain percentage of the grapes, this will depend largely upon the condition of the bunches, and shippers may find it to their advantage to ship in lug boxes, which style of package will be safer under the circumstances.

Practically 75 to 80 per cent of the Malaga crop has been marketed and the Emperor season will open this coming week. On account of the scarcity of grape packing material, such as redwood sawdust, the shippers will be compelled to pack from 40 to 50 per cent of the Emperors in lug boxes.

Averages for the week:

New York: Pears—Bartlett, $2.60; B. Hardy, $1.87; B. Clairgeau, $2.80; B. Bosc, $2.73. Grapes — Tokay, $1.95; Malaga, $1.45; Alicante Bouchet, $1.68; Muscat, $1.37. Plums—Grand Duke, $1.75; Giant, $1.28; Gros, $1.66. Peaches—Georges Late, $1.85; Albright Cling, $1.20; McDevitt, $1.42; Phillip, $1.50; Elberta, 87c; Lovell, $1.05; Orange Cling, $1.55; Lemon Cling, $1.45.

Boston: Peaches—Salway, $1.30; Orange Cling, $1.15; Lemon Cling, $1.22; Strawberry Cling, $1.32; Hulls Late, $1.12; Picquettes, $1.22; Phillips, $1.43. Pears—Bartlett, $2.98; B. Clairgeau, $4.00; B. Hardy, $2.88. Grapes—Tokay, $1.85; Malaga, $1.46; Muscat, $1.15; Cornichon, $2.12. Plums—Giant, $1.05; Gros, $1.47; Kelsey, $1.57; Hungarian, $1.43.

Chicago: Peaches—Lovell, 93c; Picquettes, $1.09; Salways, $1.21; Phillips, $1.33; Levi, $1.32; Yellow Free, $1.25; Elberta, 98c. Plums—Kelsey, $1.78; Giant, $1.54. Grapes—Malaga, $1.63; Tokay, $1.98; Rose Peru, $1.10; Muscat, $1.24; Cornichon, $1.70. Pears—Bartlett, $3.42; B. Hardy, $2.52; B. Clairgeau, $2.50.

Total shipments, from September 7 to 12, inclusive: 53 peaches, 88 pears, 1157 grapes. Total to date, 1918, 14,225 cars. Total to date, 1917, 12,971 cars.

Special Citrus Market Report

San Francisco, Sept. 17, 1918.

The residue of Valencias now on hand has become so reduced that the offerings on the various markets are very light and are promptly bought up even at the high asking prices. Fancy fruit is selling in New York at from $9 to $10.80 and on board at shipping points at $7.50 to $7.75. The condition of the approaching crop of navels is very promising, according to late reports, except in the San Joaquin districts, where there is a slight setback.

The lemon market continues weak. It is said that pickings latterly have been very heavy and that some belated steamers laden with foreign lemons have been unloading heavy consignments in the New York harbor. It is estimated that the output of California's lemon growers are now adequate to supply the requirements of all domestic markets. Eastern quotations: $2.35@3.80. St. Louis offered a low market of $1.75@2.55.

Total shipments of oranges for this season up to the close of last week were 16,296 boxes; last season, 43,815 boxes. Total shipments of lemons for same period, 5525 boxes; last season, 7549 boxes.

LOS ANGELES

Los Angeles, Sept. 17, 1918.

BUTTER.

The markets are again higher in the Central West and East, advancing the past week there 3@5c on extras. This had a sympathetic influence upon the market here and caused extras to advance 2c on Saturday and the market has remained firm at this improvement since.

We quote:

California extra creamery	53c
do, prime first	51c
do, first	50c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	51	51	51	51	53	53
1917—						
Extra	41	41	41	41	44	44

EGGS.

The market has lost that snap that has characterized it heretofore. The prices of fresh ranch eggs have gotten so high that consumers are taking hold of cold storage more willingly. Yet under the influence of the light receipts last week's prices were sustained. The receipts by rail for the week were 425 cases, against 396 cases the same week last year. The receipts by truck continue to run about four times as heavy as the arrivals by rail, making the supply for the week 2125 cases, against 1980 cases the same week last year.

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	59	59	59	59	59	59
Case count	53	53	54	54	54	54
Pullets	50	51	51	51	51	51
1917—						
Extra	44½	46½	46½	48	48	48
Case count	42	44	44	47	47	47
Pullets	37	39	39	40	40	40

POULTRY.

Receipts continue light and under a little better demand for most offerings the market ruled stronger the past week. Turkeys are also a little higher, but ducks and geese are unchanged and the demand for them light.

The following prices were agreed upon last Friday, September 13, and hold good until the coming Friday:

Broilers, 1@1¼ lbs	35c
Broilers, 1½@1¾ lbs	35c
Fryers, 2@3 lbs	31c
Roasters (soft bone), 3 lbs. and up	31c
Stags and old roosters, lb	20c
Hens	24@31c
Tom turkeys	32@35c
Ducks	22@28c
Geese	15c

VEGETABLES.

Bell peppers were dull and lower, also cabbage. Potatoes were a little firmer. Onions were steady but slow sale. String beans and lima beans and summer squash and cucumbers and tomatoes were all unchanged and demand fair.

We quote from growers:

Potatoes, local per lug	75c@$1.00
do, do, per cwt.	$2.00@2.25
do, northern, per cwt.	2.50@2.75
Sweet potatoes, per lb.	2½@3c
Garlic, per lb.	8@9c
Onions—Stockton Yellow Danvers, cwt.	$1.75@2.00
Onions, White Globe, per cwt.	2.00@2.25
Onions, Small Bermuda, per crate	80@90c
Cabbage, per 100 lbs	$2.00@2.25
Bell peppers, per lb	2½@3c

FRUITS.

There is a good demand for all fancy offerings, but poor stock was hard to move. The market was well supplied with grapes of excellent quality, which sold at steady prices. Peaches and pears also continue in very good demand. Plums steady and selling well. Apples coming in more freely; slow sale and lower.

We quote from growers:

Figs, Black Spanish, 7-lb. box	35@50c
do, White, 7-lb. box	30@50c
Peaches, freestone, per lug	$1.00@1.25
do, clings, per lug	1.25@1.50
Pears, local, per lb	2@3c
Pears, Mountain	3½@4c
Plums—Satsuma, per lb	4@4½c
Nectarines, per lb	4@5c
Grapes—	
Malagas, per lb	2½@3c
do, Muscat, per lb	2@2½c
do, Liberty, per lb	2½@3c
do, Rose Peru, per lb	2½@3c
do, Tokay, per lb.	4@4½c
do, Cornichon	4@4½c
Apples, Bellefleur, 4-tier	$1.65@1.75
do, 3½-tier	1.70@1.80
do, Gravenstein, 4-tier	2.25
do, do, 4½-tier	2.00
do, Bellefleurs, local, per lb	2@2½c
Avocado pears, small, per doz	50c@$2.00
do, large, per doz	$4.00@5.00
Plums, per lb	5@6c

BERRIES.

There were more strawberries in the past week and the market was slow. Too much other fruit in for the good of the berry market. Blackberries and raspberries were in light supply.

We quote from growers:

Strawberries—	
Fancy, per 30-basket crate	$2.25@2.50
Poor to choice, 30-basket crate	1.60@1.80
Blackberries, 30-basket crate	2.50@3.00
Raspberries, 30-basket crate	2.75@3.00

MELONS.

Receipts of cantaloupes continue to fall off and the tone of the market the past week was stronger and the demand very good for all good stock. Not so many Honeydew melons in.

Cantaloupes—	
Tip Top, home-grown standard crate	$1.15@1.25
do, do, pony crate	70@80c
do, do, jumbo crate	$2.50@2.75
Columbia, jumbo crate	2.75@3.00
Paul Rose, standard crate	$1.25
Casabas, per lb	1½@2c
Pineapple, standard crate	$1.15@1.25
Watermelons, per 100 lbs	1.00@1.25
Honeydew melons, 16-inch crate	1.00@1.10
do, jumbo crate	3.25@3.50

BEANS.

The new crop has begun to move and there was a little more doing the past week. Buyers, however, are refusing to bid prices up, though the tone of the market was firmer. Limas and the whites were in most request. Quotations unchanged.

HAY.

There was a dropping off in the receipts the past week and the market, under lighter arrivals, held steady. The dairy people took what little alfalfa is coming in, but there was little or no demand for horse hay.

We quote f. o. b. Los Angeles—

Barley hay, per ton	$24.00@26.00
Oat hay, per ton	26.00@28.00
Alfalfa, northern, per ton	21.00@22.00
Alfalfa, local, per ton	22.00@24.00
Straw, per ton	9.00@10.00

Special Livestock Market Report

San Francisco, Sept. 18, 1918.

CATTLE—The shortage of good beef cattle is still a feature of the market, and all classes are firmly held. Good cow stuff is stronger than last week and there is a noticeable improvement in good steers. The rise in prices noted in our quotations is doubtless influenced by the higher prices prevailing at the Eastern and Northern markets. Prime beef cattle are quoted in the Chicago market today at $16.50@19.50.

Grass steers—	
No. 1, weighing 1000 to 1200 lbs.	11½@12c
No. 1, weighing 1200 to 1400 lbs.	11½@11¾c
Second quality	10@10½c
Thin	8@9c
Cows and heifers—	
No. 1	7½@8c
Second quality	6½@7c
Common to thin	4@5c
Bulls and stags—	
Good	6@7c
Fair	5@6c
Thin	4@5c
Calves—	
Lightweight	11c
Medium	10c
Heavy	8½c

SHEEP—While there is little change in the sheep situation, prices are strongly held. Lambs are coming in more freely.

Lambs—	
Yearlings	12@12½c
Milk	14@14½c
Sheep—	
Wethers	11½@12c
Ewes	9@9½c

HOGS—The hogs now coming in are much better in quality and they are coming in in increasing numbers. The quotations below are the highest ever recorded in the history of the San Francisco market. On the Chicago market yesterday good to choice hogs sold from $19.00 to $19.50.

Hogs—	
Hard, grain-fed, 100@140	18c
do, do, 140@300	18½c
do, do, 300@400	18c

Los Angeles, Sept. 17, 1918.

CATTLE—There was a better tone to this market the past week. But few choice fed steers being offered and they were in good demand and firm, in sympathy with strong markets East. Thin and medium stuff is still plentiful.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs.	$9.00@12.00
Prime cows and heifers	7.50@ 8.50
Good cows and heifers	7.00@ 7.50
Canners, per cwt.	5.00@ 5.50
Calves, per cwt.	8.50@ 9.50

HOGS—A firm market and fair demand for what hogs are coming in. Continued high markets in the Central West having a sympathetic influence upon the market here.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs.	$15.50@16.50
Mixed, 225@275 lbs.	16.00@17.00
Light, 175@220 lbs.	16.50@18.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—The past week was quiet. Not many wanted, but as the receipts were light, killers paid steady prices for what they got. California and Arizona furnished most of the supply.

Per cwt. f. o. b. Los Angeles—

Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	15.00@16.00

North Portland, Sept. 16, 1918.

Offerings for the opening day totaled approximately 1300 head of cattle, running from the fair to medium handy grades up to the choice heavy grades. Prices are generally well maintained. Quotations are: Prime steers, $12.00@13.00; good to choice steers, $11.00@12.00; medium to good steers, $9.75@11.00; fair to medium steers, $8.25@9.25; common to fair steers, $6.00@8.25; choice cows and heifers, $8.00@9.00; medium to good cows and heifers, $6.00@$7.25; fair to medium cows and heifers, $5.00@6.00; canners, $3.00@4.00; bulls, $5.00@8.00; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

Seven hundred hogs counted into the hog division over Sunday. Buyers were bearish, but with a light run the sellers were able to hold prices steady. Prime mixed, $19.50@19.75; medium mixed, $19.00@19.35; rough heavies, $18.00@18.35; pigs, $16.00@17.00; bulk, $19.35@19.50.

With 1900 head of sheep and lambs counted into the sheep alleys over Sunday, prices are held steady with last week's close. Quotations follow: Prime lambs, $13.50@14.50; fair to medium lambs, $11.00@12.00; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@8.50.

UNCLE SAM SAYS:

On October 2 all subscriptions that are six months or more in arrears must be stopped.

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Look at the date on the yellow label and see if your subscription has expired. If it has, hustle along your remittance so that it will reach us before the new law goes into effect. Better send a couple of dollars or more, so that you won't have to think about it again for a long time.

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FOR SALE—160-acre dairy farm, two miles northwest from Dixon (eight miles from Davis State Farm), in the heart of the dairy section. Two silos and all necessary buildings and pumping plants. For price and terms, with further information, inquire of Howard Kirk, Dixon, California.

WANTED—Reliable man to rent 30-acre ranch near Livingston, Cal. Must understand vines and give good reference. Take possession November 1st. For particulars address H. L. Shultz, Livingston.

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FARM MANAGER OR FOREMAN—Energetic, scientific, practical, on large farm or estate. Experienced in modern farming. Can qualify in dairying, beef cattle, hogs, alfalfa, beans and grain. Three and half years in present position. AA references. Box 1250, this office.

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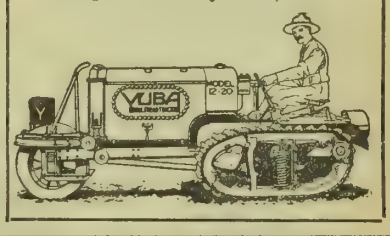

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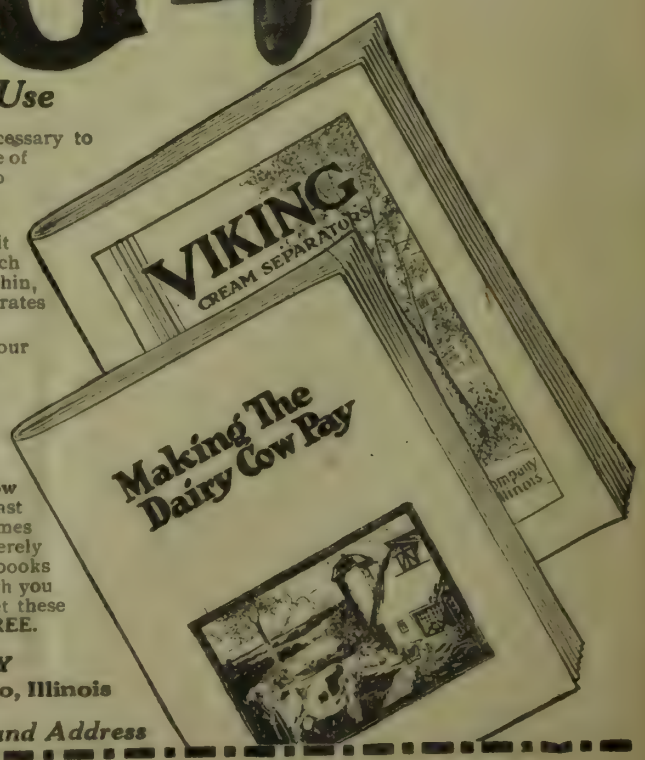

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Vol. XCVI—No. 13

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — SEPTEMBER 28, 1918 — LOS ANGELES

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Greatest Tractor Demonstration in the West

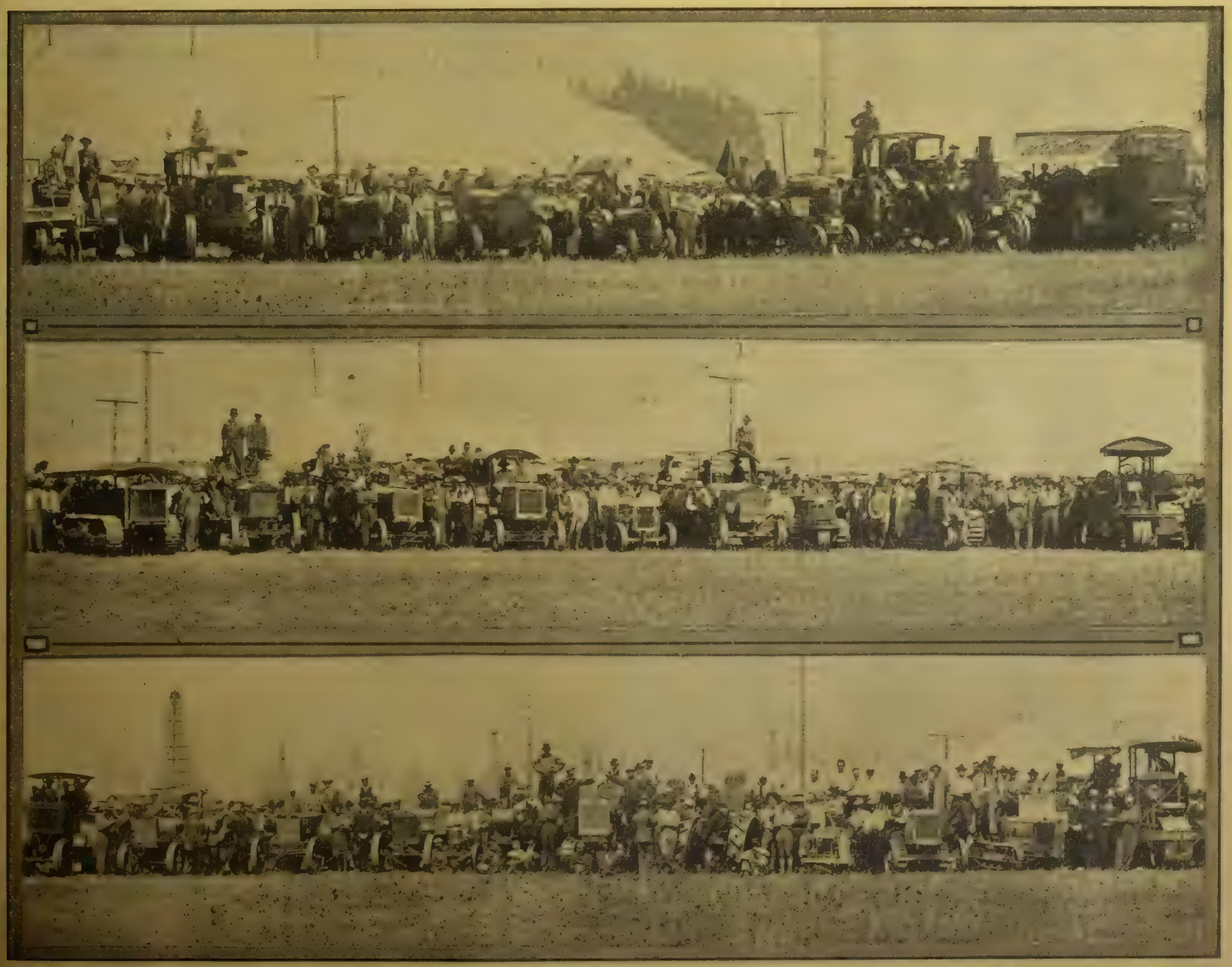
Written for Pacific Rural Press by R. E. Hodges

PASSING strange it is that the burial grounds of ancient flesh and blood mastodons should now be yielding oil that furnishes life to a myriad of modern mastodons of steel and fire. Curiously enough, it was this burial place and this source of life which was chosen as the background of a performance that signifies life to the human race. A forest of oil derricks was a fitting background for the greatest demonstration of the power of man to supply his most fundamental physical need. The modern mastodons, presaging bountiful food supply with the least proportion of human effort, performed magnificently, September 17 to 22, near the oil fields of Los Angeles, a spectacle that might well strike more terror to German hearts than as many cannon of great caliber. For with the splendid increase of dependable, man-saving, stock-saving tractors, the main German hope of dominating the world by starvation of its peoples has gone the way the Germans have been going since the food situation has become more settled among the allies. But where could such satisfactory fullness be found now, had it not been for the magnificent service of tractors, not only in producing human food but in saving millions of acres for production of human food instead of horse feed that would have been required!

Demonstrations Convincing.

Yet their work is not finished, their sphere of labor has wonderful room for increase, there are millions of farmers yet without sufficient knowledge of the absolutely necessary function of tractors in the universe. These millions of farmers become convinced when they see tractors actually operating under conditions that show ability to do farm work with less of human and livestock labor. It was to convince as many as possible, and to give them opportunity to select from the models available in the West, that the Los Angeles demonstration was carried out. Its influence will spread in unending circles by word of mouth of spectators, by reports in the farm press, and by the example set by those farmers who will soon have tractors because they saw or heard or read of the demonstration. Its success can never be measured. The credit is due to the Traction Engine and Implement Dealers' Association of Southern California.

(Continued on page 336.)



The above groupings are taken from a panoramic view of the very successful tractor demonstration held at Wilshire boulevard, Los Angeles, September 17-22, 1918.

PACIFIC RURAL PRESS

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

BARLEY BUSTING.

BARLEY is surely the most rebellious beast in the food corral at this moment and any "buster" who can break it into some service which will bring back to the grower the big money it has cost him to drive it into the enclosure can surely command a profitable engagement. Many growers are working by organization and influence to get the barley situation into some reasonable shape, as we have shown in recent issues. Their undertaking is commendable and should have the strong support of all who have barley to protect and render profitable, if they can. Other growers are easing their minds by cussing the agencies which they believe have brought the grain into its deplorable plight. Colonel Irish orders out the kickers' battalion in his letter elsewhere in this issue. It is quite possible that both boosting and cussing may accomplish something—both are surely better than glooming and groaning and doing nothing.

WHAT IS THE MATTER WITH BARLEY?

IT IS apparent enough that the United States put in altogether too much barley last spring to serve the normal uses of barley in this country and was induced to do it for two reasons. One of these was the irresistible commercial impulse to grow a grain which would yield more bushels per acre than wheat and had sold for more dollars per bushel. The other reason, which encouraged the idea that the price would remain good, was the general exhortation that enough of any kind of food would beat the kaiser. Probably some growers also reasoned that as distillers of hard liquor had got it in their necks because other peoples' necks were closed to their product, therefore brewers of soft liquor would have a better chance at the aggregate thirst of the country and would be calling for a whale of a lot of barley to make at least near-beer in unprecedented volume. All of these calculations have been knocked out. Some of them disappeared perhaps in the way Colonel Irish points out—the final blow coming through the announcement by the Food Administration that, by the authority previously granted to the President, the manufacture of beer would be prohibited after December 1 next, as a war measure. This action, it is explained, was taken for the conservation of both coal and grain as well as transportation and labor for war work.

A GREAT "SHORT ORDER" FOR BEER!

OF COURSE, as the order to stop brewing on December 1 does not forbid the selling of the product on that date, but leaves the selling open for six months after that or until the going into effect, as a war measure, of national prohibition from July 1 next until the American armies are demobilized at the end of the war, it is clear that the brewers might calculate that beery Americans would desire to get full enough of it during the winter of 1919 to last them to the ends of their natural lives. If this calculation is sound, they might make enough money on post-December sale of pre-December brewing to cover the cost of their beer-making outfits and give them a good start in other business. If that is possible, they surely would make a drive for it. We do not know how true or possible it may be, but the situation might be much like that of our wine-grape growers who are getting fabulous prices for their grapes this fall because the cellar-men see such a chance for a turn in new wine before Uncle Sam's or some other line of prohibition ropes them.

But no such quick call for barley could reach our present barley surplus on this Coast. The national increase in barley production this year was about thirty million bushels over the average of five years preceding, or about 14 per cent, and practically all of it is nearer to the brewers of the Middle West than we are. Even if we had more of it, Mr. McAdoo would hardly be likely to let his trains haul it to minister to speculation in quick-turn beer.

Although we confess to not knowing much about it, we do thoroughly discredit the rumor that the Milwaukee brewers are so keen to accumulate beer for sale before July 1 that they propose to drive a bung into the neck of Lake Michigan, pump away the present contents through the Chicago drainage canal and use the cavity to store up beer for sale after their St. Louis rivals, who have no such storage capacity, are sold out. One obstacle, however, to all beer storage is found in the fact that all malting of grain for either "far" or "near" beer was stopped by the Government on September 21.

BARLEY SHOULD BRING A GOOD PRICE.

BUT though we are quite out of reach of all such great speculative possibilities for barley, we are quite sure that our growers who are holding barley should not too quickly sacrifice it. The Food Administration has just issued an exhortation to saving and a declaration that the need of food is as great as ever, if not more so, and that we must keep on sending it to Europe. Locally, however, it is unfortunate that barley flour is not popular as a wheat flour substitute. Though the millers say they can furnish it at about the top price for wheat flour, the demand is very light, as both bakers and family cooks refuse to use it except in very small amounts.

No one can tell how soon the ships which are being built in such large numbers on this Coast may take to carrying barley again, as they did a year ago and since then. As we have no wheat to spare to get in the way of barley movement, and as we have a decided advantage over the Middle West in getting barley aboard ships for Europe, our present barley surplus should not be sacrificed. Much of it should be going into pork and milk and eggs with at least as much profit to barley growers as they got last year—when the prices were boosted by speculators who gathered in most of the profits thereof. Let all who have barley in store join the new Grain Growers' Association and take part in the work of the barley committee of that association under the chairmanship of T. A. Kilkenny of Dixon. If our barley growers combine their knowledge and influence and take counsel together as to what courses to pursue, they can possess themselves of all the chances there are in the situation.

THE FARMER MUST TAKE HIS MEDICINE.

THIS is a time for every American to take his pills, and the Food Administrator will not give him any sugar to coat them with either. President Wilson administered such a dose to the striking shipworkers the other day when he told them if they did not quit striking for more pay they would lose their exemption as skilled workmen and would be sent to the ranks at thirty dollars a month. It seems too bad to make army service a punishment, but it must be remembered that, though service in the ranks is an earthly heaven to a man who has a well-spring of patriotism in his heart, it is also hell to a striking slacker who has no soul to be stirred by personal sacrifice for his country's glory. No such punishment threatens the farmer who is worthy of his country and his calling. Like his ancestors in the Revolution, if one pull at the trigger flashes in the pan he must clear the touch-hole, prick in more priming and try another shot. It is now no time for kicking if his country's servants, who are his rulers, are not always as wise as they ought to be. It is his business and duty to take another shot at production. If he gets a little chill in heart or pocket because some bunch of bureaucrats does not understand or appreciate his effort and his dangers, let him subscribe for another Liberty Bond, fill his head with fuller knowledge of what it is all about and warm over his heart with the thrill of being a serving, sacrificing patriot. No matter what other men may do, let him be right in the sight of his own conscience and let him recall the dictum of a democratic statesman of the olden time: "I would rather be right than President."

THERE WILL BE A TIME TO KICK.

BUT while we are positive that it is not now a time to arraign our authorities for ignorance, foolishness and self-interest, and certainly all of these things have a place in the current national attitude toward the farmer—the time is rapidly approaching when kicking will be both timely and the farmers' duty, not only for his own fairer treatment but for the general good of the country. The allies have the west front crumbling and shifting towards the Rhine; the south front is pushing northward all the way from the Trentino to Salonica; in Palestine they have already bagged fifty thousand Turks for an allied Thanksgiving. While these things are going forward for the welfare of all mankind, the farmer must be content that striking workmen will be stricken in their unpatriotic greed, that profiteers will be disgorged by the revenue collectors, and make his mind to go forward himself to maintain the national resources to the very best of his ability in spite of temporary injustice and sacrifice imposed upon him. His far-seeing patriotism should make it clear to him that present comfort is less important to him than to secure a world victory which will assure national stability and opportunity to right wrongs for all time to come and to attain the producers proper place in public affairs which has been a vain dream through all the ages which have passed. The present conflict will not attain that, but it will attain a fair starting point towards it. Therefore, it is not now a time to kick but rather to secure a firm footing from which to kick effectively. This will be the reward for patient, persistent, sacrificing patriotism, which is the present duty of all who are producing things needful to victory.

KEEP YOUR LEGS LIMBER.

OF COURSE, we do not mean that during the struggle for victory farmers should maintain sheep-like patience and patriotism. They should discern the rights of their industry, remind each other of them and fill the ears of all Americans with the sound of them, but still go forward toward their utmost attainment in production. While they thus give unyielding support to their armies abroad, they should put to flight the Midianites who prey upon their industry at home—the hosts of profiteers in labor and trade and the privateers in politics who are retained by them. And there is a great farmers' movement now taking form in Washington which aims to do just this. There was a meeting held in August in which farmers from thirty-seven States took part—California being represented by George A. Turner of Stockton, president of the California Bean Growers' Association, and perhaps by others also. At that meeting the following declaration of purposes was adopted:

Agriculture is the first, the most important and the most fundamental of all occupations. There is in the city of Washington no place where the farmers of America can bring together their interests and their needs. Labor, commerce and other great interests have established general headquarters through which their demands and desires can be promptly formulated and effectively transmitted to Congress and the executive departments. The farmers of America have never had such headquarters and have suffered greatly from the lack thereof. At this time the need for united action among American farmers is greater than ever before in the history of our country, and the service which a national headquarters for the organized farmers of America can render is greater than ever before. Therefore, the National Board of Farm Organizations approves the erection, endowment and maintenance of a temple of agriculture in the city of Washington to serve as a general headquarters for the organized farmers of America and a committee

of seven be appointed to prepare plans and to raise the necessary funds and procure by purchase or otherwise such a temple of agriculture.

This idea is not new. Three years ago a bill was introduced in Congress to establish a National Chamber of Agriculture—the proposition coming from David Lubin, founder of the International Institute of Agriculture at Rome, after careful study of the ways in which organized agriculture heads up against the national governments in Europe and secures its due influence in public affairs in several countries. The problems of the war interfered with the serious consideration of Mr. Lubin's plan. Since that time agriculture's lack of representation in councils which determined agricultural affairs has become more grievous and more clearly recognized by farmers. Every other great industrial interest in the country has mixed its own war medicine in Washington and compounded also the dose which farmers have had to swallow. And while the war is on there is nothing for farmers to do but take their medicine, as has been suggested. But when the victory, which now is clearly on its way, does come, the time will arrive with it for agriculture to assert its right to be heard and respected and to have governmental policies determined in accordance with its indispensable requirements. It is our farmers' present duty to keep their legs limber, for there will be high kicking to be done, and a good strong kick from the portico of the American Temple of Agriculture in Washington will be felt around the world. Californians should be getting ready for it. It is to this end that we have been exhorting all our producing groups to organize for their own affairs and for their own share in the general readjustment of production, commerce and finance in this country which will follow the war. Good progress is being made toward covering all our special products with co-operative selling and buying organizations. When they are all thoroughly affiliated in a representative State assembly, California can bid against the whole country for the choice of apartments in the American Temple of Agriculture in the national capital.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Split Piths and Split Pits.

To the Editor: In your issue of August 17 you tell an inquirer that you do not know the cause of split pit in peaches. I wish to give you my idea. If you plant the pits and grow them until they begin to bear fruit, there are no split pits. But you bud the young trees and set the bud on the side of the tree under the bark. Next year you cut the tree off above the bud and you have the pith half or three-quarters of an inch from the bud. The pit of the peach gets its main support from the pith of the tree. If you graft scions onto large stems, it is the same. But if you graft young trees with scions of the same size, so the bark on both sides connects them, the pith of the scion and tree are connected and you will have no more split pits. In the spring the tree begins to grow and make fruit crop, the sap clogs and does not get to the limbs fast enough to support the pit, so the fruit is bastardized. Apples and all other fruits lack their natural growth by budding large stems, but connect the piths by grafts and there are no more split pits, unless split limbs are allowed to remain on the tree.—Reader, Calpella.

The pith has no more to do with the growth of an exogenous tree than the hole in a doughnut has to do with the science and practice of nutrition. All our common fruit and other trees are exogens—that is, they grow by making new tissue around the outside of the stem just under the bark, which protects this growing-ring. In budding, the growing-ring of the bud is planted flat on the growing-ring of the stock, and that is the only place where a growing contact can be made. In grafting on a split stock the growing-ring of the scion must match or cross the growing-ring of the stock or there will be no growth at all. If you join the piths and do not make contact of the under-barks, not a graft will grow. The pith in a stem is dead as a mackerel—even deader than the hard old wood which surrounds it, because that, especially in its newer portions, does transmit some sap and holds the tree up—neither of which the pith can do, for it has neither sap nor strength. Your argument that the pith influences the growth and behavior of the tree, and in that way causes the pits to split because the piths do not join, has no foundation because piths never join and, because there is no growth activity in them, cannot do so. Our conviction is that you have another guess coming.

Sawdust as Fertilizer or Mulch?

To the Editor: What value has sawdust as a fertilizer and also what decomposed state would it have to be in to be of any value, and what, if any, would be the value of sawdust in soil as a mulch to keep soil from packing?—F. L. H., Modesto.

Sawdust is less valuable than straw as a fertilizer because, though it has about as much phosphorus and potash as straw, it has only about half as much nitrogen. But even this comparison gives sawdust too much credit, for the plant food in sawdust is so much more remotely available than that in straw because the latter decomposes so readily. In fact, sawdust is so slow that its contribution to an annual crop is almost negligible. Of course, discoloration of sawdust is not a measure of its decay. If it were, it might be claimed to become speedily available to feed plants. The action of sawdust in the soil is almost wholly mechanical and this may be either good or bad for a plant. It makes a heavy soil more mellow, helps its aeration and assists it to get rid of surplus water. On the other hand, it hurts a light soil because it makes it too coarse and too disposed to dry out. A mulch of sawdust is useful in reducing surface evaporation and holding moisture up for shallow-rooting plants, but as a mulch is soon worked in by tillage one has to remember to use such a mulch on a heavy and not on a light soil. It keeps a heavy soil from packing when used as a mulch and afterwards renders it less liable to pack.

Clovers vs. Bermuda.

To the Editor: Can you recommend any effective method of eradicating Bermuda grass, especially in alfalfa fields?—H. A., Shafter.

To the Editor: We have about twenty acres of otherwise good land badly infested with Bermuda grass. This land overflows during the winter season. What can we do to get ride of this nuisance? Will heavy pasturing have the same effect as on Johnson grass?—T. R., Grand Island.

No to the first querist; if the alfalfa gives it up we pass also. But perhaps you have a poor stand of alfalfa. If so, wet down deeply and get the land ready for fall sowing of alfalfa as fast as you can and resow generously and get as quick start as you can. Though alfalfa is very tender as a young seedling, it can grow enough in the fall to get quite hardy before frost comes on the plains, and then it grows at a lower temperature than needed to wake up Bermuda and with this advantage will fight Bermuda better than any other plant we know of, and the combination of the two makes fine feed or hay.

On the low land described by our second querist alfalfa does not have so good a growing chance and on such places we should put up red clover (Trifolium pratense) against it. It will stand the overflow and high ground water much better.

Heavy pasturing with un-ringed hogs will discourage Bermuda, but no pasturing will extirpate it. It will survive rougher treatment than Johnson.

Fall Irrigation of Deciduous Trees.

To the Editor: In fall irrigation, should the prune trees have lost their leaves or at least be autumn tinted before the water is turned on? A neighbor claims that as soon as the tree is dormant it is no longer in need of added moisture, as all function ceases. A number of us are interested.—Reader, Napa.

The rains have killed your question, but it may be well to remember that it is better to get on the water before the leaves show such signs of dormancy because when then applied it prolongs the activity of the leaves and their service to the fruit buds, as well as leaving enough moisture in the soil to prevent extreme desiccation, which kills rootlets. For this reason irrigation should be applied as soon as possible after the fruit is gathered. Late fall irrigation of dormant deciduous trees is only reasonable when the previous year's rain shortage leaves the soil extremely dry and fall rains are very late in coming. What we call dormancy is not complete inactivity and does not preclude the desirability of a certain amount of moisture in the soil. Dormant trees in a very dry soil will die by actually drying up just as nursery trees will dry dead if left too long on the freight-house platform. The same thing happens when dormant trees are frozen dry in more northerly regions. Freezing dry is measurably prevented by soil moisture and is understood by experienced growers in places where it is likely to occur.

SELL US YOUR TIME

Are you draft exempt? Have you an automobile? Are you free to travel? Are you convinced that the Rural Press is the best paper of its kind on the Coast and that it should be in every farm home?

If so, we need you to take the place of field men who have been drafted. Pleasant work, attending to our renewals and presenting the paper to those not already subscribers.

Straight salary; permanent work, with advancement. Lack of experience no barrier. If you are a live wire, are willing to learn and want to make more money, let us tell you how to do it. Our offer is a liberal one.

For a Heavy Flat Over Gravel.

To the Editor: I bought last year a piece of land which has been in grain for years and set out prune trees in March last. I plowed deep in April and disked and cultipacked it in May and June and got a heavy growth of morning glory. I cultivated it with a drag back of cultivator and got in three weeks another heavy growth of morning glory. Then I put on the weed-cutting blade and cut the morning glory, and now I have a heavy growth of it again. The soil is very heavy and dark 2½ feet deep, then the gravel starts and water appears at 4½ feet from the surface. Would it be advisable to transplant the trees this winter to another piece of land and put this flat into alfalfa? Will the alfalfa kill the morning glory, and will it be necessary to irrigate the alfalfa in order to get results?—H. H. B., Santa Rosa.

If you had purposed to get a full stand of morning glory, you could not have hit upon a better way to do it. We should transplant the trees to deeper land, free from gravel streaks and where there is more depth to water. Between the morning glory, gravel and high water your trees would not have much chance on the flat. Put in the alfalfa and let it fight the morning glory. It will not kill it out, but it will put it where the German army is now. The alfalfa will not need irrigation. It will probably not be long-lived, but it will put the land into good shape to get a whale of a crop of hay or grain in a very reasonable rotation and will be profitable both directly and indirectly if you work it right to get a good stand at first.

Longevity of Prune Trees.

To the Editor: I purchased in 1912 a prune orchard which had been neglected. There was a great deal of dead wood and I pruned the trees heavily, knowing I would have a small crop until new wood had time to grow. For three years I had very poor crops, but the crops of 1916-17 and this year have been very satisfactory. During these years I have put in cover-crops (vetch), irrigated and cultivated, and the fall of 1917 I put on some lime. I have also put down a deep turbine pump with good results. I also pruned carefully each fall. With this treatment, should the crops continue as at present? The orchard is about thirty years old. How long, in your opinion, should the orchard last? I have been told that with proper care it should last indefinitely. Is this your opinion?—G. H. K., Campbell.

If the trunks are sound, free from sunburned bark and burrows of decay from old wounds into the wood, and if the amputations of your severe cutting back in 1912 are healing over well, we should count on the trees for crops for fifteen or twenty years to come—perhaps longer—if they are kept in good vigor by such treatment as you describe. Keep them growing enough new wood, protect them from pests and especially guard against decay in trunks and main forks, and we should expect them to be serviceable indefinitely.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 24, 1918:

Stations	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.02	1.83	.96	60	46
Red Bluff	...	7.08	.51	90	54
Sacramento	.02	3.48	.23	80	52
San Francisco	.01	2.53	.15	71	56
San Jose	.08	6.33	.26	78	48
Fresno	.07	.08	.10	92	54
San Luis Obispo	...	.61	.32	84	54
Los Angeles	...	.22	...	80	60
San Diego	.02	.19	...	74	58

Artificial Manures as an Auxiliary

(Written for Pacific Rural Press by John J. Fox)

THE use of the cover-crop in California is now becoming general. For our fruit-growing sections have not the stock to furnish their requirements in barnyard manure. But we don't expect the cover-crop to do everything—under all conditions.

I think on our very best bottom land the cover-crop will maintain the fertility of the soil almost indefinitely if persistently grown. But on the bench lands, sandy loams and upland gravelly loams we will have to supplement the cover-crop with artificial manures if they are to produce crops of fruit that shall be remunerative in quantity and quality. Artificial fertilizers are comparatively new to California, but their use has been steadily growing through the last 25 years. Not nearly enough public demonstrations on a commercial scale are being made outside the University of California.

We have already decided that we must depend largely on cover-crops, spoiled alfalfa hay, bean and cereal straw or chopped corn stalks, as well as barnyard manure, to furnish humus (and a part also of the chemicals) necessary to plant life. After awhile we become more or less satisfied as to what we can furnish our orchards and vineyards in our own localities at the least cost. But I have never yet met the grower who was perfectly satisfied with what he was doing in the shape of commercial fertilizers.

We ask ourselves the following questions: "Did I apply too much or wasn't it enough? Did it go on at the right time? Should I have plowed it in? Am I getting adequate returns for the outlay? Is the soil depleted by its use or have I still got something coming? Has any of it leached away or been lost?" These are all very pertinent questions, but they cannot all be readily answered definitely—not even by soil analysis. We only know that some plants thrive on what we provide for them and others cannot assimilate what we provide and show distress in their foliage just as a human or animal's condition is apparent through the skin or hair. As plants vary in their requirements both in form and quantity, so must we be ready to study and provide for them as we do for our livestock. But, just as it is easy for the stockman to feed away all his profits in the stalls—and incidentally produce indigestion if the feed is not judiciously administered—so can an orchardist throw away his profits by injudicious use of artificial manures, either by using too much at one time or expecting results from too little. For though the air furnishes moisture (or part of it), and the carbon in the form of carbonic acid gas, of which the greatest bulk of the plant is composed, it has to draw on the soil for the other essentials—potash, phosphoric acid, nitrogen and lime, and it is the aim of the farmer to conserve and increase these plant foods. First, by not drawing unduly upon the reserve that nature has accumulated in all soils; secondly, by keeping the soil well supplied with humus by whatever means; thirdly, by keeping up fertility by judicious applications of fertilizer sowed at the right time; and fourthly, by rotation of crops, careful tillage, draining and occasional liming.

Of the principal plant foods we have nitrogen, potash and phosphoric acid, also lime. Of these, the highest priced ingredient and the most volatile is nitrogen. Apart from the nitrogen obtained through the use of leguminous cover-crops, nitrate of soda is the one substance ready for the immediate use of the plant. It should therefore never be applied till it can actually be used by the plant, as it is not held by the soil and what is not used immediately will largely leach away with

> ***The science of fertilization of the soil can never become exact because conditions vary to such an extent in even one field as to preclude the possibility of uniform results. But all the time we are groping and striving for better results and—obtaining them.***

the winter rains or irrigation water. Also it should only be applied as the plant can use it, so far as can be judged, and not to exceed two or three hundredweight to an application, even for citrus. Where half a ton to the acre is used in the orange groves, it would be better for the trees and less loss if it were put on in several applications than in one, and surely less likely to disturb soil conditions and consequently the assimilating organs of the plant. Even sulphate of ammonia, which is held by the soil, would be better plowed in in the spring—except where there is a winter growth, though the nitrifying process of this substance is governed largely by plant requirements. Dried blood and tankage are excellent forms of organic nitrogen and their price is governed by their units of fertilizer. Fish guano contains both nitrogen and phosphate of lime and is especially valuable where there is plenty of lime present in the soil.

I have elsewhere alluded to nitrate of soda as a stimulant and I justify the statement in this way: That although it is one of the most concentrated plant foods we have, it draws on the soil for its balance of the plant ration. It is a stimulant as meat is a stimulant to man; being easily digested, but overdone, it weakens resistance. I have called the artificial fertilizers auxiliaries because that is what they are in fact. They only supply the soil with plant food and (except lime) do not exercise any apparent mechanical action on the texture of the soil.

And now as to potash. Most of our best soils in California are not deficient in potash, though some of our light lands are deficient. In experiments carried out in California on the best lands, no appreciable gain has been apparent in the trees or fruit, though I have never seen one carried out to its full end in weighing of the fruit. As it is so rare and high priced now, it is hardly worth discussing. As I have said, heavy land (clay loams and clays) are generally well supplied with potash. The commercial forms chiefly used are muriate of potash and sulphate of potash, though I still look for the time when Kainit may come back into its own in spite of its impure salts.

PHOSPHATIC MANURES.

Here we are generally all at sea. Every man says: "What form shall I use to the best advantage of my crops—the raw or the acid manures?" The raw phosphates comprise bones, Peruvian guano and basic slag or mineral phosphate. The acid manures are dissolved bones and superphosphate. The results of experiments both here and abroad have decided — generally speaking—that where the soil possesses plenty of lime, super phosphate or dissolved bones is probably the most efficacious and economical, while on soils deficient in lime, bone meal untreated with sulphuric acid or mineral phosphate would be preferable. But, broadly speaking, the most economical use of mineral phosphates is to make them into super phosphates, as this makes the phosphoric acid more readily available. This also applies to the bone meal.

Peruvian guano is richer in phosphates than is bone meal, but its quality varies in ammonia content, probably due to exposure. But where this is guaranteed by an accredited fertilizer company you are generally safe. The fish guano also contains phosphate of lime and nitrogen.

To show how rapid was the rise in use of phosphate rock—called basic slag—4500 tons were used in England in 1887. Three years later this amount had risen to 24,000 tons and its use has been increasing ever since. Good samples contain from 14 to 18 per cent of phosphoric acid.

In the amount to be applied it is absolutely impossible to make recommendations of the amounts necessary for different orchards. This must be apparent. For the physical condition of the same land in two different farms may be vastly wide apart, according as it has been farmed. However, we will take a good clay loam with an annual cover-crop. This crop has 1 cwt. of nitrate of soda to the acre three weeks before it is plowed in and preferably just after a rain. If necessary 1 cwt. more can be sown on at the first disking or cultivation. No potash, and if phosphate is needed it can be applied in the fall and worked in at the rate of half a ton to the acre, or superphosphate at two dressings.

Gypsum helps a legume crop as much as nitrate of soda under some conditions. It should be sown on when the leaves are wet preferably, and 2 cwt. to the acre is enough. The best time to apply is after a rain and when the weather is warm enough for the plants to grow. The effects of gypsum are more readily observed on light and especially chalky soil. Where lime is deficient its effects are much lessened. Except where it is used to neutralize black alkali, not more than 2 or 3 cwt. to the acre should be used. Where cover-crops are used and turned under green, and especially where sulphate of ammonia is used as a source of nitrogen, the land will need liming once every three or four years with from one to two tons of hydrated lime (at two dressings), or its equivalent in ground limestone. Gypsum or sulphate of lime does not possess the neutralizing qualities that hydrated lime does on an acid soil. But liming must not be practised too often or more than is necessary. There is an old proverb that runs: "Lime makes the father rich and the son poor"; that is, that it is possible by its injudicious use to exhaust the soil. And this exhaustion also takes place if a heavy "unbalanced ration" of nitrate of soda is persistently given. I have often wondered if this has anything to do with mottled leaf and other ills the orange is heir to. Mottled leaf is the outward and visible sign of an invisible unhealthy condition of the tree's system, just as a yellow skin shows on a man suffering from jaundice. Only we have been able to trace that to the bile. We have not yet discovered all there is to know about plant ailments. Yet it occurs to us that an insanitary condition of the soil or a plethoric condition of the root system may have something to do with it.

Of one thing we are certain. Now that our lands have become so profitable and high in value, we must learn to build up and sustain them to the highest stage of fertility or go broke. And to do this without throwing all our earnings back in the ground we have to learn to use cover-crops as a foundation and a judicious use of artificial manures as auxiliaries. And if we expect to get the whole of that money back in the fruit we imagine a vain thing. A part of that money spent for fertilizer has gone to build up the stamina and vitality of the tree. And that is obviously an unknown quantity.

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Review of the Citrus Situation

[Written for Pacific Rural Press.]

Citrus growers' supplies are not all assured, but there is a big conservation job ahead of the growers which may result in enough to go around. A. E. Barnes of the Fruit Growers' Supply Co., the auxiliary buying organization for members of the California Fruit Growers' Exchange, believes there will be enough box shook for the fruit, though the sort of lumber it is made of is in heavy demand for other purposes. Delivery of nails is beginning to come freely. There is ample paper on the coast, though delivery has been slow both for wrappers and for labels. Citrus fruits must be wrapped to avoid excessive decay, but conservation pledges are being signed. Paste, which may not be made of wheat and corn as heretofore, is scarce and experiments have not developed a satisfactory substitute; but the supply company has dug up small lots at various places in America that had already been made up. Orange clippers, being made of high-grade tool steel, are hard to get and growers are being asked to send their discarded clippers in to have them repaired by experts to reduce the demand for new ones. Farm machinery is high priced and hard to get on account of the need for steel in war industries and the company is with the Government in urging that wherever old machines can be economically repaired to do efficient service new ones of the same kind should not be bought. Now more than ever before people should borrow and lend machinery wherever this will be economical.

Cyanide is plentiful on the Pacific Coast because less has been used for fumigation than in recent years. Liquid cyanide is still considered somewhat experimental and costs and results are being watched closely. Fertilizer is being demanded more all over the United States on account of the more intensive farming, while at the same time the supply is reduced. Use of potash as fertilizer was largely discontinued several years ago. Nitrate of soda and sulphate of ammonia are needed more in munitions than in soil and are being taken for that purpose. The supply company patriotically released to the Government a rather large shipment of nitrate which the War Board had approved for fertilizer. Slaughter house products, especially digester tankage, is being diverted from fertilizer into hog feed. There are practically no building operations now among the citrus exchanges on account of difficulty in obtaining hardware, lumber, labor, etc., and the undesirability of diverting them from more pressing needs.

ORANGES SCARCE.

There are probably not over 700 carloads of Valencias yet to be shipped, as against about three times that many which are usually on hand at this time of year. The Valencia season started earlier than usual on account of the navel shortage, but even Valencia shipments have been very light all summer. About thirty carloads a day are now going from California, distribution to small markets being restricted by high prices. The high prices are not staying with the growers, however, but are largely being spent on increased costs of supplies and labor and are not so big anyway because the yield per acre is short. No difficulty has been experienced in getting cars for shipment, but all are loaded to the maximum, 432 boxes per carload.

The coming Valencia crop gives good promise, but the northern navel crop seems to have been reduced by a heavy drop to about 35 per cent of what it might be; and the southern navel crop in California promises about 70 to 75 per cent. Sizes are likely to be correspondingly large.

CLEAN TRAYS.

Fruit trays and boxes should be thoroughly scrubbed with lye before being put away this year or the mould is likely to get into the wood and be ready to damage the next crop that comes in contact with it. The practice of stacking trays away on edge is a good one, especially where they are not under shelter. The rain runs right down through and they do not mould so badly.

Up to September 1 upwards of 200 carloads of fruit have been shipped from Placerville, including pears, peaches, plums and prunes—the most prosperous season the county has ever had as regards fruit. And the end is not yet.

A. Gunnarson of Kingsburg claims never less than 10 tons to the acre on his Levi Late cling peaches and will have 15 tons this year. Also last year he sold $525 worth of apricots from one acre—nine tons green.

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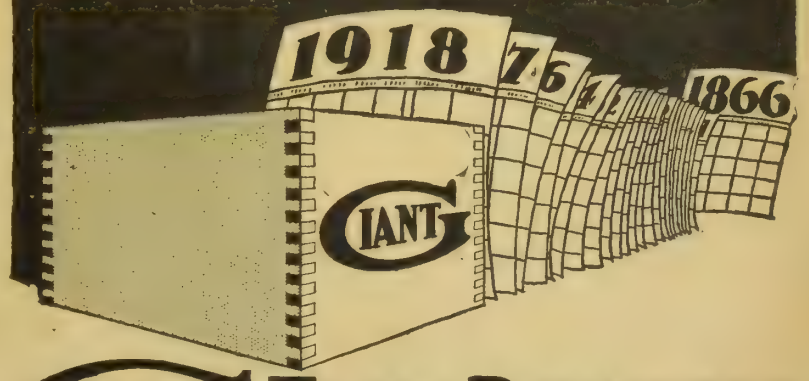

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The Best Methods of Peach Pruning

[Written for Pacific Rural Press by John J. Fox.]

For the sake of knowing what kind of a tree we have to deal with, let us start by planting it and heading it 1 foot to 15 inches from the ground. As the inland valleys lead in the production of the peach, and it waxes warm there occasionally, we head the trees low: (1) For the purpose of affording shade to the trunk right from the start; (2) that we may gather our fruit at the least possible cost. And the more that can be gathered from the ground the greater the profit to the grower. It costs money to pick peaches from a 15-foot ladder and if the peaches drop onto a clod from up there they are wasted or injured.

VASE-SHAPED TREES.

Our little tree, if all goes well, makes a good, strong growth the first year, especially if it be judiciously suckered at the bottom. The leaders are thinned down to three or four of the strongest and are cut back to a foot to 18 inches, according to the strength of the wood. This will force a heavy wood growth for the following year. During the summer the horizontal and downgrowing suckers can be removed, being careful, however, to leave the small fruit wood in, to protect the tree. The next year one-half the wood will be cut back or perhaps more and thinning out of undesired laterals, from the inside if possible. In this way a vase or cup-shaped tree is obtained, which, though open in the center, has its branches protected against sunburn by inside fruit wood. Thus, fruit that is of good quality and color is produced inside the tree as well as outside. If one side of the tree is running away, prune it back heavier and give the weak side a lighter pruning so as to even things up. The wood growth is forced, then thinned till the peach tree has attained the size we want, the fruit being allowed to set on hangers and no shortening of fruit wood practised. Only thinning of them down and using those of a drooping nature, by preference. The heavy growth at the top is now kept cut back each year clear to the secondary buds, so that the tree shall go no higher. When the hangers have been used, they are cut clear back and new ones selected for the ensuing year.

EXCEPTIONAL YIELDS OF FRUIT.

D. L. Reed's orchard at Reedley is about as good an example of the vase system of pruning as I have seen. Last year he sold 51 tons of dried peaches from 17½ acres of orchard—a most exceptional yield. His trees are 10 years old, on sediment loam soil. He has plenty of water and irrigates twice. He will irrigate once more this fall. He checks and floods the ground like alfalfa, but it is easy to see that the trees must be of large size to be capable of bearing 3½ tons of dried fruit to the acre. They were headed at from 1 foot to 18 inches and are built with 4, 5 or 6 leaders at 6 feet from the ground. His trees were very small when planted, but were well rooted and well protected from the sun. On sandy ground he wishes his trees were even lower-headed. Protection from sunburn, both direct and reflected, is most important to the peach, and there is no reason why it should not always bear fruit from top to bottom—fruit of first quality. Last year five acres of Elbertas returned 12 tons of dried fruit, though they dried out over 6 to 1. Many trees produced 16 boxes of fruit. The Lovell is the favorite peach with him; it bears so well, dries well and the smaller fruit rapidly sizes up when the first fruit has been picked off. Elbertas bear more on the spur than on wood buds. If the tree is vigorous, the hangers do not set much more fruit than they can properly mature. Mr. Reed says it costs him about 8c or 9c a tree for pruning. He plows directly after the crop is off, then levees up and floods. The trees are well-built and generally sound and need far less propping than is usually necessary. I have mentioned this exceptional orchard because it is what is desired in the vase tree.

THE SIMS SYSTEM.

We recently called on William Sims of Farmersville (who originated this method), accompanied by C. F. Collins, Horticultural Commissioner of Tulare county, who described this method several years ago in an article which was published at the time. The trees are headed at about 18 inches and four or five main leaders are chosen from the new growth to make the framework of the tree. These leaders are all cut to a uniform height, which is governed by the season's growth. After topping, all laterals are removed from these leaders. The second winter these main leaders have all new growth removed from the top except one, which is allowed to continue its way upward and is topped at 10 to 12 feet. All laterals are also cut clear back that are larger than a lead pencil. Enough small laterals are left to completely shade the tree and provide fruiting wood. After this, each year cut out any larger laterals, leaving only the small fruiting wood and only as much of that as the tree should carry. The new heavy wood at the top is cut clear back to the secondary buds each year. This system seems adapted to the peach section of Tulare county, where the trees make a strong growth. The trees we saw are 23 years old and sound. They have never been propped because the upright character of the scaffold sustains the load. Mr. Sims claims that this system lengthens the life of the tree and his orchard certainly justified him in the assertion. I still think the vase system preferable because it gives a larger bearing area, shades the ground better and can easily be wired to sustain its load. Its fruit can also be as easily harvested, as so much of it is reached from the ground or from a light step ladder. Mr. Sims has 70 acres of peaches ranging from four to 23 years old—all pruned on the same system. The soil is a good sandy loam—second bottom land. He has Fosters, Muirs and Lovells (free), with Tuscan, Phillips and Sims Clings. The latter he sells through the local Cling Peach Growers' Association, which has 80 members. The water-table stands at 8 feet, and he never irrigates except in a dry season, and then only once.

THRIFTY AND PRODUCTIVE ORCHARDS.

His 60-acre prune orchard also is not irrigated. F. H. Wilson of Dinuba, president of the California Peach Growers' Association, has 80 acres of 15-year-old peaches at his home, pruned on the vase system, half freestone and half cling. Last year—an average crop—there were 130 tons of clings shipped and 50 tons of dried peaches.

This place is irrigated two or three times a year. Probably an average crop on upland will run in this district about one ton of dried fruit to the acre.

One of the most thrifty young peach orchards I have seen was that of Nicholas G. Nelson, president of the Farmers' National Bank at Kingsburg—80 acres of Tuscan Clings, four, five and six years old, pruned on a modification of the vase system. The ground was well shaded and fruit wood hangs to within a foot of it. Last year 375 tons of peaches was marketed from this baby orchard. This year the frost cut down the crop to about a ton to the acre. The general price was $65. This place is irrigated twice a year. It is on the banks of Kings river and a subsidiary pumping plant has been installed, so this year it will have a fall irrigation.

Except in the Farmersville district, where the Sims system is in vogue, the best system of pruning peaches is the vase or a modification of it. A low heading, the fruit grown on "hangers" and the top of the tree kept within due bounds—not higher than it is profitable to pick rapidly.

GRAPES AFTER THE RAIN.

It is reported from Napa and Sonoma counties that grapes are in a delicate condition after the rain. Clark Fawver of Oak Knoll says that Malvasias are badly split and there is quite a little rot in the Sauvignons. Alicantes are dropping at a touch and in some places Zinfandels are past redemption. The loss in sugar has, of course, been heavy in all varieties and the best of weather will not give it all back. The 22 per cent sugar content demanded on contract sales will have to be lowered. Vineyardists are getting their fruit to the crushers as fast as condition will permit. A few days of good warm weather will add rapidly to condition. Fortunately a very large proportion of the fruit is well up on the vine. All that fouches the ground is gone. Where there is a heavy foliage some mildew is present. Every man is "up o-comin'" now—nobody is taking it easy these days. More power to his elbow.

EARLY RAINS AND PEAR BLIGHT

In view of the new growth in pear trees that has lately been started by the rains, State Horticultural Commissioner George H. Hecke has issued a warning to pear growers to be on the lookout for pear blight. The young growth will be susceptible and blooming is probable under certain conditions—has indeed been reported. Mr. Hecke recommends careful inspection of trees till the danger is over. Should any blight appear, it must be cut back at once. He reports that Dr. F. C. Reimer of Oregon, the noted pear expert, recommends cyanide of mercury to disinfect cuts and wounds instead of corrosive sublimate—1 grain of pure cyanide of mercury to 500 grams of water.

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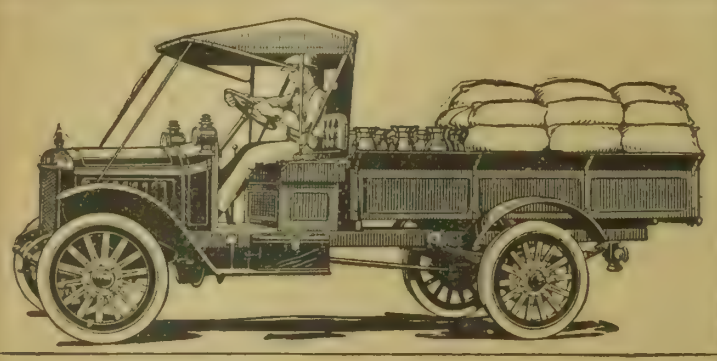

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Further County Crop Reports

[Written for Pacific Rural Press.]

From Ventura county, Professor E. O. Essig, County Agent of the Department of Agriculture, reports: Beans being harvested. Prospects for a normal crop; slight damage by rain. Citrus fruits practically a normal crop. Lemons especially good. Walnuts beginning to drop; nearly normal crop. Nuts of especially fine quality—free from blight and other injury.

Last week's report from H. H. Ladd is borne out by later reports this week. Beans practically undamaged. Injury to grapes, prunes, barley and hay not yet determined. Late beans, which may be started out into vigorous new growth, will be cut or pulled at the usual time.

County Horticultural Commissioner Lamiman of Shasta county reports no damage to prunes or peaches. Will hasten maturity.

County Horticultural Commissioner A. L. Rutherford estimates the greatest loss in his county to figs; 75 per cent spoiled. Beans and corn will not be injured by the storm as a whole.

M. J. B. Neff of Anaheim reports for that section 75 per cent of a crop of oranges, 85 per cent of lemons, 80 per cent of walnuts, 70 per cent of beans, and tomatoes poor. "Walnut gathering has begun and the quality is excellent—probably the best we ever had."

Sheridan W. Baker of Santa Rosa reports grain in Sonoma county 10 per cent damage from rain, and hay perhaps 15 per cent.

George Marchbank, Horticultural Commissioner of Madera county, reports that practically no damage was done to any crop in his county excepting figs, and he estimates the damage to them at 10 per cent.

Little real damage was done to crops in Merced county, as reported by Arthur E. Beess, County Horticultural Commissioner. Figs suffered worst. Probably one-half of the White Adriatics and one-third of the Smyrnas were under cover. The figs on the ground suffered most; those that were not picked up promptly. All of these had to be washed and many of them have soured. A large proportion of the riper figs on the trees have been split and soured. Practically no damage to raisins and no noticeable increase of mildew apparent on shipping grapes, though many bunches that touched the ground have begun to decay. No injury was done to beans or sweet potatoes.

Charles F. Collins, Horticultural Commissioner of Tulare county, reports figs a normal crop, but sizes running rather small. Prunes are 60 per cent of a crop and 75 per cent of them are cured. There was no rain and the weather is most favorable possible for the curing of crops. Valencia oranges are about 45 per cent of a crop and navels 25 per cent.

Nevada county reports little damage and more benefit from the heavy rain. The young orchards will be invigorated and the green feed is most timely and needed. All the stockmen in the hills are well pleased. What little old pasture was injured is more than made up by the new growth.

J. H. Stephens, president of the Rice Growers' Association, predicts an increase of the rice crop of from 10 to 15 per cent as a result of the rain.

Salinas growers have been hard hit by the recent storm. Schools have been adjourned to allow the children to go into the fields to help handle the crop. The extent of the loss will depend on weather conditions. A fair wind and sunny days are badly needed to relieve the situation. E. E. Kaufman of the U. S. Bureau of Crop Estimates says: "The greatest loss to bean growers is in the Salinas Valley. No estimate of this can yet be made. Next in importance are losses in Sacramento and San Joaquin Valleys. Damage in the south is negligible. The damage to prunes is probably more than half the crop. There will be some small loss to late canning peaches. Of table grapes the Tokays bore the brunt of the loss."

T. C. Tucker, manager of the California Almond Growers' Association, reports that damage to almonds is chiefly confined to Drakes, Languedocs and Seedlings, and consists in stain damage. These can be shelled and sold as shelled almonds and of course the returns on this fruit will be proportionately less.

Berkshire Breeders Set a Hot Pace

[Written for Pacific Rural Press by R. H. Whitten.]

Step aside, all ye breeders of other kinds of hogs, and make way for the Berkshire boosters. For the stunts they performed at the State Fair and the plans they laid for the future certainly entitle them to first place in the swine breeders' Hall of Fame.

First of all, they had Judge Thatcher explain, after judging each class, why he placed the awards as he did. This plan gave universal satisfaction. Some exhibitors were a little sore when the ribbons were passed around, but after Mr. Thatcher had given his reasons all dissatisfaction disappeared like dew before the morning sun. Those who failed to win understood why, and they went home determined to breed out the faults that the judge objected to, and to come back next year with a herd that would surely win. "It doubled the value of the judging," was the universal opinion.

Then these live wires held a sale of young sows. They first had all of them judged, and donated the winner to the Red Cross sale. Then they sold the balance, and the proceeds went into the treasury to be used for promotion work. Two hundred and fifty dollars of the amount was given as extra premiums at the Fair, a large proportion of it going to exhibitors who had never shown before. A fine stunt to get beginners into the show game.

At this same sale, in order to induce liberal bidding, purchasers were offered free the service of any boar owned by any breeder represented. Think of it—a purchaser could have his choice of almost any blood line of the breed and could have his sow bred to one of the best boars of that breeding! What an opportunity to start constructive breeding!

Another similar sale of 50 head will be held at the Los Angeles Liberty Fair, but here these progressives will go a step further. They will appoint a judge, who will inspect the stock consigned to the sale, and all animals not up to a very high standard will be culled and sold to the butchers.

At this Liberty Fair $250 will be contributed from the Berkshire Congress treasury—two-thirds to be added to the regular premiums and one-third to be offered to breeders who have never exhibited before.

Here's another original stunt: A killing contest will be held, and one of the leading Los Angeles packers will have charge of the killing, chilling and judging. Then the winning animals will be put up for sale. The amount that the carcasses bring over what ordinary carcasses would sell for will be determined and the excess will be donated to any patriotic organization designated by the breeders.

How many breed organizations have taken enough interest in their work to have a special day named for them? The Berkshire fellows have, and Thursday, October 24, will be officially known as Berkshire Day. The killing contest will occur in the morning; the sale will be held in the afternoon; and in the evening a banquet and meeting of the Western Berkshire Congress will be held at the Alexandria Hotel, which will be headquarters for these breeders during the fair.

Our space is too limited to tell you about all of the plans that these originators have up their sleeves, but we have said enough not only to prove that they are worthy members of the Brotherhood of Brains, but also to warn other breed organizations that they will have to buck up.

Organization is necessary to put any breed to the front. But organization alone won't do the trick. An organization is like an axe—what it accomplishes depends upon the man power behind it.

We have plenty of breed organizations in this State, but too many are half asleep. They hold annual meetings and elect officers; they transact routine business; they sometimes hold a banquet and have a jolly good time. But they do very little real promotion work.

This paper is not for any one breed or set of breeders. We are for more and better livestock of all kinds and all breeds. We will gladly help any breed association in its work, and there is always space in our columns to tell of such constructive work as that being done by the Berkshire breeders.

Don't try to imitate them, for you know imitation is the sincerest form of flattery. And besides, the imitator is always a lap behind the originator. There is no corner on original ideas. Plan some real novel, practical stunts that will make the Berkshire fellows look like a bunch of amateur pikers. We'll back you up in every progressive movement you undertake. You'll find us right there, ready and willing to do our part.

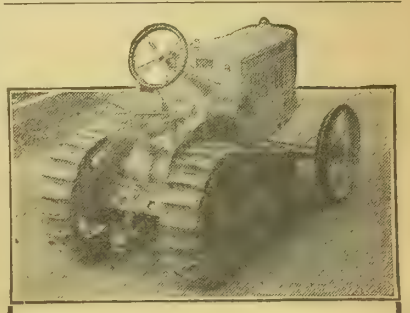
The reason for choosing the Salway pit for planting for tree stock is (1) that it is hardy and makes more growth; (2) continues to grow later in the fall and is not inclined to sucker.

PEELING PEACHES FOR DRYING.

To the Editor: How are peaches peeled for drying? They were formerly peeled by hand after sulphuring, and at Fresno they peeled them with lye. But they have a new way of doing it now.—Anton Kerz, Ramona.

[The peeling of ripe peaches for drying is still carried out by small growers by hand, directly following the sulphuring process. Hot lye is also still used. The dried peach peeling process under the Beekins patents have been issued to and are controlled by the California Peach Growers, Inc., at Fresno. The Dunkley Company of Michigan appealed against a decision that their patent rights in fruit-peeling machinery in canning operations had been infringed by the peach-peeling machines used by many of the canners in California, but the case is not yet settled, as notice of appeal has been entered.]

Farmers' short courses will be held at Davis, Sept. 30 to Dec. 13, 1918.



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Put your planting problems up to us. We can tell you the varieties that will do best under any particular conditions. Get started right and you'll make money. SEND FOR OUR NEW PRICE LIST.

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76 So. Market St. - - - SAN JOSE, CALIF.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Berryessa Valley.

Cook & McKenzie of Monticello, Napa county, shipped 6000 boxes of Bartlett pears this year out of a possible 10,000. One thousand boxes were shipped from 200 trees. Under average conditions, $1.25 a box is netted. This means net on the trees, after paying cost of cultivation, pruning, etc. These gentlemen have planted extensive young orchards and have 200 acres set to trees, including 40 acres of old prunes and a considerable acreage started into bearing. This year they will have 150 tons of dried prunes of fair size and quality. H. J. Knowles, also of Monticello, has planted 75 acres of pears on the old Coleman place and 25 acres of French prunes. It is expected that the Berryessa Valley will plant out some hundreds of acres more to pears, as this is a pear section.

Jam and Apricot Pits.

All the apricots used by Crosse & Blackwell used to come from California—boiled to a pulp and shipped in 28-pound tins. When we start Jam-making we can beat the world in competition provided there is no duty on cane sugar. The Prune and Apricot Growers' Association is handling an immense pit-cracking plant on the Campbell Road. The shells are sold to the Government to make carbon used in gas masks, and the kernels make essential oils and are used (when blanched) by jam-makers to improve the flavor and appearance of the apricot jam. Some day they will be kept in the State to go into our own made jams, which will be distributed "all up and down the world" in American ships.

Care of Soldiers' Orchards.

Officials of the California Fruit Growers' Exchange are working out plans whereby expert care will be given to the orange groves of all members, without charge, after their enlistment or call into the military establishment.

Indications are that a considerable number of property owners will be inducted into the service by the terms of the new man-power bill, and those members who so desire may arrange for the handling of their property during their absence.

A form of contract for the work has been approved by attorneys for the fruit growers' organization.

Commercial Varieties of Fruit.

In planting out a young orchard on a commercial scale it is most important to keep strictly to commercial varieties and those for which a market has been created and which the market demands, no matter what kind of fruit you favor. The newcomer to this State especially must find out (1) what he wants to grow; (2) has he suitable land and a proven location; (3) if he can get trees of a marketable variety. There are too many "seedlings" of all kinds in the State today. The sooner varieties are combed down to a few leaders of each kind of fruit, the better for the whole industry of horticulture.

Portuguese Export of Olive Oil.

As olive oil is considered a necessity in Portugal and as the future crop of olives will not be equal to the local demand, the Government has prohibited its exportation, excepting to the islands of Azores and Madeira and the African colonies. Sardine packers are prohibited from using olive oil of more than one degree acidity and must pay a tax on all oil used, either domestic or foreign, amounting to 0.20 escudo per kilogram. Prices of olive oil are fixed at 0.60 escudo per liter to the producer, 0.68 escudo to the wholesaler, and 0.72 escudo to the retailer.

Shortage of Labor.

Placerville has experienced a shortage of labor in the fruit harvest, the reason for which is not clearly explained. A good many tons of pears that ripened faster than they could be dealt with were hauled away for hog feed. The land army has been utilized to its fullest capacity by a few patriotic ranchers and has aided largely in competition with Oriental labor. With the exception of one local merchant, every store in Placerville tendered help to take care of the crop. If there is a nigger in the woodpile, it is better to put him to work than to destroy the woodpile during war time.

Government Buying Apricots.

The Government has bought 1300 tons of dried apricots, which will doubtless help as much as anything to permanently extend our markets for this delicious fruit, which at present is not as widely known as it deserves. "A change is the spice of life," and the British Tommy always welcomes a change from his eternal ration of plum jam—good as it is. The fruit that our boys get will surely be sampled by their brothers-in-arms, no matter what it is.

Record Crop of Apricots.

For the last seven years the average production of apricots on a green basis has been 110,000 tons. In 1917 it was about 125,000 tons. This year the estimated production is for a crop of 160,000 tons—the largest the State has ever produced and easily and satisfactorily marketed. The Prune and Apricot Growers' Association has relieved the grower of that anxiety.

Nursery Notes—Suggestions to Planters

[Written for Pacific Rural Press.]

We have recently taken a trip through Fresno, Kings and Tulare counties and visited some of the large nurseries on the way. We found that, owing to the requirements of the Government regarding concentration of effort on necessary industries, fewer ornamentals were being prepared for the market. The Fancher Creek Nurseries are not propagating anything useless—not only on account of the extra labor involved but also to conserve every ounce of fuel possible. And greenhouses can not be run for propagating purposes without some artificial heat.

We found that about 50 per cent of prunes and plums are budded on Myrobolan stock, with peach root running second. Santa Clara Valley and clear on down into San Benito county will plant a large acreage of apricots on Myrobolan—chiefly Royals and Blenheims, together with a sprinkling of Moorparks and Hemskirks. Generally, planting of new acreage is expected to be governed in some degree by the labor supply. If that supply is forthcoming, a normal planting is looked for. Demand for new stock is so far about average of other years. Stock is good quality and clean but a little short of average supply. Mr. Moliere, manager for George Roeding, said: "Next year we don't know what labor will be available for the nurseries, in view of the draft."

There will be quite a run on pears and peaches, as well as prunes. And if all the vines we saw in the vicinity are set out there is going to be a large added Muscat and Thompson Seedless acreage. There is a little better than a normal demand for Bartlett pears — chiefly on Japan root, but some on French.

The seedling plantations are in first-class condition and have made good, thrifty growth. The new Calipper method of grading should prove

A Pennsylvania Farmer Says Concerning Electric Motors on His Farm

"A one-horse power motor is located in the spring house for separating milk, churning butter, turning a grinding stone, etc.

"In the house, my wife has a ⅙-horse power motor for running a washing machine. This motor can be attached to any lamp socket.

"In the barn a 15-horse power motor mounted on a little truck may be moved to any part of the barn or barnyard for grinding feed, baling hay and threshing grain. By extending the cable we have used this motor 400 feet from the barn."

This letter suggests equally profitable installations around your house and barns. The General Electric Company manufactures all sizes of electric motors for farm use. Information will be gladly furnished by your lighting company or our nearest motor agency.

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strain of Hairy Peruvian Alfalfa—and plant now! When you plant Morse's you know that it is not only true to strain but of proved germinating power. In common with all other Morse's Seeds, it is specially selected, extra recleaned, soil-tested.

Morse's Hairy Peruvian Alfalfa

will make money for you because: It starts before other alfalfas—stands greater extremes of temperature—yields an EXTRA cutting per season—and always produces heavily.

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satisfactory to both grower and planter.

It will be well for growers to plant up the misses and vacancies in their young orchards before launching out into new acreage. This is a thing that is sometimes overlooked—I plead guilty to it myself—but the ground has to be worked over anyway. Also, growers should get in their orders as early as possible and plant early. If not quite ready to plant, the stock should be heeled in upright, in a good deep trench, with the earth filtered through the roots and firmed to exclude the air. To order early means that the trees are on hand, thoroughly inspected, whenever the orchardist gets ready to plant. A low spot not well drained must be avoided in heeling in.

M. Jackson, manager of the Fresno Nurseries, ran us 'round to several of the plantations of nursery stock. In speaking of newly planted trees sometimes making a poor start, he said: "Don't sucker the young trees too early after they start growing. Wait until the buds you want have made some growth. Then you can remove the suckers and concentrate the energy of the young tree on the shoots you want to keep." We noticed some young trees last year whose terminal buds were almost destroyed by thrips just after they broke into leaf.

All the large nurseries are as keen on bud selection for improvement of type and production as cattle breeders are for pedigreed sires. It is the irresponsible alien and the cheap-tree peddler from God-knows-where who is responsible for much of the disappointment experienced by small men of small means. The business grower knows better than to buy cheap stuff from an unknown. The foundation of his business must be built of the best material he can obtain. Summary: Regard with suspicion unknown stock whose only recommendation is that it is low priced. Order early; heel in promptly; plant with care. To which may be added: "Protect from the south and western sun."

And now regarding the varieties that are in best demand by the markets. In prunes the first preference is, of course, for French, then Clairac Mammoth, Sugar and Robe de Sargent for drying purposes. For shipping green, the Standard, Sugar and Tragedy. The latter is more of a plum. The Silver is not a commercial variety for drying and is not recommended.

Plums.—The President is becoming a favorite; Burbank, Wickson, Hungarian, Giant seem to be in the lead.

Peaches (early). — Alexander, Hale's Early (second early), Foster, Early Crawford. Free (drying or shipping).—Lovell, Muir, Elberta, Susquehanna, Wheatland, Salway. Clings.—Phillips, Tuscan, Orange, Levi Late. Many other varieties are also local favorites.

Pears. — First, Bartlett. Good quality and shipping varieties which are growing in favor are Beurre d'Anjou, Comice, Winter Nelis.

Cherries (early).—Purple Guigne, Chapman, Rockport. Main crop.—Black Tartarian, Royal Ann, Bing, Lambert.

Apricots.—Blenheims and Royals first; then Tilton, Hemskirke and Moorpark.

Almonds.—Nonpareil and enough Drake's Seedlings for pollination; also I X L, Ne Plus Ultra and Peerless. Texas Prolific has limited market.

Walnuts.—Franquette, Placentia Perfection, El Monte and Eureka in the south; Franquette, Mayette, Concord and Eureka in the northern part of the State.

In both almonds and walnuts there is said to be a limited demand for hard-shelled varieties on the part of "genteel" hotels and those who desire that their guests may not consume in an absent-minded way more than is really good for them. Also the necessity of using mechanical means, such as a hammer or shoe heel, for extracting the kernel often affords relief and even entertainment during post-prandial speeches in small municipalities.

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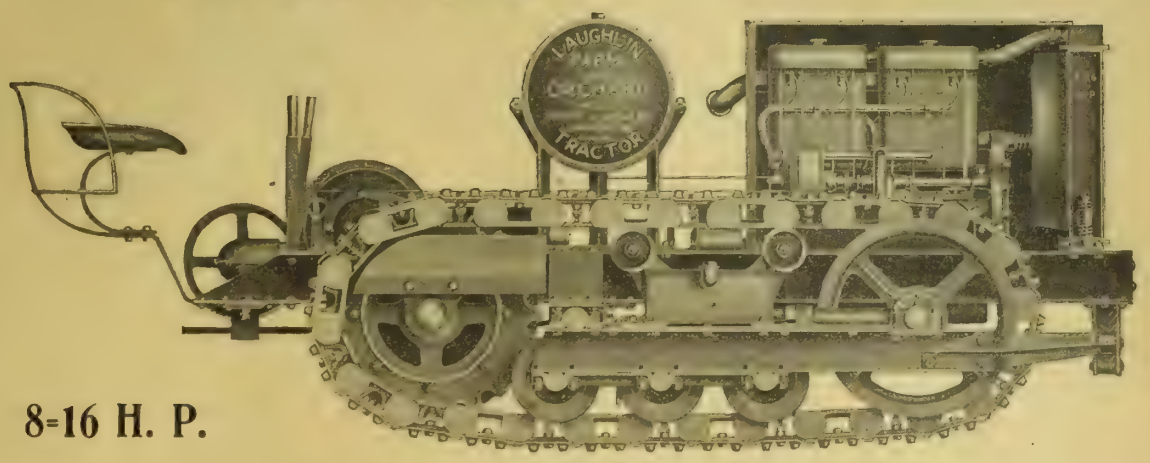

8-16 H. P.

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Delivery to you by prepaid Freight
Delay buying until you have compared my samples with seed others offer.
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CALIFORNIA FRUITS By E. J. Wickson **$2 Postpaid**
525 Market Street, San Francisco.

The rain damaged only slightly the grape crop around Winton.

The Latest on the Prune Situation

[Written for Pacific Rural Press by John J. Fox.]

We reported last week the state of affairs in the great prune section of the Santa Clara Valley. At this writing, September 21, things look a little brighter. If the weather is propitious and keeps clear, the Vacaville section will not lose over 10 per cent of the crop. They have had the sun over there. And the rain has put their orchards into such fine shape that their gains far outweigh the individual losses of fruit, though all their figs are gone, too.

The Napa and Sonoma people had much of their fruit stacked and most of this is fairly safe except the last dips, but it won't stand very much more inclement weather. If the weather clears up and is good from now on, the loss in Napa county should not exceed 25 per cent, and it would not be nearly so much if the fruit that has fallen since the rain could be saved. Owing to the poor drying weather preceding the storm, almost everybody's trays were in use and none are available to take care of the green fruit. D. A. Dunlap of Yountville has 5000 trays full of fruit and some fruit in the bins, but he says that at least 50 tons will be lost that have fallen since the rain. He is putting about 300 trays a day through his evaporator. As the fruit is dried, he will redip them and get them thoroughly dry before they go into the bins.

REDIPPING.

A year like this it is most important to do this. Dry well all now on the trays, then redip and dry thoroughly before putting in the bins. Look over the trays and pick out any stuff that is soft or undercured—also pick out all slabs. The greatest pains must be taken this year to send the fruit in right. In redipping, use about 1 pound of cooking soda to 20 gallons of water, adding a little lye or caustic soda as is seen necessary. Then dump them onto clean trays that have been scrubbed clean of mould or much labor will be lost. We suggest that, after scrubbing, the trays be sprayed with formaldehyde—1 pint to 25 gallons of water.

By the time this article appears it will be too late to make many suggestions, but the fruit must be kept moving. The sooner it is changed to other trays after it is firm enough to handle, the better. Fruit that has soured halfway through and that which has been mouldy and afterwards dried must be kept separate from the sound fruit. Otherwise it will all be placed in the second class.

The California Prune and Apricot Growers' Association recommends that four grades be maintained by the grower in his deliveries this year: 1, Prunes dried before the storm and in perfect condition; 2, prunes that are skin-damaged; 3, cracked prunes; 4, slabby prunes. The last three grades must be bone dry. It will necessitate quite a little hand picking, but there are many little hands that can assist in this light work.

COMPARISONS OF WET SEASONS.

We remember the season of 1904, when we had in Napa county 4.37 inches of rain between the 23d and 26th of September. But the season had been good for curing and what was left out was redipped and came out with practically no loss. In 1912 we had nearly 3 inches of rain on the 6th and 7th of September. It was early in the season and many prunes were cracked and many more never did sugar up well. Some were redipped along in the winter and much hand picking was done. This year of grace Napa averaged about 2½ inches of rain September 11 and 12. But the prunes were already in a delicate condition as to the skin because of the cloudy weather that had prevailed ever since picking began—not enough sun to toughen them up. Some prunes had been on the trays already for two weeks. These were stacked and safe, but it indicates the poor drying conditions. Now those people who are drying on alfalfa ground have to shift off or they never will get through, and the trays will have to be tilted off the ground till it gets dry or they will simply mould on the bottom and retard drying. The Government will probably require most of the sound fruit there is. Sour or moulded fruit will not be accepted for the use of our boys. It is up to our growers to go to any trouble and expense to have their fruit well handled this year, not only for their own sakes but for the honor of the industry. This can only be done by using cleaned trays to dump redipped fruit on and by careful hand picking.

Sheridan W. Baker of Santa Rosa reports a present loss for Sonoma county of 25 per cent. He says: "Of my personal fruit, we had half of it stacked and one-third is now in jeopardy. We are picking from the orchards direct onto the trays and have constructed a large vat into which we are dipping tray and all to save extra handling of fruit. We are dipping the prunes that have begun to sour in a solution of common baking soda, using 1 pound to 15 gallons of water, hot if possible. If not, we use cold water. While this fruit will not be first-class, if it has not soured clear to the pit it will have some food value."

SUGGESTIONS FOR SALVAGE.

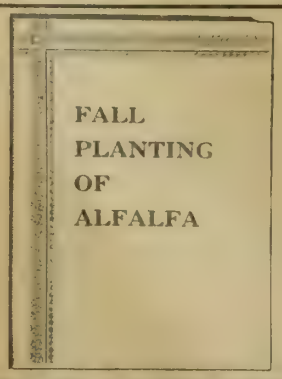
Ralph P. Merritt, California Food Administrator, has forwarded to Washington a plan to salvage the waste of the prune crop by converting it into denatured alcohol. In addition to the fermented portion of the fruit being utilized, the pits could also thus be saved for the Government. This use of fermented fruit is, we hear, always practised in Germany. The apples, plums or what-not are dumped into tanks to rot and about Christmas time the farmer begins to dip it out and distil it, there being no tax on the farmer on his private still.

The denatured alcohol from California's waste fruits may become a very valuable by-product.

SUGGESTIONS FOR PRUNING TREES.

If the very best pruners obtainable were sent around the country by the associations to prune, say 10 trees in different parts of each member's orchard, and keep the trees marked, it would help the industries. These object lessons would be especially beneficial now that we shall probably be dependent on untrained help, both male and female, in "carrying on" the fruit industry.

Helpful To Planters



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Ignition K-W High Tension MAGNETOS With IMPULSE STARTER

In reading over the specifications of the leading tractors, you will see under *Ignition* the phrase "K-W High Tension Magneto with Impulse Starter."

The Impulse Starter

What Does It Mean? To owners of these tractors, it means Sure and Easy Starting, regardless of the weather, how large the motor or how slow the engine is cranked. It means *No* Batteries, *No* Starting Coils, and *No* Complicated Self Starters. It means absolute protection against motor "kick-backs" while cranking even when the spark lever is left fully advanced.

What It Does! The K-W Impulse Starter holds back the shaft or rotor of the magneto until the firing point of one of the cylinders is reached. The shaft is then automatically released and is propelled forward (by means of a powerful spring) at a very high rate of speed—until it catches up to its former position. This produces a spark as large and hot as though the engine was running at full speed, thus insuring an explosion in the cylinder and a positive immediate start.

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not only insure the Easy and Quick starting of cold motors, but increase the power derived from the same amount of fuel, over that of any other ignition system. They permit the use of the cheaper grades of fuel and give "No Trouble" service.

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2899 Chester Ave CLEVELAND, OHIO, U.S.A.

Write for a list of K-W Equipped Tractors

Choosing the Variety of Wheat

[By W. W. Mackie, University of California.]

Many new wheat fields are to be planted in response to the request of the Government. In many instances the farmer has difficulty in selecting the variety best adapted to his soil and climate. A description of the characters of the available varieties and a definition of regions where each has been proved well adapted will assist the farmer in his choice.

The varieties which have proved their worth through the severe tests of California conditions include the following: White Australian (Bluestem), Little Club, Sonora, Defiance, Early Baart, Galgalas, Turkey Red, and Marquis.

White Australian, which is identical with Bluestem, is a medium early, fairly drought resistant, heavy yielding wheat. It is classed as hard white. Ordinarily it does not shatter, but under severe winds heavy losses may occur.

Sonora is noted for its drought resistance, earliness and heavy yields. It is well adapted to late planting, especially under irrigated conditions, but it is very susceptible to rust and wind shattering. It is classed as soft white and sells at the lowest price.

Little Club is a very heavy producer; stiff, short, erect straw, which does not lodge. The small, compact heads do not shatter even under severe wind storms. It is rust susceptible, medium early and is classed with Sonora in quality and price.

Defiance is noted for its rust resistance. Under rust attack it will give larger yields than any other bread wheat commonly grown. As it stools profusely and is very late, it should be planted early and seeded thinly. It is non-shattering. The quality is excellent and is classed as hard white.

Early Baart, a wheat new to California, is a heavy yielding, early bearded wheat of excellent milling quality. The kernel is long and white and is classed as hard white. It is subject to loss from shattering where heavy winds prevail. In such areas it is best to harvest when slightly green with a self-binder.

Galgalas is a heavy yielding, late wheat, somewhat resembling Sonora in red-colored, velvety head, but differing in its long white kernel of excellent quality. It is classed as hard white.

Turkey Red is a heavy yielding, bearded, drought resistant winter wheat. It is adapted to regions of snowfall. It is subject to lodging and shattering. It is classed as hard red winter.

Marquis is a new wheat which has given good results in several parts of the State. It is medium early, quite wind resistant, and somewhat rust and smut resistant. It is excellent in quality and classed as hard red spring.

Experience has shown that these wheats are adapted respectively to the following regions: Sonora to the San Joaquin Valley below Madera county, the dry west side below Newman, the dry valleys of San Luis Obispo county, and the Imperial Valley; Defiance to the cool, moist, rusty coast regions and elsewhere where long seasons, moisture and rust exist; Galgalas to the northeastern counties as spring wheat, Tulare Lake region and San Luis Obispo county; Early Baart wherever the soil is rich and moisture abundant; Marquis to the valleys of northeastern California as a spring wheat.

Charge For Tractor Work

[Written for Pacific Rural Press.]

To the Editor: I have a Samson S25 tractor, which is to be used in operating a bean thresher. The thresher is small, requiring about 12 horsepower and two horses to pull from place to place. What would be a fair price per day (about eight hours) for the engine—they to furnish engineer, distillate, oil, etc., but I would stand any repairs? I have been told that $7 per day would be a good price for that variety of work.—Subscriber.

[We surmise that unless you choose the engineer and know how he will treat the engine you might have to charge a rate that would cover nearly 100 per cent depreciation. Where you stand the repairs, there would be a tendency for the engine to be neglected. If your engineer conscienciously looks over the machine daily, replaces the oil when it gets dirty, keeps all nuts tight and all breakage or wear promptly repaired, you could then figure your daily depreciation on the probable life of the machine, adding this to interest on the investment and cost of insurance. Under these conditions both parties would be advantaged, because otherwise you would be paying the depreciation without return. The wear on your engine at that work, if well cared for, would not add much to the depreciation charge. Seven dollars per day would be a good price for that variety of work, considering the repair possibilities.]

Deep Plowing for Grain

[Written for Pacific Rural Press.]

There is a danger in deep plowing for grain, as observed by N. H. Fales of southern Monterey county. One of his neighbors has plowed deep for grain two years and has had smaller crops than those who plowed shallow. Mr. Fales plowed 30 acres as deep as possible on adobe ground with no plowsole, using horses, after rains came last winter, and made nothing from it. About 100 acres simply disked before the rains and harrowed after the rain made 60 tons of volunteer wild oat-wheat-barley hay. The disking was done to cover weed seed so they would sprout quickly when moistened. The principal reason for poor crops due to deep plowing just before seeding is that the subsurface soil is not pulverized and compacted. It has so many air spaces that moisture evaporates into them and gets away so the plant roots die for lack of moisture. The other objection is that deep plowing turns up chunks of plowsole and subsoil which do not have much available fertility until they have weathered a year. On the other hand, there are implements built to pulverize and compact subsurface soil and if there weren't the loss of one crop, with a full crop next year, is better than two half crops.

POWER NOTES.

The Yuba Mfg. Co. reported recently that it was behind 98 orders on its 20-35-horsepower tractors, but about even with orders on the 12-20. About 25 of the 40-70s have been built and sold.

Eighteen tons of Malaga grapes per load are to be hauled from Tulare to Kingsburg by Frank Gianini with a five-ton Fageol motor truck and two five-ton trailers. Mr. Gianini has been hauling peaches and other farm products by truck for his tenants.

Kings county last year produced 5110 tons of dried peaches and shipped about an equal weight green to the East. Armona is the fruit center, the southern part of the county being alfalfa, pasture, grain and summer crops only.

The Ventura County Fair will be held in Ventura, October 2, 3, 4 and 5. Plans have been completed whereby Santa Barbara county may

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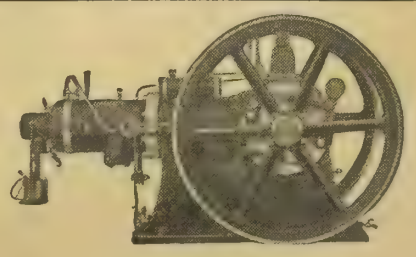

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Lima Market and Crop Prospects

[Written for Pacific Rural Press by R. E. Hodges.]

Lima bean shipping in a large way began about the middle of September this year, the season being later than usual. A limited quantity were sold by the California Lima Bean Growers' Association at 12¼c for immediate shipment, according to Manager R. L. Churchill, and the first larger offering at 12c for October-November delivery has been taken in a satisfactory way. The policy of the association is to sell at whatever price current conditions justify, so later quotations may be either higher or lower, according to the course of events. Mr. Churchill, however, believes that the tendency will be upward. California limas have been practically cleaned up in all markets. The association sold the last of its holdings in July, and Mr. Churchill estimated that not over ten carloads remained in California September 1. At a recent meeting in Oxnard, H. Clay Miller of the Food Administration told the growers that Government requirements and prices had not been set, but that England, which last year imported quantities of Madagascar limas, will depend more on California this season on account of ship scarcity. The Government and allies last year took about 3,000,000 pounds of California limas. Mr. Miller felt confident that they would take more of all varieties this year.

Directors of the association recently estimated that in nearly every one of the lima producing counties there is increased acreage, but due to about 85 per cent of last year's yield per acre on the land that produced limas last year, the total crop may be even less than that of last year. A hot wave early in August materially decreased the prospective yield, while wireworms, aphis, and corn-ear worms did considerable damage. Corn-ear worms are new pests on lima beans, but considerable areas were damaged by them. Sprays frequently killed the vines and thus inconvenienced the worms, but no satisfactory way of preventing the worms has been worked out. They are hard to reach with anything after the vines mat.

Wireworms, especially in Orange county, cleaned up considerable patches. They worked on the roots as much as a month after the beans were up. Considerable acreage here that ordinarily would have gone into beets was planted to beans this year and on much of this the crop is poor, though a beet and bean rotation is quite commonly practiced. In Santa Barbara county and parts of Ventura over-luxuriant growth of vines caused the blossoms to set poorly and in some cases a second crop has set so late that it may not mature. Meanwhile the big threshers are at work on fields already cut. Rain did not hurt the crop materially, though the writer saw some fields in Los Angeles county where a large per cent of pods in the piles had bursted since the sun dried them off.

THE ASSOCIATION.

The California Lima Bean Growers' Association expects to handle about 40 per cent of the crop this year, which is nearly double its tonnage of last year. The membership is more than double what it was last year. The association is for the first time marketing other varieties grown by its members. Bags and twine bought wholesale for members last year saved them about $30,000 over current prices. This is the only venture aside from marketing the crop.

Glenn Co. Fair Makes Excellent Showing

[Written for Pacific Rural Press.]

Glenn county held its second annual fair at Orland last week and it was a big success. While war conditions worked adversely in some ways, they helped in others. Wonderful music by a band from the Naval Training School at Mare Island and acrobatic stunts by an aviator—who made the trip from Mather Field—were two features that attracted the crowd and swelled the gate receipts so that expenses were covered as early as the middle of the week and the financial success of the fair assured. While last year's fair set a pace hard to beat, we believe that every department showed an improvement this year. The Farm Bureau, school and industrial exhibits were housed in two large tents and commanded interested attention. Most of the leading tractors and implements were shown and demonstrated in a field adjoining the fair grounds.

THE LIVESTOCK EXHIBITS.

The livestock show was much more complete than last year, in the number of breeds and the quality shown. Of dairy cattle the Jerseys were in the majority. The exhibitors were: S. F. Williams, Dr. H. W. Hand, W. G. Gurnett, A. K. & Nellie Morey, M. Forlini, Guy Baugher, N. S. Nelson, J. E. Grout, John Harriger, Arthur Gearhart, Arthur Erickson and John Button of Orland; N. H. Locke Co. and J. E. Thorpe of Lockeford. The awards were well distributed by the judge, Prof. Ruble. S. F. Williams' Golden Maidekins Boy was made grand champion bull and N. H. Locke's Borello's Golden Laddie reserve grand champion. J. E. Thorpe's Salome was made grand champion cow and Dr. H. W. Hand won the junior championship.

The Holstein exhibitors were: J. S. Gibson Co. of Williams and J. Salvagne of Orland. The latter was awarded reserve senior champion and first prize two-year-old bull, the other awards going to Gibson Co.

Berkshire swine were exhibited by W. F. Sandercock, Anchorage Farm and Superior California Land Co. The Anchorage Farm was awarded first prize for best herd bred by exhibitor, boar one year to eighteen months, boar six to 12 months and boar under six months. The other firsts and championships were awarded to W. F. Sandercock.

Duroc-Jerseys were exhibited by W. T. Hollingshead & Sons and Adam Lachenmyer of Orland and J. E. Thorpe of Lockeford. Hollingshead & Sons were awarded the junior champion boar and first under six months boar. Lachenmyer first boar under eighteen months and first sow with litter; other firsts and championships to Thorpe.

The Poland-China awards were hotly contested by R. J. Yates of Orland and J. H. Cook of Paradise. Yates won grand and senior champion sow and boar, Cook won junior champion sow and boar. Yates won six firsts, Cook three, and Frank Reiman of Orland two. All Chester White awards to Dewey Huffman.

Sheep were exhibited by Burroughs Ranch and Alfred Kuhn of Orland, A. H. McInnes and Ellenwood & Ramsey of Red Bluff. The Butte City Ranch had a good exhibit of Shetland ponies. There were also exhibits of horses and Polled Durham cattle.

The poultry, pigeon and rabbit show was made up largely by local breeders and was good, in both quantity and quality.

EARLY BAART WHEAT.

Early Baart wheat is coming into surprising popularity in various parts of the State. Several farmers in Placer county tried it last year. One of them plowed about Christmas a year previous. He replowed after the rains, leaving it rough all summer and planting last fall before the rains on red land a little better than the average. He called the piece six acres and said he got 15 sacks per acre. It was cut right after oats were harvested, between early and late wheat. He likes it best of all varieties.

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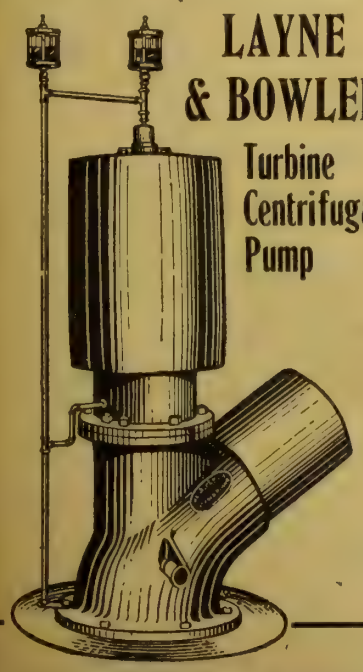

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HARDSHIPS OF BARLEY GROWERS.

To the Editor: Your article on "The Future of Barley" was interesting. We are just now interested in the present price of barley. At this years' seed time we were officially implored to raise barley so as to save wheat for war export. At that time there were three uses for our barley: milling, malting and stock feed. In the midst of our harvest malting was officially limited and finally practically forbidden. We tried to cheer up on milling and stock feed, for the official regulations required 50 per cent of barley flour in bread. Just as we finished harvest, having paid from $7 to $12.50 per day for harvest hands, official wisdom changed the bread regulation to require only 20 per cent of barley in our daily bread. This consumes so little of our crop as to be negligible in its effect upon prices, and we are left with the most expensive crop ever raised anywhere, with no market, required to pay storage and insurance and to borrow money to pay the season's expenses.

Let us be pious or impious, as may happen, and say that we farmers are the victims of substituting official regulation for the laws of God. At a meeting of these substitutes for God, recently held in Washington, it was decided to so fix markets and prices as to let the farmers "break even." It is expected, of course, that Providence will provide us the means to plant the next crop.

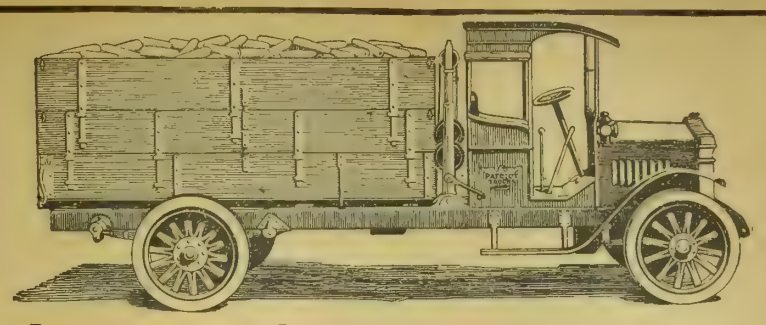
Over every crop in this State is the shadow of labor shortage. On my ranch is a potato patch of 300 acres. From the beginning of the season, to continue until the crop is dug, this has required twenty Chinese farm laborers, paid $75 per month and board—which at the present price of rice amounts to $100 per month per man. Potatoes, beans and onions must be hoed, and only Chinese and Japanese will touch a hoe handle. Official authority and the scholastic prowess of the university have piffled through the season, solving the farm labor problem with a survey and a card index, while the shortage grows and the official cry for more production gets louder—and common sense seems to be outlawed.—Jno. P. Irish, Oakland.

FOUR-ROW BEET DIGGER.

[Written for Pacific Rural Press.]

Digging sugar beets has been a more or less unsatisfactory job with horses and beet "pullers." The tail of a beet contains a higher percentage of sugar than the body of it, but the pullers leave a great many tails in the ground. They require four horses to pull one row at a time and the horses must rest a great deal. It was our privilege recently to watch the operation of a four-row Killefer beet digger on the Springville Ranch of the American Beet Sugar Co. in Ventura county. It was pulled by a 75-horsepower Caterpillar. One man, Ellis Lund, operated the engine, and one man, Morton Brezee, operated the digger. According to these gentlemen, they would dig ten or twelve acres a day with the cutting wings running fourteen or eighteen inches deep in the silt adobe. The cutting wings are ¾-inch steel plates about eight inches wide and 18 inches long, fixed so they project diagonally backward on each side of each of two subsoiler points. They give the ground a perfect subsoiling, for they cut every inch of it. They lift the ground about six inches, leaving the beets entirely loose, unbruised, and with long tails. The operator rides the machine and turns a hand wheel to raise or lower the cutters.

The beet rows are 18 inches apart. The tractor tracks are 12 inches wide and 72 inches apart from center to center. They do not bruise the beets except where the rows run together in poor planting. To make good turning at the ends, about 24 rows are skipped at each turn so the outfit never has to travel across the end of an entire field.



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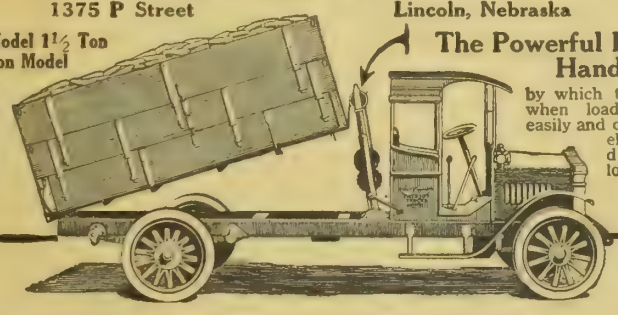

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Walnut Crop and Market Prospects Bright

[Written for Pacific Rural Press.]

California will have a 4 per cent larger walnut crop than last year, which was the largest ever, if unfavorable conditions such as sunburn, rain, or labor shortage at harvest do not change the prospects; and it now looks like the yield will be 32,000,000 pounds, according to Carlyle Thorpe, manager of the California Walnut Growers' Association. The sizes seem likely to be about normal and the quality unusually fine. Last year the sizes were rather small and No. 2s comprised about 42 per cent of the total; while this year they will be only about 4 per cent. As about 80 per cent of the plantings for the past ten years have been of Budded varieties, which withstood the 1917 hot spell better than the Softshells, the crop of the latter is likely to be less this year, considerable fruit wood having been killed in 1917, while the Budded nuts are increasing annually. Growing conditions have been fine and the trees are in better condition than for years. The crop is maturing uniformly and the harvest will take less time, finishing about as usual, though it will probably start ten days later than last year.

Market prospects are unusually bright. The demand is keen, though association opening prices will not be announced until October 1.

Mr. Thorpe has just returned from the East. The War Trade Board has prohibited importation of all Oriental nuts on account largely of need of shipping for other commodities. About 5,000,000 pounds of "Manchurian" walnuts have been imported annually in previous years. The French have an embargo on all nuts in the shell, but this embargo cannot be depended upon. France is the largest producer in the world and our principal competitor. She has a normal crop. There is no holdover in France or America. Italy and Spain have good crops and a large part of these will probably get to the United States. At all events, California must be depended on largely for the holiday trade, which in this country is normally around 45,000,000 pounds.

The association now has 2400 members, as against about 2100 at this time last year, and it controls about 75 per cent of the crop. Supplies for the growers who are members of the association were ordered early and have practically all been delivered, so members are safe in that line. Owing to the high price of burlap, about half of the nuts will be shipped in saxolin bags. These are made of strong paper, open weave, being more attractive because they show the nuts through the weave. As they do not stand much wetting, about half the crop will be shipped in the usual burlap bags.

Scramble for Tomato Crop

[Written for Pacific Rural Press.]

Tomato shipments from California have been light and will continue light all fall, for reasons cited by H. H. Warner of the U. S. Bureau of Markets, with headquarters at Los Angeles. In previous years canners had contracted acreage with the verbal understanding that growers might ship whatever green tomatoes they desired. Owing partly to the effort before planting time to fix a maximum price of $15 per ton to the growers, tomato acreage was reduced in California. When shippers went out as usual to buy for their purposes, the canners pointed to their contracts and had the shippers called before the Food Administration for violating the rule which prohibits solicitation of produce which is already under contract. The Government has requisitioned about one-third of the canned output and canners are holding strictly to their contracts, fearing that otherwise they will be unable to supply the demand. Shippers are therefore having great difficulty getting enough tomatoes to supply their needs. Unofficial estimates of the acreage in Southern California are as follows: Los Angeles county, 8800 acres; Orange, 1700; Riverside, 1300; Ventura, 1200; and San Diego, 1050. Two or three years ago, when we had early fall rains, late blight practically wiped out the crop in Orange county in two or three weeks. It is probable that the recent rain has resulted in rot and perhaps blight, though reports are not in. Summer blight has been particularly bad in San Gabriel Valley, Los Angeles county, and in the Escondido district of San Diego county. Nematodes have been bad in Ventura and Orange counties and the Chino district of San Bernardino county. Mosaic disease has been prevalent in nearly all fields, but has done only slight damage. Notwithstanding these troubles, R. G. Risser of the Bureau of Crop Estimates, whose acreage figures are given above, estimated September 11 before the rain that the yield per acre should exceed that of last year if we get no early frost like that of last mid-October.

Most of California tomatoes shipped out of the State are now going to Texas and Oklahoma, but will go north even as far as Chicago when frost kills the northern crops.

Household Method of Making Grape Syrup

[Written for Pacific Rural Press.]

The following simple method for making syrup from grapes is much used in Southern Italy and can be employed in California just as well. This syrup can be made in any kitchen and is suitable to be used with hot cakes, cooking and other purposes for which corn syrups are used. It is much superior to most of the syrups at present on the market.

The grapes are stemmed, crushed and then heated to nearly the boiling point for a few minutes. The juice is then strained off, through a muslin bag in the usual way, and placed in a wide shallow pan on the stove. Egg shells are put in with the juice to neutralize certain of the acids—say about a dozen egg shells to the gallon of juice. Or prepared chalk (from the drug store) may be used instead of the egg shells—about 1½ to 2 ounces to the gallon.

The juice is then kept boiling slowly until it thickens to a syrup of the desired consistency. It is then again strained through a bag and kept in jars, bottles or cans for use. Prof. Fred T. Bioletti, to whom we are indebted for these notes, is preparing a bulletin to be published shortly by the Agricultural College at Berkeley, in which is to be set forth suggestions based on recent experiments for utilizing a limitless tonnage of grapes on a commercial scale.

LEMON MARKET SLOW.

Lemon prices for the past month or more have been shot to pieces. Eastern weather has been cold during that time and probably the sugar rationing has had an effect. Heavy arrivals of late cargoes of foreign lemons at New York have also depressed prices on account of their poor quality. An entire cargo of 45,000 boxes, which had been in transit since June 1, has been abandoned by the importers because of its bad condition. Another cargo of 26,000 boxes arrived in bad condition due to a fire at sea. The pickings of California lemons are heavier than usual at this time of year, but the quality is very fine. There has been no more decay in transit than usual.

participate, and Friday, October 4, has been fixed as Santa Barbara Day at the show. Agriculturists and fruit growers of the two counties will compete individually instead of by counties, which will tend to promote a friendly rivalry that is very desirable in adjacent counties.

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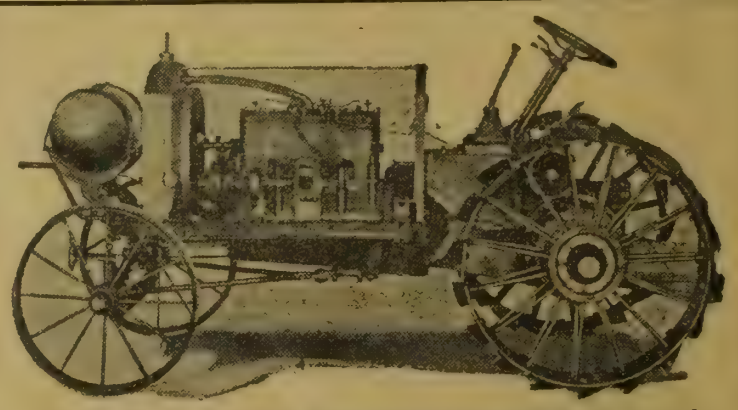


As this Tractor looks with Hood, Seat, Fenders and Bonnet removed

THE "BEAR CAT"

Worm drive, farm and orchard Tractor made the most wonderful demonstration ever witnessed with a wheel Tractor, plowing 12 inches deep in all soil conditions, in land almost equal to cement, and pulling two bottoms to the **full depth all the time,** and plowed all land allotted to it before leaving the field at every demonstration. It was conceded by hundreds of Tractor experts and practical ranchers, to be the one Tractor of its type in a class by itself. It has traction in all soil conditions; is absolutely dust proof and oil tight; reserve power always and will do as much work as ten good horses in ten hours, and will work day and night when necessary.

When the total is summed up, it will be a question of—Can you get delivery of a Bearcat? Get in line early.

Watch for the "BEAR CAT" at Fresno Co. Fair

LIVE DEALERS WANTED

W. J. BURT MOTOR CAR CO.

Distributors for California and Arizona

Pico and Hope Streets, — Los Angeles, California

C. L. DAVIS, Santa Ana — WALTER L. HAIGHT & CO., Hanford

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Deep Dry Plowing Paid Well.

Dry, early, deep disk plowing made a good crop of barley for A. O. Crawford of Yolo county last season, while plowing after the rain yielded grain which paid less than it cost and some of which did not get out of the boot. Mr. Crawford first plowed about 30 acres with a moldboard. That forced him to either get below the plowpan and turn up big chunks or slide along on top of the plowpan, as had been done previously. He got a disk plow and ran it eight to twelve inches deep on about 300 acres, cutting almost but generally not quite through the plowpan, so the rains penetrated it and met moisture from below. Barley was springtoothed into both lots after the rain, but the dividing line was noticeably better all season where the disk plow worked. The yield averaged 19 sacks per acre of grain weighing 103 to 108 pounds per sack. Sixty or seventy acres plowed with the disk plow after the rain and only about six inches deep scarcely paid for the harvesting. It took a 60-horsepower tractor to pull 60 inches of plows, but it paid.

Fig Growers to Hold Institute.

An institute for fig growers is to be arranged for Merced orchardists next month, under auspices of the Merced Colony Farm Center, with County Horticultural Commissioner A. E. Beers directing the program. Similar institutes are to be held in Madera and Fresno near the same time. each being for two days. It is planned to have the leading fig growers and experts of the State address the meetings. Professor Ira Condit of the University of California will be among the speakers. The question of soil fertilization for figs will be dealt with at length.

Grain Growers' Meeting.

The California Grain Growers' meeting at Sacramento, September 7, discussed two systems of organization, one a capital stock project, the other purely co-operative and without capital stock. Sentiment favored the latter, but no conclusion was drawn; and a new committee on permanent organization was appointed by nomination. The new committee is composed of Edgar Hunter, Willows; W. Q. Wright, representing San Joaquin county; O. E. Lambert of Modesto; T. A. Kilkenney, Dixon; and Jesse Poundstone, Grimes.

Fair Oaks Buys Irrigation Lines.

Fair Oaks, Sacramento county, and a part of Citrus Heights, are included in the 4000-acre district which recently voted $200,000 bonds to buy the irrigation pipe lines now used there and to distribute the water as a district. The Railroad Commission has valued the pipe lines at $62,500, and the Fair Oaks Water Co., which now owns them, has agreed to accept bonds to that amount as payment. Water will be bought from the North Ditch Water Co. Not over $100,000 is to be spent while war conditions last.

Large Moldboards for Alfalfa Plowing.

At least a 14-inch moldboard plow is needed in plowing out alfalfa, according to John Sprandel of Tehama county. The big plow does not shove roots ahead like smaller plows, but cuts them better. Its big landside holds it more firmly in the line it should follow. Steel shares or regular alfalfa shares are best because they keep a good cutting edge which does not wear smooth and shove the roots ahead. A disk plow is not satisfactory for alfalfa because the roots shove it aside.

Shock Poor Corn Green.

On many farms we see corn which has produced only nubbins or no grain at all being left to dry up while the farmers are hollering about the cost of hay. They are losing half or more of the feed value of that corn because they do not shock it while it is green. Save the leaves and small ends of stalks in attractive form and the livestock will cost less.

Four-Row Bean Cutter.

A 20-sack lima bean crop mixed luxuriantly with morning glory vines was being cut four rows at a time recently while all the vines were still green on the Hugo McCraw ranch, in Ventura county. It took seven heavy horses to pull the cutter, which is a sled with long knives spreading backward from each side of each runner.

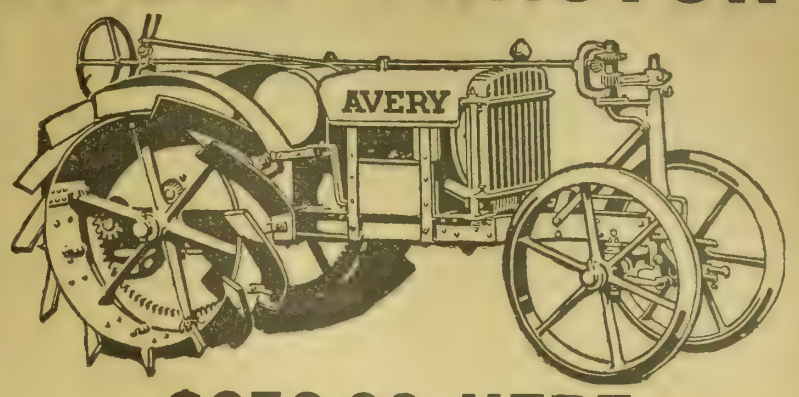
Cabbage, Cauliflower, Kale.

It is time to plant cabbage, cauliflower and kale for winter growth, and those who have not already planted seed may well buy plants. Too late planting or too warm weather frequently results in headless cabbage.

KILLING WILLOWS.

To the Editor: It may help N. B. W. of Thalheim to know that he can kill willows by cutting so as to leave a stump a foot high, then let cattle browse the shoots for two summers. I have done this for ten years and have never seen it fail.—C. F. W., Tancred.

AVERY TRACTOR



$650.00 HERE

¶ The Avery costs you less to buy—less than any other tractor of equal horse power—it does not require an experienced engineer to run, and you cannot duplicate its power in horses or mules for less than twice its cost.

The Avery Ends Farm Slavery

¶ Let us explain why.

F. H. POSS COMPANY
California Distributors
67-69 Beale Street SAN FRANCISCO

TEN (OF MANY) CASE Betterments

1 Weighs only 3400 pounds, little more than a team of horses. Low and compact with short wheelbase. Turns in 22 ft. circle. Stays on all fours.

2 Rated 10 H. P. on drawbar, but develops nearly 14 H. P. Rated 18 H. P. on the belt but delivers about 24 H. P. This insures abundant reserve power.

3 Four cylinder Case valve-in-head motor. Removable head. Motor is set crosswise on frame, affording use of all straight spur gears. This conserves power.

4 Belt pulley mounted on the engine crank shaft. No gears used to drive it. Pulley is part of the tractor, not an extra-cost accessory.

5 All traction gears are cut steel, enclosed and running in oil. No bevel gears, chain, worm or friction drive parts.

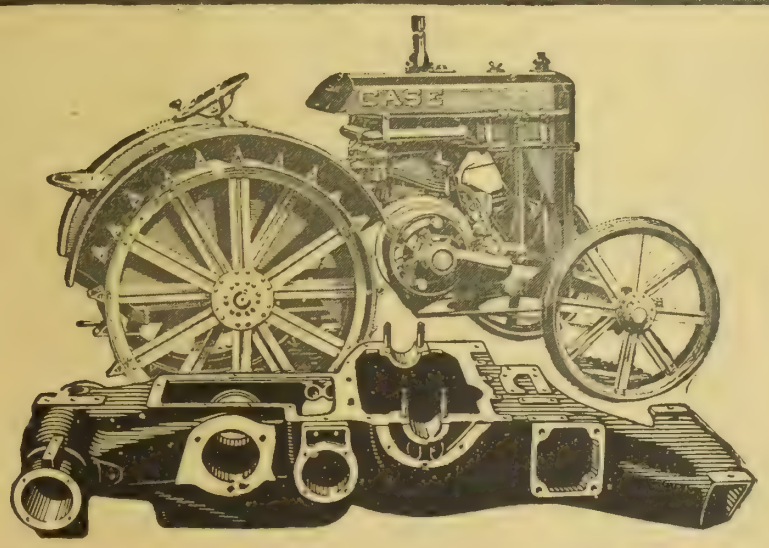
6 Case-Sylphon Thermostat controls cooling system and insures complete combustion of kerosene in the motor. Prevents raw fuel from passing by pistons and diluting oil in the crank case.

7 Case air washer delivers clean air to carburetor. No grit nor dust gets into cylinders to minimize their efficiency and shorten their life.

8 All interior motor parts lubricated by a combination pump and splash system. Speed governor, fan drive and magneto are dust proof and well oiled.

9 Complete accessibility. No dismantling necessary. Removable covers permit you to get at parts quickly.

10 Hyatt Roller Bearings in rear axle, bull pinion shaft and transmission case. Kingston ignition and carburetor. Five-piece radiator with a cast frame. Core is copper. Fin and tube non-clogging type.



This One-Piece Main Frame
Reduces Vibration—Prevents Disalignment

Here we picture a new tractor achievement—the frame of a Case 10-18. It is the fore-runner of new-day ideas in designing.

Note that this casting constitutes a dust-proof housing for the rear axle, bull pinion shaft, transmission shafts and the bearings for these parts. It also provides a base for the motor, which sets **cross-wise.**

This type of frame construction brings rigidity unattainable in a fabricated frame. It insures constant alignment of bearings, shafts and gears. Owners avoid gear troubles. Thus we prevent power losses.

And we multiply strength while reducing weight.

This one-piece frame is one of the greatest advancements in tractor history. It was inevitable. Others are bound to follow. But Case is in the lead. Case offers you **now, today,** what later on will be adopted generally.

This is only one of many betterments, some of which are itemized at the left. Do you know of any tractor offering all these superiorities?

A complete description of the Case 10-18, with illustrations and specifications, will be mailed upon request. Write for it today. Or visit a Case dealer.

J. I. Case Threshing Machine Company, Inc.
(Founded 1842)
1298 Erie Street, Racine, Wis., U. S. A.

CASE KEROSENE TRACTORS (781)

Greatest Tractor Demonstration in West

(Continued from first page.)

An awe-inspiring spectacle it was each afternoon to see forty-five tractors, each of different model from all the rest, turning over 30 acres an hour of fiercely resistant, hard adobe. Three or four other kinds of soil as bad or worse at various parts of the furrows served to keep the plowmen guessing and showed not only the best operators but also the best plows for such conditions. Tractors having a total of 634 rated drawbar horsepower pulled plows built to cut 1390 inches wide each time across the field in the daily afternoon collective demonstrations, which were designed to give the best possible opportunity to compare their pulling power at the job where steel operated by fire is most needed. In the individual demonstrations, which occupied the rest of each day on large plots of ground assigned to exhibitors for the purpose, about 100 tractors of 52 models performed at the request and for the inspection of visitors who crowded around them and asked pointed questions.

Practically all the modern implements for preparation of seedbeds were hauled about by the tractors until in places those great adobe or cement clay chunks were reduced to dry dust shoetop deep. Great subsoilers tore gashes in the flinty earth so deep that the 20-inch mark on a yardstick would go out of sight in them. One tractor cultivated 45 feet of adobe clods at a trip. The smallest tractor had a drive wheel not over a foot in diameter and generated less than a horsepower on the drawbar. Tractors were turned loose running backward and forward in circles. One was run onto a block two feet square, being left with one drive wheel cocked up that way without straining the frame and afterward being backed off and driven off forward as gently as you would lay your hand on a sick friend. Another pushed a four-row bean cutter ahead of it through soft soil. Another operated a feed and forage grinder for alfalfa, bean straw, and all kinds of grain. One operated a hay press. Another pulled an orchard irrigation checker which itself closed the gaps made in crossing borders at right angles. A tractor operated a mammoth ditch digger working on a new but very effective principle. A revolving apron studded with sharp, heavy teeth dug into the earth on the level at any depth desired, cutting under the surface as it was pulled forward and caving or tearing the top dirt downard with great speed and minimum power per thousand yards of earth handled. Tillage implements of every kind useful in California, representing the best and latest devices for saving labor, were exhibited and explained in the tents.

DEMONSTRATION ARRANGEMENTS.

The weather was perfect. The attendance was fine and energetically interested. The management of the demonstration went forward without a hitch. Agricultural implements and tractors were individually exhibited and demonstrated in acres of tents and on other acres beside them. The individual demonstration grounds were laid out along driveways not much, if any, less than a full mile long. Each exhibitor was allotted space according to the number and horsepower of the tractors and implements he wanted to show. Each one had chairs, tables, and drinking water in his tent for free use of visitors. On these individual demonstration grounds stunts were performed and a variety of implements used at the pleasure of the exhibitor and of the farmers who were there. Perfect seedbeds covered by real dust mulches were worked up on most of the plots before the end.

In the daily afternoon collective demonstrations of plowing, fields approximately 30 or 35 acres were laid off in plots 500 feet long and varying in width according to what each dealer thought his machine could plow in an hour. It is noteworthy that the allotments varied from a width of five feet per drawbar horsepower down to one and a half feet. This partly explains why some tractors finished their lands long before others did. It also indicates the unsettled condition of horsepower ratings of tractors.

WORK PER HORSEPOWER VARIED.

As a further indication of wide variation in the horsepower rating with respect to actual power applied to the implements, it is curious to note that the plow width pulled by the various machines varied from 1 1/5 inches width per rated drawbar horsepower to 3 1/3 inches. This is not a full criterion, however, for the depth of plowing varied enormously, and the tractor which drew one of the narrowest plows went deepest most consistently of all. Another of the exhibitors, whose work was more extensive than most of the others, went consistently uniformly deep and finished up the most beautiful plowing of all because of the size and uniformity of the job, pulling 2 4/5 inches per rated drawbar horsepower. Most of the tractors pulled over two inches per drawbar horsepower and the average of all was close to 2 1/5 inches. Inches of plow width per motor horsepower varied from 0.6 to 2.0, and it is curious that the difference in inches plow width per horsepower between the rated drawbar horsepower and the motor horsepower varied as widely, showing but little real relation between the motor and drawbar horsepower ratings. If the other ratings had been precisely proportional to the plow width actually pulled, we might figure that the variation between motor and drawbar horsepower really represented greater mechanical efficiency of some tractors over others. Such greater efficiency undoubtedly exists, but the commercial ratings are poor guides to it. A recognized national system of rating motor horsepower is much needed along with authoritative dynamometer test records. The farmer who would choose the tractor which delivers most of its horsepower at the drawbar must watch and compare closely the actual sustained unlabored pull of various motors of similar sized bore and stroke. Herein lies a great value of a working demonstration as the one held at Los Angeles, if the work of suitable sized motors was carefully compared. It was remarkable that while a considerable number of the tractors pulled an overload they almost uniformly had power to slip their tracks and drivewheels before the motor stuck. This is as it should be, to avoid the greatest motor strain.

OTHER FEATURES TO LOOK FOR.

Mechanical efficiency, however, does not vary widely enough to repay a food producer's delaying the purchase of a tractor until he can study it out scientifically. More important points than this are dustproof bearings and accessible parts. If the engine is so built that various wearing parts are not easily accessible, they are almost certain not to receive proper frequent attention and troubles become numerous. If bearings are exposed to the possibility of California dust getting into them, they are sure to grind out as you would grind valves, only faster. Be it said that very few tractors on our Western market have exposed bearings. This problem has engaged most careful attention from designers of tractors.

Steering ability is an important feature in which great variation was noticed, not only in the end turns but in riding the huge clods that fell into the furrows. Even most of the tractors which run their steering wheels in the furrow were with difficulty kept in line. Turns at the end of the furrow are of far less importance; for even in orchard and vineyard work the turns need not be so short as people generally think. Comparison of these and other vital points was most easily and surely made at the demonstration, where so many machines

Nilson Lever Hitch TRACTORS

NILSONS are the tractors which are light in weight, but which, because they are built principally of Steel, are also dependable and durable. They combine strength and big traction with light weight and fuel economy to a wonderful degree.

The Nilson Patented Lever Hitch insures good "Grip" or Traction under all conditions. Three Drive Wheels keyed to the axle form a **Wide Drum Drive.** This keeps the tractor **on top** of loose ground and prevents packing of the soil.

In every detail Nilson Tractors set a high standard of mechanical perfection. They are equipped with the famous Waukesha 4-cylinder Tractor Motor and Hyatt Heavy Duty Roller Bearings. The transmission gears are of especially case-hardened steel, machine cut, and are enclosed and run in oil. This means a great deal in increasing the life of the tractor. All working parts are enclosed against dust and grit. The motor is equipped with the famous Bennett Carburetor Air Cleaner. In building Nilson Tractors everything has been done to make them long lived and reliable so that every Nilson buyer may receive the greatest value for his money.

Built for California Conditions

Nilsons have made good in California.

American Fruit Distributors, Brawley (Imperial Valley), Cal., have used a Nilson Junior, discing 50 acres per day of 12 hours, using 18 gallons distillate and 2 quarts lubricating oil. They have purchased their second Junior.

J. M. Warner, Turlock, Cal., has used a Nilson Senior this season to plow and disc 300 acres of river bottom land, pulling four 14-inch plow bottoms, and later operated a 26x46 grain thresher during the entire threshing season.

It will pay you to investigate Nilson Lever Hitch Tractors. Write or wire us.

Distributors, with Repairs and Service, at Los Angeles and Stockton.

NILSON TRACTOR COMPANY

2662 University Ave. S. E. Minneapolis, Minn.

worked under practically similar conditions.

OBSERVATIONS ON PLOWING.

Tractors in a demonstration cannot help but be judged even by the fairest minds partly by the finished job of plowing. Farmers, of course, saw that much of the poor plowing was not the fault of the tractors nor necessarily the fault of the plows. It was notoriously apparent that many of the men in charge of the plows were incompetent to handle them in the particular soils of the demonstration fields. Under such management the best and most suitable of plows would make a poor showing, both for themselves and for the tractors that pulled them. On the other hand, due to the hardness of the soil and the desire of tractor men to make a showing, many of the tractors had too much plow width in proportion to their power. The soil generally was such that plows must go deeper than the six inches required by the rules of the demonstration, in order to stay in the ground properly and do a good job. With the deep plowing thus required, many of the tractor drivers realized their inability to pull the plows, so they set them at lesser depths and let them ride on their points either in an ineffectual effort to get them deeper or in an effort to make the public think the plows would not go in and that therefore the tractors were not to blame for the shallow, bum plowing. One tractor was noticed, however, which on the first day tried to pull two tens and made a miserable job. Its operators were wise enough to pull one 14-inch plow the following days and do a thorough job of it. In this case, even the 14-inch plow proved altogether too much for the traction possessed by the tractor. Less width of plows and greater depth would have been far more creditable for many tractors. There was a large number of two-gang 10-inch moldboard plows which were never designed for the class of work they tried to do on this field, and the result was unfavorable to the whole demonstration. Clods as big as small wash tubs were commonly turned up and tractors were frequently stopped to knock such clods from under the plow beans, where they had clogged the whole works. Larger plows were not so badly afflicted this way. The smaller plows were scarcely strong enough to go deep enough in this soil to make the finished job look right. Even some of the bigger plows were broken and their beams straightened out. Where disk plows could be held in line, they did the best plowing of all because they did not throw up such big clods. Here, as with the moldboards, good plowing seemed more a matter of proper adjustment than even of weight or strength. It was noticeable that in the length of some furrows about three different kinds of soil required three different adjustments to make them go the same depth. Many of the plows did not get the required adjustments.

FREE TRACTOR LECTURES.

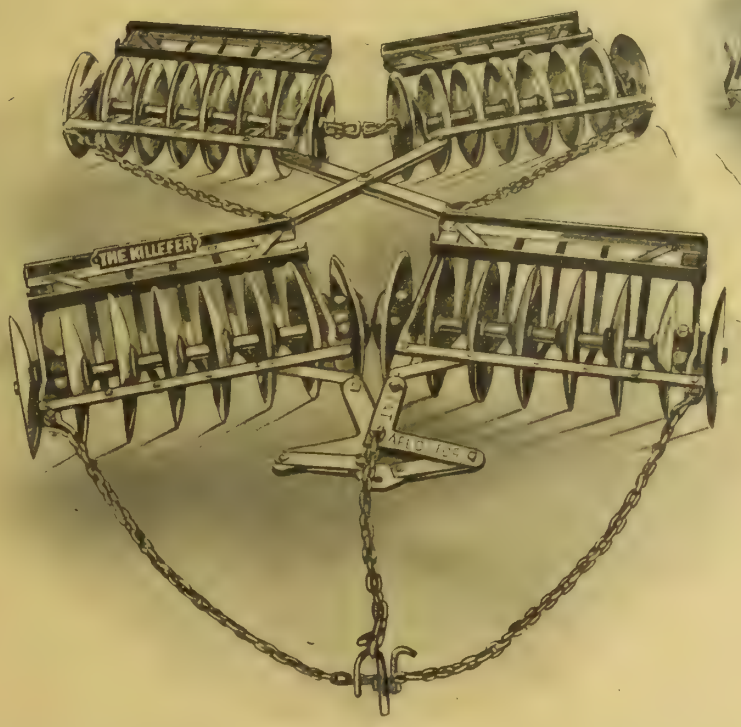
It is useless to tell a man that he can or will run a machine without knowing its inner workings and what takes place when he moves a lever, pulls a wire, or makes an adjustment. It is useless to tell him what will follow certain adjustments unless he knows why and how that result follows. It is useless to tell a man all about how and when to lubricate various parts of the machine unless he is made to understand why and how disastrous results follow lack of attention. If he doesn't know the inside of the machine, he will not adjust or lubricate or protect it properly, and early grief comes with its attendant advertisement of the supposed imperfections of the machine. It was to enable tractor owners and drivers to know what takes place in a machine when adjustments are made or neglected, and why it takes place, that the National Tractor and Automotive School and other authorities gave free lectures in the tents. These lectures were well attended and excited the closest interest.

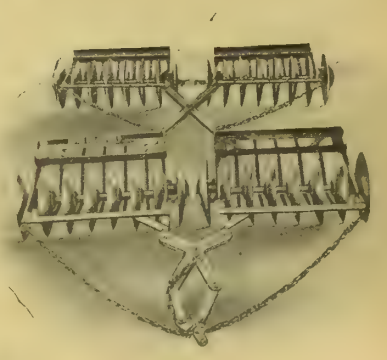
KILLEFER QUALITY

The Killefer Automatic Double-Disc Harrow

KILLEFER EFFICIENCY

The Sensation of the Tractor Demonstration





(Automatically Straightened)

The above cut shows the Automatic Double Disc Harrow automatically straightened.

To accomplish this, the tractor is backed up until the hook on the draw chains can be placed in the hole on the front end of the adjusting swivel; then, by going ahead about 18 inches, the disc is drawn straight.

To set for working position again, pull out the hook and go ahead. This can all be done by the driver from the seat of most tractors.

Without a doubt this is the most important development to be made in the manufacture of farm tools to date. This is the **only Automatic Double Disk Harrow** on the market. It was designed and built in our own shops, completely; we are, therefore, the **originators** and have it **fully covered by patents.**

In the development of this, our latest triumph in **Disc Harrows,** we have not only maintained the great strength and durability as originally designed, but have added two additional most valuable features; namely, our **Automatic Shifting Device,** controlled by the operator from the seat of his tractor, and a **greater flexibility,** so desirable in a **tractor Disc Harrow,** but not found in other makes.

This Harrow is built in all sizes from 5 to 12 feet, inclusive.

The Killefer Manufacturing Co.

2209-21 Santa Fe Ave. Box 156 Arcade P. O. LOS ANGELES, CAL.

SUBSOILING BAKED CLAY.

R. L. Merchant, ranch superintendent of the Pacific Sugar Corporation, Tracy, writes to the Killefer Mfg. Co. as follows: "We are using one of the extra heavy tractor chisels and find it to be just the tool for extra hard land. I am subsoiling a field of baked clay which has never been plowed over four inches deep. We are going down 18 inches and are pulling with a 90-horsepower Best tractor and are compelled to run on low gear to get through. I can heartily recommend the Killefer tools to do the work where strength and durability are needed. Stop in when you come around and we will show you some hard subsoiling that 'can't be did.'"

Subsoilers going eight to eighteen inches deep are replacing plows for preparation of grain seedbeds in Imperial county, according to B. D. Irving.

FOOD

The farmer must have Machinery now to meet the demand.

You Implement Dealers can help him get it.

Our "time-sales" plan for Tractor Dealers enables you to sell Power Farming Machinery.

ON TIME

Write us for particulars

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WESTERN FARM CREDIT COMPANY

FIRST NATIONAL BANK BLDG. San Francisco

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NORTHWESTERN BANK BLDG. Portland, Ore.

FORSYTH BLDG. Fresno, Cal.

direct power for belt work

When doing stationary work—

SAMSON

GMC TRACTORS SIEVE-GRIP GMC TRACTORS

Reg. & Pat. U. S. & Foreign Countries

TRACTORS

--- Give steady and reliable power.
--- Direct drive from motor shaft.
--- Automatic control gives uniform speed.

A Model S-25 will do your Traction and Stationary work at LOW COST.

SAMSON SIEVE-GRIP TRACTOR CO.
(Division of General Motors Corporation)
Stockton, California.

Save Money by repairing Your buildings Now with Pioneer Roofing

Don't wait until leaks occur and cause a lot of damage. Have your roofs put in weather-proof condition at once.

Best results—long wear and less repair—will be obtained by using the old reliable PIONEER ROOFING which has stood the tests of 30 years. It's the one roofing that you can always count on to give satisfaction.

Ask Your Dealer —for Pioneer and if he cannot supply you, write us

Pioneer Paper Co.
247-251 S. Los Angeles St., Los Angeles

General Agricultural Review

DATES OF FAIRS.

Dates for fairs in California are:
Oakland Land Show and Exposition—September 9-October 6.
Fresno County, Fresno—October 1-5.
Southern California, Riverside — October 8-12.
Napa County Fair—October 10-11-12.
California Liberty, Exposition Park, Los Angeles—October 12-26.
Livestock Show, San Francisco—November 2-10.

Field Crops.

The bean loss from the rains in the vicinity of Hughson is reported light. Late planted beans are benefited.

Reports from the rice fields are to the effect that the rice has fully caught up to its schedule and will be harvested on time.

The U. S. Department of Agriculture urges early harvesting of rice to save the crop from the ravages of migratory ducks and other wild fowl.

The Oakdale section, which a quarter of a century ago was one of the foremost wheat production districts in California, has pledged itself to go back to wheat again this year.

The San Joaquin Valley Sugar Company at Visalia has closed its mill for the season. The output of sugar is several thousand sacks in excess of the high mark of other years.

J. H. Stephens, president of the Rice Growers' Association, estimates California's 1918 rice crop at 3,000,000 bags. There was a total of 147,000 acres planted this year, as against 80,000 last.

The action of the Food Administration in prohibiting the manufacture of beer after December 1 virtually deprives the growers of a market for about 50,000 bales of hops, is the claim of the secretary of the Hop Growers' Association. The growers are seeking means to save themselves from this heavy loss.

Imperial Valley grew about 145,000 acres of cotton in Imperial Valley this year, of which 60,000 acres was volunteer. E. E. Kaufman of the U. S. Bureau of Crop Estimates says that the condition of the crop indicates an average yield equal to that of 1917, but owing to the increased acreage the amount harvested should show an increase.

The healthy demand that exists for all vegetable seeds will insure a market for the good crop of seed harvested in California, especially the river district. Beet, spinach, carrot, lettuce, onion, parsnip, and radish seed are all reported fair to good. Salsify and cabbage seed will be shy. There is room for more attention being given to the production of guaranteed seed in California.

The California Castor Bean Association, which is under contract to furnish several thousand tons of castor beans to the U. S. Army aviation supply bureau, will have its beans in the San Joaquin Valley delivered at Hanford, according to Professor Cocheron of the University of California. The association will pay 6½c per pound for beans cleaned of hulls and spikes f. o. b. Hanford.

Paul Williamson, who farms 200 acres of beans just south of Lathrop, after reviewing the result of the rain storm, says he believes his late beans have been greatly benefited by the recent storm. He expects to harvest at least five sacks more per acre. The rain was better than an irrigation and he doesn't believe his earlier beans were injured in the least. He thinks his experience is typical of that of other growers in the same district.

Deciduous Fruits.

The California Fruit Canners' Association plant at Marysville packed 90,000 cases of peaches this year.

The green fruit crop is very light in England this year. Plums sold at 36c a pound green, and other fruits in proportion.

According to Superintendent Hill of the Yuba City cannery, something like 102,000 cases of peaches were canned this year, against 96,000 cases last year.

Approximately 13,000 tons of California dried peaches, representing 65 per cent of the peach crop of the State, have been secured for Government use.

The State Almond Exchange is making advances on the 1918 crop now on the following basis: Nonpareils, 15c; I X L, 14c; Ne Plus Ultra, 13c; and Drakes, 12c.

Oakdale is preparing to handle 20 carloads of almonds this year. The Oakdale Almond Exchange is handling the entire crop this year, the sulphuring being done on the spot.

Guggenheim & Co. last week shipped the first carload of walnuts of this season's crop from Santa Ana. The carload was valued at $20,000 and the nuts were of high grade.

Inadequate thinning of peaches and other stone fruits results in smaller fruits and consequently diminished returns. Also the extra number of pits is a heavy pull on the soil and on the vitality of the tree.

Horticultural Commissioner Penny of Santa Cruz county reports the leaf-roller present in apple orchards in large numbers this year. Thirty-five per cent of the fruit has been attacked. Examination of infected orchards shows many egg masses on the trees at this season. The leaf-roller either totally devours the young fruit or scars it so as to injure its quality. A miscible oil applied when the tree is dormant will kill the eggs.

Citrus and Semi-Tropical.

In the Winters section, where many of the black figs are grown, the bulk of the crop was destroyed by the untimely rain.

Tulare county is the second county in the State in citrus culture, with 33,897 acres of oranges (of which two-thirds are navels) and 4313 of lemons, grapefruit, etc.

It is reported that a prominent olive broker recently said that the demand for California ripe olives is increasing in the East, and that the public is coming to know that the ripe olive is a superior product. The superior pack of the Oroville plants has helped much to this end.

Grapes.

Livingston alone will ship 300 cars of table grapes and 40 cars of peaches this year.

According to late advices from the East, wine grapes will reach $80 to $100 a ton in the New York market.

Grape crushing is now proceeding. The big central valleys' wine grape crops will be supplemented by a heavy tonnage of culls from the table grape vineyard.

The price for commercial varieties of rooted grape vines will be $25 a thousand this season and deciduous fruits will average from $250 to $300 per thousand for No. 1 stock.

Fresno fruitmen report that last week's showers did very little damage either to raisins or to table grapes on the vine. Some of the bloom was washed off the grapes, but the cool winds following the showers apparently kept the berries from splitting after the shower. Some of the raisins on paper trays were slightly damaged.

Miscellaneous.

Twenty thousand acres of tule land along the Sacramento river in Yuba county are to be reclaimed.

Professor Thomas Forsythe Hunt, dean of the College of Agriculture at the University of California, is now in England with a special commission headed by Dr. W. O. Thompson, president of the Ohio State University, to study food production in France and Italy.

Does Such an American Exist?

Can there be any American who is not doing all he can to help win the war? Who pretends to believe that we could have kept out?

Who whines or growls about the little sacrifice he is asked to make?

Who gets panicstricken and thinks that it would be better to compromise with the Hun and listens to the serpent whisperings of German propaganda?

If such an American exists let him realize what Germany has done to Russia, which gave in and negotiated a cowardly peace.

There is only one thing for us all today and that is war to the bitter end—war until the Hun is utterly and completely destroyed.

For those who cannot fight, LIBERTY BONDS are the best possible weapons against the Hun.

Buy Liberty Bonds Today
Any Bank Will Help You

This Space Contributed to Winning the War by

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The Brood Sow Tells How to Raise Pigs

(Told to R. H. Whitten and written for Pacific Rural Press)

We have a new herdsman—a colored fellow. Yesterday I heard him tell the boss that if he was drafted he would rather join the army than the navy, "because," he said, "Ah can run faster than Ah can swim."

I wish our boss would join the army of progressive swine breeders who are using modern methods in feeding and caring for their hogs, instead of being "in the swim" with the great mass of farmers who just give the work a lick and a promise. Not because I want my pigs to be brought up in luxury, but simply because it is his duty to fight for better results with improved methods. Patriotism demands that he do his part to increase the supply of the greatest of all war foods, not only by raising more pigs but by bringing them to marketable age in the quickest time and at the lowest possible cost.

I told you a couple of weeks ago how the boss ought to care for me and my pigs up to weaning time, but even if he does all that he can't turn the pigs loose at weaning time and expect them to develop properly.

One day, as he leaned over the fence, I heard him say: "Blood will tell." I guess he thought that just because my pigs were royally bred they were bound to develop into crackerjacks. The poor hick ought to know by this time that it requires proper feeding to make blood tell, and that the value of an animal at breeding or marketing age depends just as much upon the way it has been developed up to that age as it does upon its value at birth as determined by its pedigree and individuality.

I guess every hog raiser knows that the secret of success is in keeping the "baby bloom" on pigs as they develop. This is easy enough up to weaning time, but the real period when a pig is "made or marred" is after weaning, when the attendant begins to feed in a mechanical way and turns his chief attention to other things that he considers more important. He couldn't make a worse mistake, for there is no animal that will go backward from lack of care quicker than a hog, and a very little difference in the care of a season's crop of pigs may mean a difference of several hundred dollars in value at selling time.

CASTRATING PIGS.

If the pigs are to be raised for market, all boars should be castrated two weeks before weaning time, as it gives them too much of a setback if done right at weaning time. I've noticed that the earlier it's done the less the shock is to the pigs and the less their growth is checked.

Select a clear, dry day to do the work. It should never be done on a rainy day, and if the pigs are to be turned into a field after the operation it should be free from mudholes and wallows.

Bad effects from this operation are rare, but once an abscess developed on one of my pigs. The boss opened it with a clean knife, washed it twice daily with an antiseptic solution, and the abscess disappeared in a very few days.

WEANING THE PIGS.

Of course the boss expects to raise spring litters from as many sows as possible, so he will breed all of us except the gilts that had litters when a year old. A sow should not have her second litter until she is two years old, so these gilts should be carried over, and their pigs may be allowed to nurse for ten or twelve weeks. But all other litters should be weaned at eight weeks.

With the boss weaning means simply separating a sow from her pigs, but that's a pretty crude way of doing it, and it is bad for both sow and pigs. About four or five days before weaning time a sow's slop should be cut down and dry feed should be substituted, so as to check her flow of milk. But the pigs should have the slop in their creep increased enough to make up for what they fail to get from their mother.

Our boss always takes the pigs away from us, but I notice that they worry when moved to a new field and do not eat readily. A much better way is to take a sow away from her pigs and return her in twenty-four hours for them to nurse for a few minutes. Then keep her away for thirty-six hours; then for good unless she has an unusually heavy flow of milk, in which case it may be necessary to put her back once more. Her udder should be watched carefully to see that it dries up properly, so that no injury will result to her and the udder will be in perfect shape for the next litter.

If there are a few small pigs in a litter, it's a corking good idea to leave them with the sow for a few days after the others are separated. The extra supply of milk will push them along and enable them to catch up with their mates, and when you put them all together again you won't be able to tell which ones were the runts.

FEEDING THE GROWING STOCK.

Proper development does not mean simply an increase in weight. The pigs should be kept gaining rapidly, but during the first few months this gain should be in bone, frame and muscle, and not in fat. After the pigs have developed the proper frame, the finishing touches can be put on in jig time, for it does not take long to load 100 pounds or more of fat on them. But while they are growing a safe rule is to keep them in such flesh that it would require sixty days to finish them off for the market.

How can the proper growth be secured? Well, it's as plain as the curl in my tail that no young animal can develop the proper bone and muscle unless feeds are provided which furnish the necessary material to make bone and muscle. And exercise is just about as necessary as feed.

GOOD ALFALFA DESIRABLE.

It gives me a pain in the jowl when I hear people talking about grain as though it were the most important article in our diet. Sure we like grain, but from the standpoint of development alfalfa contains the elements most necessary for growth, and from the standpoint of economy we can be developed much more cheaply on an abundance of good alfalfa and a light grain ration than on limited pasturage and an abundance of grain.

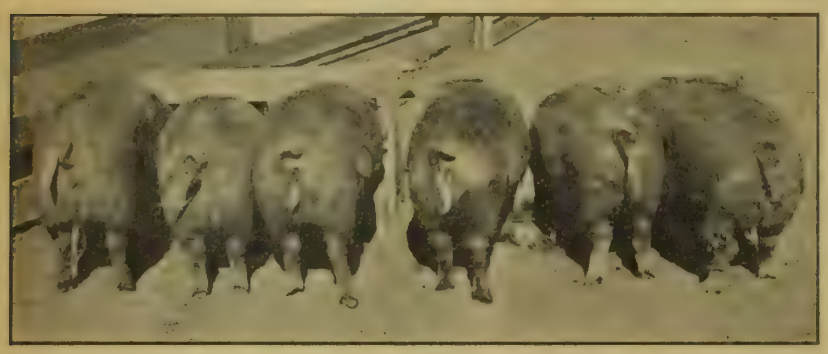
It is always profitable to feed some grain to growing pigs, but the more alfalfa they can be made to eat the more the grain bill will be cut. So if possible they should have an abundance of green, juicy alfalfa, and should never be fed so much grain that they will have no appetite for alfalfa.

I recently herd one of those Government fellows telling the boss that it pays to use pasture in raising hogs because less grain is required for each hundred pounds of gain; the rate of gain is increased; the hogs are generally more thrifty and in better health; an even distribution of manure is obtained, and labor is saved. Why, he said that from 10 to 25 per cent of grain is saved by using good pasture crops in pork production. Also, the amount of protein feeds, such as tankage and oilcake meal, which make up the most expensive part of the grain ration, can be cut in half.

Of course alfalfa is the best pasture crop, but if a fellow can't raise alfalfa on his land he ought to put in rye, millet, rape, sudan grass, soy beans, cow peas, or a combination of some of these.

GRAIN.

Our grain ration at present is determined more by what the boss can get and what he has to pay than by what we would like to eat. Growing pigs ought to have millfeed for several weeks after they are weaned, but I hear the boss say that it is next to impossible to get shorts or middlings now, so he is substituting one of the proprietary feeds and is getting pretty good results. He uses about one-third of this to two-thirds of barley which he raises himself. When the pigs are four months old he will cut out the proprietary feed and use ground barley alone. Later, when the milo is threshed, he will use that as a single grain for finishing off the market stock, having it



Junior yearling sows bred at Carruthers Farms. Notice their thrifty condition. A good example of what can be accomplished when proper feeding is combined with scientific breeding.

Buy the Best Bred

DUROC-JERSEYS

UNEEDA QUEEN MODEL
Grand Champion State Fair, 1918.

Won at Sacramento:

Grand Champion Sow
Senior Champion Sow
Junior Champion Boar

Seven firsts, including
First young herd and first produce of dam.
23 other prizes.

Model Lady, in our herd, Champion last year, has produced more champions than any other sow in California.

We can sell you pigs, gilts, and young boars sired by the world's greatest sires. They are from **High Orion, Great Wonder, Giant Invincible, King Orion Cherry,** King of Orions, Model Crimson Wonder, and Russel's Model.

Their blood in your herd will make you money.

H. P. Slocum & Son
WILLOWS, CALIFORNIA

Glenn County headquarters for Durocs.
Had largest exhibit at State Fair and won most money.

THE YATES KIND

Big Type Poland Chinas

Prize Winners Money Makers

Won at Orland Fair:

ALL GRAND CHAMPIONSHIPS
SENIOR CHAMPIONSHIPS

5 FIRSTS AND 6 OTHER PRIZES

FOR SALE:
GILTS, BRED FOR SPRING

Farrow to Grand Champion Boar, Long Jumbo, Yates Big Orphan, and Long's Hadley. **Boars** farrowed in March and to above sires.
Pigs—Tops from fall litters sired by Long Jumbo, Superbus Wonder, and Long Chief out of sows of Big Orphan, Defender, and A Wonder breeding. This stock will surely please you.

WRITE OR CALL.

R. J. YATES **Orland, Cal.**

ground rather coarsely, as it gums if ground too finely.

We hogs like variety just as well as you human hogs do. But right now I know that it's next to impossible for the boss to give us much of a change. And perhaps it isn't so necessary after all. In pens near me at the State Fair Mark Bassett of Hanford had some of the best fitted hogs I ever saw, yet I heard him telling another breeder that the hogs had received nothing but soaked barley, in addition to alfalfa pasturage. For about a month after the pigs were weaned they were given a little Sure-Milk with the barley, but after that no tankage, oilcake meal, millfeeds—nothing but plain rolled barley. And soaked in nothing but water.

Just the same, I'll bet his son Archie fed more by eye than by rule or measure. I'll bet he kept his peepers right on those hogs all the time to see that they were developing properly. He kept their quarters as clean as a parlor; he provided them with fresh, cool water, and with shade and shelter; he fed them regularly and kept their troughs clean; he kept a tonic before them to improve their health and prevent worms; he watched for lice and dipped or sprayed if any were noticed; he had the hogs so tame that they were always ready for a friendly scratch back of the ears.

Take it from me, all of these things count. There is a lot more to successful hog raising than most people think. Little things? Yes, but you know the little leaks are what sink the ship, and if a farmer won't pay attention to little details he never will get any big hogs. At least at a profit, and it's the almighty dollar that he's after.

WHY YOU SHOULD KEEP SHEEP.

The initial investment in foundation stock is small.

Expensive buildings and equipment are not necessary.

Less productive land can be utilized.

Sheep will eat almost every class of weeds, and the cost of maintenance is small.

By cleaning out the fence rows they destroy the winter protection of many injurious insects.

Due to the fineness of the mastication of their food, very few weed seeds are found in sheep droppings.

The excreta of sheep is rich in nitrogen and potassium, and crop yields are increased by the constant and uniform distribution of rich manure.

Sheep can be made marketable without grain, if desired.

Sheep make profitable use of fodder left in corn fields after corn is harvested.

Less labor is required for sheep than for grain or any other kind of livestock.

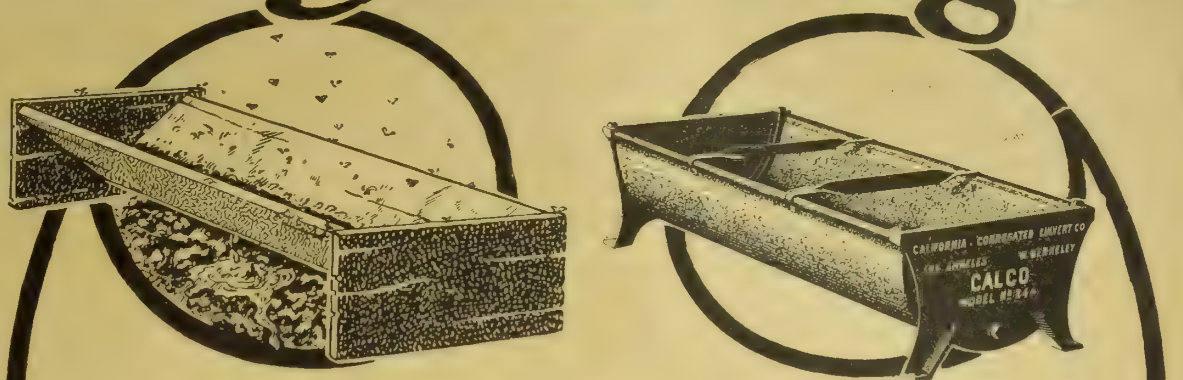
The population of the United States is increasing, while the number of sheep is steadily decreasing.

Wool and mutton advanced in price before the war, and a drop need not be expected after the war is over.

Thomas Harrison of Glen Ellen thinks that there should be no distinction between the beef and the milking Shorthorn. He argues that they are all Shorthorns and should be shown in the same class. He has both kinds, but finds that the demand is twenty to one for the milking Shorthorns. He says he advertises in almost every farm paper in the United States, but gets more answers from the Rural Press than from all others combined. That's because our circulation represents quality as well as quantity.

N. K. Horan of Lockeford made extensive purchases of Poland-Chinas to add to his already fine herd. From Young & Clark he secured the remaining half interest in Big Bone Bob, thus making him the sole owner. From J. H. Hansbrough he bought the 1917 grand champion boar, Major Hadley Wonder, and several of his daughters. From J. W. Wakefield he purchased eight fine March gilts. Watch this herd.

which trough for your Hogs?



Compare These Troughs

WOODEN TROUGHS	CALCO TROUGHS
Collect dirt and disease germs.	Clean and sanitary.
Contents sour readily.	Prevent disease.
Wastage by leaks	Contents remain sweet and clean
Service life— A few months at best.	Water-tight
	Service life— Many years

Calco Hog Troughs

PRICE LIST

Dia.	Depth	Length	Price	Dia.	Depth	Length	Price
10¼"	5 5/16"	24"	$2.60	14"	7 3/16"	24"	$4.15
10¼"	5 5/16"	30"	2.85	14"	7 3/16"	30"	4.45
10¼"	5 5/16"	40"	3.25	14"	7 3/16"	40"	4.90
10¼"	5 5/16"	60"	3.90	14"	7 3/16"	60"	5.70
10¼"	5 5/16"	120"	6.05	14"	7 3/16"	120"	8.30

California Corrugated Culvert Co.

LOS ANGELES
417 Leroy Street

BERKELEY
406 Parker Street

MONTELENA HERD
of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions

Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.

We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

Calistoga **A. L. TUBBS CO.** California

HOG SALE CALLED OFF

The demand is so keen we shall sell at private sale, and call sale off advertised for October 2nd.

L. J. BELKNAP
San Jose California

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

SELDOM SEE
a big knee like this, but your horse may have a bunch or bruise on his ankle, hock, stifle, knee or throat.

ABSORBINE
TRADE MARK REG.U.S.PAT.OFF.

will clean it off without laying up the horse. **No blister, no hair gone.** Concentrated—only a few drops required at an application. $2.50 per bottle delivered. Describe your case for special instructions, and Book 8 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Liberal trial bottle postpaid for 10c.
W. F. YOUNG, P. D. F., 86 Temple St., Springfield, Mass.

Margin to Encourage Beef Feeding

[Written for Pacific Rural Press.]

At a meeting of the California Cattlemen's Association some time ago the profitableness of feeding cattle on a four-cent margin was discussed, and O. B. Fuller stated that on this basis cattlemen could figure on about $7 per head to cover all losses, tail-enders, interest and profit.

Mr. Fuller is a member of the C. H. & O. B. Fuller Co. of Los Angeles, who feed about 10,000 head per year, and whose cattle holdings are exceeded only by those of Miller and Lux and the Kern County Land Co. They operate five ranches in California, five in Arizona, and one in Mexico.

An experience feeding 760 head in Los Angeles last winter gave concrete basis for the general figures given by Mr. Fuller to support his statement. The cattle were fairly well bred Hereford grades, two and three years old, fed 100 days beginning last February. They averaged about 800 pounds at the start and were sold averaging 1050 pounds. About half were sold at 14c, the other half at 13½c. The older cattle were fatter and took the higher price.

Cottonseed meal cost $60 a ton and hulls $16 at the feed yards, eight pounds of the former and 35 of the latter having been fed on the average. Labor was figured at 3c per day per head. This made feed and labor cost 55c per day or $55 per head for 100 days. If the feeders, which were of their own raising, were figured to cost 8c per pound, the original cost plus the cost of feeding totaled $119 per head.

If these steers had sold at 12c per pound—a four-cent spread—they would have brought $126, leaving $7 per head, plus the value of the manure produced, to cover death, accident, tail-enders, interest on investment and profit.

Is this enough to encourage beef production and feeding?

Will This End the Meat Trust?

[Written for Pacific Rural Press.]

Senator Borah of Idaho, who has been selected to push proposed legislation to take over parts of the packing industry, and Herbert C. Hoover, Food Administrator, have been holding conferences with a view to bringing the Federal Trade Commission, the Food Administration and Congress into an agreement as to the best method to pursue to control the meat industry of the country.

Hoover is said to admit the advisability of the Government's taking over the stock yards and the rolling stock controlled by the five big packing concerns, but he is hanging back on taking over the branch houses of the big packers in various cities throughout the country for fear such action might interfere with the plan of food distributions necessary to the conduct of the war.

Senator Borah is strongly of the opinion that the packers must be divorced from nearly all of the 108 industries in which they are interested outside of meat packing. To break up their alleged monopoly, he contends, it will be necessary to enact legislation to confine them to the business for which they were primarily organized. A strong fight is expected in Congress on the proposition of permanent Government ownership of the stock yards as a public utility.

ENTRIES FOR SAN FRANCISCO SHOW POURING IN.

Joseph M. Painter, manager of the California International Livestock Show, is being swamped with entries and expects to stage one of the best shows of its kind ever presented west of Chicago. He is particularly gratified at the number of breeders from other States who will exhibit, thus making the competition more keen.

The premiums for the livestock exhibits amount to $30,000, while the hore show premiums total $10,000. At the conclusion of the awarding of livestock premiums there will be a sale of fat cattle, and the different packers have promised spirited bidding.

The show will be held November 2 to 10, and the entries will close October 5. If you are going to show, send in your entries now. Don't wait until the last minute.

E. E. Freeman of Modesto is starting to test Fancy Pietertje Hengerveld De Kol 2nd and Una Estrella De Kol 2nd. Both cows are in fine shape and Mr. Freeman expects to make good records.

LIBERTY FAIR BERKSHIRE SALE

Here is the opportunity you have been wanting to get choice breeding stock at your own prices.

Never before were the prospects for swine breeders so bright; never before were Berkshires so popular in this state. Now is the time to get into the game; the Berkshire is the hog to bank on.

50 HEAD—BEST IN THE WEST

Mostly Bred Sows—A Few Choice Boars

The names of the consignors are enough to guarantee the quality of the stock.

These breeders have selected some of the best animals from their herds, in order to place the right kind of stock in the hands of beginners.

It is just the kind you ought to have to get started right and to insure your success.

CONSIGNORS:

Carruthers Farms, Live Oak.
Jas. Mills Orchard Corp., Hamilton City.
A. B. Humphrey, Escalon.
Anita M. Baldwin, Santa Anita.
Frank A. Brush, Santa Rosa.
F. L. Hall, Perris.
Mrs. E. M. Holje, Calistoga.
Homer Hewins, Calistoga,
And others.

PASTE THIS DATE IN YOUR HAT

Thursday, October 24th, 1918

This will be Berkshire Day at the Fair. Plan to attend on that day, and be sure to take in this great sale. It will prove an eye-opener to you.

W. M. CARRUTHERS, Pres. LIVE OAK — HOMER HEWINS, Sec. CALISTOGA

SIXTH SEMI-ANNUAL SALE

OF

KINGS COUNTY POLAND-CHINA BREEDERS ASS'N

Wednesday, October 9th 1918

AT

Kings County Fair Grounds, Hanford, Cal.

80—HEAD—80

Registered Poland-China Boars and Sows

To be sold without reserve. From the best herds in Kings County.

CONSIGNORS:

M. Bassett — W. Bernstein — J. M. Bernstein — J. A. Crawshaw
C. G. DeRaad — Dimmick Bros. — W. L. Haag & Son — W. S. Hubbard & Sons — H. D. McCune
E. G. Myer — F. D. Ross — Trewhitt Bros. — C. A. Vaughn

Auctioneer: Col. Ben A. Rhoades.

For information or catalog, write F. D. Ross, Secretary, Hanford, Cal.

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited

A. A. JENKINS, R. D. 1, Tulare, Cal.

N. H. LOCKE CO.
Lockeford, Cal.
Choice young bulls of King's Valet Blood, backed by Records.
Call at the ranch and make selection.

T. B. PURVINE & SONS
PETALUMA, CALIFORNIA
Breeders of
Registered JERSEYS
Young bull calves for sale. Fine individuals with Register of Merit backing.

VENADERA HERD REG. JERSEYS
Herd headed by **Altama Interest, Grand Champion 1918 State Fair.** Awarded two other championships and 10 firsts, including Aged Herd, Breeders' Young Herd, and get of sire. Young bulls for sale from dams and granddams in Register of Merit.
GUY H. MILLER, MODESTO, CAL.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, CERES, CAL.

RANCHO SANTA MARGARITA, D. F. Conant, Prop., Modesto, Cal.
Register of **MERIT JERSEYS** A limited number of bulls for sale.

CHESTER WHITES FOR PROFIT

HIGHLANDER, the $1000 Grand Champion Boar heads our mammoth herd, bred for large litters, rapid growth and easy feeding qualities. Service fee, $100; sows guaranteed safe in pig. Some corking good March pigs for sale.

OAK KNOLL FARM — Box 338 LAKEPORT, CAL.
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

Fatten Your Livestock at Minimum Cost

The percentage of waste in the assimilation of COPRO is exceedingly small because its 16.4% Protein is practically all digestible.

Copro

is the most economical and nutritious food for dairy cows, hogs and poultry.

It makes hens lay more eggs; it increases butter fat in milk; it makes hogs fat with clean flesh.

FREE SAMPLE and a copy of our booklet containing valuable information on the subject "Successful Feeding" gladly sent on request. Write today. If your dealer can't quote prices, write direct.

PACIFIC OIL & LEAD WORKS
Manufacturers
155 Townsend St., San Francisco, Cal.

Financial Assistance to Cattlemen

[Written for Pacific Rural Press.]

In some parts of the West the loaning capacity of local banking institutions has been impaired by the lengthened credit extended as a result of the feed deficiency, and the consequent inability of cattlemen to market their stock in proper season.

So in order that financial assistance may be extended to cattlemen in such sections the War Finance Board is in a position to advance money for four-month periods at 5 per cent interest, up to 75 per cent of the loans heretofore made by such banks to cattlemen.

For stock-raising purposes provision can also be made for longer term loans at 6 per cent, where it is impossible to secure such loans through regular channels.

In exceptional cases it is provided that loans may be made direct to persons, firms or corporations other than banks.

If you need money, write to D. J. Stollery, secretary of the California Cattlemen's Association, 320 Sharon building, San Francisco. He will gladly tell you how to proceed to make application for a loan. Mr. Stollery is doing work of inestimable value to the cattlemen of the State.

Short Course in Stock Raising

[Written for Pacific Rural Press.]

"Without livestock on the farm, or without artificial fertilization, crop production will gradually decrease until it no longer yields profitable returns," is a statement just issued by the College of Agriculture of the University of California, and stock farming as an aid to the stability or increase of crop production is strongly advised.

To aid those who have had little or no experience in stock raising, the chief principles and practices will be taught in the various short courses to be given at the University Farm, Davis, September 30 to November 8. These courses include animal husbandry, dairy manufactures and poultry husbandry. They will be followed by two-week courses in market-milk production, butter making, cheese making, and the use of milking machines.

Further information may be obtained by writing to the College of Agriculture, University of Califor-

Is There Profiteering in Millfeeds?

[Written for Pacific Rural Press.]

There appears to be considerable misconception relative to the Government price-selling schedules on millfeeds among buyers of such commodities. The following letter from a subscriber at Bodega, Sonoma county, is typical of many inquiries of the same kind:

"In your issue of September 14 you quote bran $23.75 and midds $25.75, mixed feed $25 per ton in carload lots. I bought 200 sacks of bran and 89 sacks of midds, which cost me $38.65 per ton at Bodega road depot. I may add that my order went in with others to help the storekeeper make up carload lots."

The schedule of millfeed prices as announced from Washington on August 1 is as follows for the principal Pacific Coast mills:

Mills—	Flour	Bran	Mixed Feed	Middlings, Shorts, Red Dog
Portland	$9.95	$23.15	$24.40	$25.15
Tacoma	9.95	23.15	24.40	25.15
Astoria	9.95	23.15	24.40	25.15
Seattle	9.95	23.15	24.40	25.15
San Francisco	10.15	23.75	25.00	25.75
Los Angeles	10.35	24.30	25.55	26.30
San Diego	10.27	26.81	28.06	28.81

Now, in order to determine what may be considered a fair price for middlings, for example, from the consumers' standpoint, there must be added to the above prices the cost of packages and packing, loading on cars, freight to Bodega, and the dealer's legitimate profit. In the particular case in question this would figure out about as follows:

Middlings at mill door	$25.75
Sacks, 33 1-3 sks. (60 lbs. to sk.) @25c.	8.33
Twine and labor of sacking (say)	.70
Loading on cars	.40
Freight to Bodega (estimated)	2.00
Dealer's profit (say)	1.50
	$38.68

There may be some slight discrepancies in the minor items of this estimate of cost at terminal point, but these would not materially affect the total.

TWO BIG LIVESTOCK SHOWS.

Los Angeles, October 20-26; San Francisco, November 2-10. Two new shows that promise to eclipse the recent State Fair in the exhibition of livestock. Bigger entry lists, better show facilities, larger attendance expected.

And not only will there be fine exhibits of cattle, horses and sheep, but also of poultry, goats and pet stock. There will be horse shows, good music, lectures, social and society events—everything that can be thought of to add to the enjoyment or educational value of the affairs.

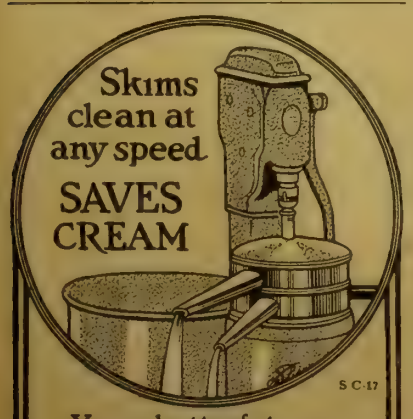
Entries for the Los Angeles show are just closing; those for the San Francisco show will close October 5. Don't let it be said "to late."

LIVESTOCK AT LIBERTY FAIR.

Most things are greater in anticipation than in realization, but the livestock show at the Liberty Fair promises to be a notable exception. Everything is now virtually completed and the grounds, the buildings, the entries, the plans for managing the affair—all point to a show that will prove an epoch-maker in the livestock industry of the West.

The premiums amount to $33,500 and have attracted most of the leading herds in the Rocky Mountain and Coast States. The fair will extend from October 12 to 26, but the livestock show will be held during the last week, beginning on the 20th. Paste this date in your hat and plan to attend whether you can or not.

E. F. Young of Modesto is testing several cows, among them being Theodora Ida Belle Johanna and Silvan Iris Currelia, both of which are good prospects for high records.



Your butterfat saving will soon pay for a Sharples. Investigate!

SHARPLES
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CREAM SEPARATOR

The Sharples Separator Co., West Chester, Pa.
Branches: Chicago, San Francisco, Toronto

My Range Bulls are
Shorthorn Show Bulls

All of them have been at the Fairs and have generally won something. Their get are uniform, vigorous, and hardy, raised to service age on the range. King Lancaster, three times Grand Champion at the State Fair and now 13 years old, is still getting fine calves. My bulls won Grand Championships every year for eleven years (1904 to 1914, inclusive), except 1907, when I showed only calves. I have a breeding herd of 400 cows and can supply service bulls in car lots, but they are going fast. Write me your wants pretty soon or come and see.

Shropshire and Merino Sheep also for sale in any quantity

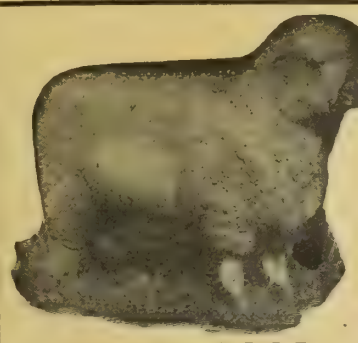
Hillcrest Stock Farm
T. S. GLIDE, Prop. DAVIS, CAL.

CARRUTHERS FARMS
LIVE OAK, CALIFORNIA
Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

Shorthorn Bulls
Four Head—Two to three years old.
Six Head—Ten to twelve months old.
BRIGHTON FARM HERDS.
H. L. & E. H. MURPHY PERKINS, CAL.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.


Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON,
Contra Costa County, California.

FINE WOOL HEAVY LAMBS
Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.
E. C. SPEAR, St. Helena

ASK YOUR DEALER FOR
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
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HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Time to Vaccinate for Blackleg

[Written for Pacific Rural Press.]

This is blackleg season. The disease is most liable to make its appearance in the late summer or fall, and if you have not protected your young stock from it you should do so at once.

Don't wait until you go out in the field and find several of your favorite calves dead, and liable to be that way for some time. This is a rapid-fire disease, and the infection usually terminates fatally in from twelve to forty-eight hours after symptoms are apparent. A few cases may linger for several days, and very rarely an animal may recover, but as a rule it is too late to do much for a herd after it has become infected, and the only safe way is to vaccinate every spring and fall, as the disease is liable to occur in the spring as well as the fall.

Cattle under two years are most subject to blackleg, the greatest number of deaths occurring in animals over six months and under two years old. Consequently, all up to and including two years of age should be treated.

The disease is caused by a germ that lives in the ground, and is so small that it can only be seen with the aid of a microscope. The germ enters the body of an animal with food and water, or through wounds in the skin. It multiplies rapidly, subsisting on and destroying the body tissues.

Affected animals usually become feverish, stop eating and chewing their cud. Lameness develops suddenly, and is usually accompanied by trembling of the muscles and arching of the back. These symptoms are followed by the development of characteristic blackleg swellings, which at first are hot and painful, but later become cold and painless, and crackle on pressure.

Swellings due to blackleg develop most frequently on one of the quarters, but do not extend below the knee or hock. More rarely they are found in the muscles of the back, chest, neck and throat. As the disease progresses the swellings increase in size, and the affected animal soon falls or lies down and dies. In more protracted cases the animals may be down for some hours before death and show evidence of great pain and difficulty in breathing, and often die in convulsions.

Bodies of cattle that have died from blackleg often become enormously swollen from the rapid formation of gases in the tissues and intestinal tract. Frequently bloody froth is discharged from one or both nostrils. The skin over the swellings feels like parchment paper when handled, and if removed the flesh underneath is dark in color and distended with gas bubbles.

Practically all losses from blackleg may be prevented by the systematic vaccination of all young cattle a few weeks before the season when losses occur. Blackleg vaccine, in different forms, has been used for many years. The most popular is the pill form, as it is the easiest to use, and the dosage is uniform. The powder form is falling into disuse because of the impossibility of giving uniform doses, and the string form is seldom used on account of the tediousness of administration.

However, blackleg vaccine has certain limitations, the more important of which are the occurrence of severe reactions and possibly occasional deaths from the vaccination itself in extremely susceptible animals, and insufficient protection in others.

It has not been found possible by means of a single vaccination to obtain adequate protection in all individuals without increasing the strength of the vaccine to a degree where it would be dangerous for the more susceptible animals. These difficulties—lack of protection and occasional losses—are eliminated to a great extent through the use of double blackleg vaccine, and by revaccination, but both of these plans require two or more handlings of the animals.

Recently two new blackleg immunizing agents have been developed which overcome the deficiencies of vaccine. They are known as filtrate and aggressin. Both are sterile (germ free) and may be used without danger of causing blackleg. And since they are but slightly toxic, they may be given in sufficient dosage to safely immunize most animals with a single dosage.

Some manufacturers of germ-free vaccine guarantee lasting immunity, but conservative authorities state that no product has been in use long enough to justify the "protection for life" claim, and they advise revaccination every six months, no matter what vaccine is used. Understand, they do not say that these claims are false. They merely feel that the products should be tested over a longer period of time before they are recommended to protect for life.

Consequently, when deciding on what form of vaccine to use, the following facts should be considered:

Pills are the cheapest and most convenient, but there is an occasional loss, and at times a lack of protection. They are placed under the skin with a pill injector.

Filtrate is germ free, and safe to use. It will give good protection and is comparatively inexpensive. It is the most suitable for general purposes. The dose is 5 c.c. injected under the skin, usually in front of or back of the shoulder.

Aggressin is also germ free, but it is more potent than filtrate; in fact, the most effective immunizing agent against blackleg in use at the present time. However, it is more expensive, and its use is advised only for purebred animals, or exceptionally valuable ones intended for breeding purposes. The dose is the same as with filtrate, but for all these different forms complete directions are given by the manufacturers.

If you haven't vaccinated this fall, get busy. There is no time to lose. It should be done right away. Remember, it's better to be safe than sorry.

CALIFORNIA
Is The State
KINGS
Is The County
HANFORD
Is The Town
FAIR GROUNDS
Is The Place
OCTOBER 9th
Is The Date
and
John M. Bernstein
is the consignor of
Five of the Best Registered Sows
ever put into an auction sale in California.

MAIDS BEAUTY is first on the list. Next are DUTCHESS HADLEY and sister, COUNTESS HADLEY. Then comes STRATFORD BETSEY and sister, SO LONG LETTY, both with litters at their side, sired by KING TIMM.

Be sure and see these five before buying.

BUY Registered HOLSTEINS
and keep up with the times!

President Munn of the American Jersey Cattle Club recently said:

"There is going to be one ideal, and the man who does not look up to it, who hasn't the vision to see it, or the feeling in his heart to respect it is going to have no place on the surface of this earth where he can rest his head. And that is as it should be."

There is a whole banquet for thought in that statement for the man who figures that he can keep on with the same old scrub dairy cows and "get by" in these changed days.

Sell that boarder cow, or fifty of them if you are unfortunate enough to have that many, to the butcher today, she was never worth so much on the block before, and invest the money in a few good registered Holsteins, and assure yourself of a place in the new order of things in dairydom that will be both creditable and profitable.

Come to the farm of W. H. Ginn & Son, 1½ miles southwest of Corcoran, Kings county, California, on Thursday, October 10, and you will find an opportunity to buy registered Holsteins that will make a real herd for you. The entire herd will be dispersed to dissolve a partnership, including the herd sire, Aralia De Kol Pontiac Salambo, with 25 of his daughters and 34 cows and heifers in calf to him. His three nearest dams average 30.26 lbs. butter in 7 days and 24,158.26 lbs. milk and 1031.86 lbs. butter in one year. This is the blood you need—the kind that produces big throughout the year.

Then there are 24 daughters of Mercy Sir Pondyke, who is by a son of King of the Pontiacs, the only sire to have over 200 A. R. O. daughters.

There are several choice young bulls in the sale, just right to go into good dairy herds, and nobody expects that they are going to sell for more than moderate prices.

Every animal in the sale is guaranteed to be a breeder, and every animal over six months is tuberculin tested and sold subject to tuberculin retest except a few of the older cows that will be sold as represented on sale day. Be on hand early, as the sale will start promptly at 9:30 a. m., with Col. Ben A. Rhoades, Los Angeles, on the block.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

SACRAMENTO . . CALIFORNIA

What would be the Result

By using one of these Bulls in your Herd?

NO. 1—602.83 pounds butter, dam's record as a two year-old. Sire, King Mead of Riverside, sire of seven two-year-olds that average 719.27, and the first two tested at mature age have each made above 1200 lbs., one of which holds the world's strictly official yearly record of 1331.76 lbs., all averaging over 4 per cent butterfat.
One of the finest individuals you ever saw—from a great proven dam and by a sire that has proven himself one of the leaders of dairy sires—and ready for heavy service.
Would it be possible to invest $250.00 that would bring a greater return?

NO. 2—And just look at this: Dam's record 714.17 pounds butter as a two-year-old, and she a daughter of the world renowned King of the Pontiacs—and her dam a three-quarters sister to the great Prince Gelsche Walker.
Sire, King Korndyke Pontiac, one of the very best bred sons of King of the Pontiacs, and sire of the well-known $6,500 bull, King Korndyke Pontiac 20th. King Korndyke Pontiac's dam is also a half sister to Prince Gelsche Walker.
A magnificent individual—wonderful line breeding—blending in the closest manner two of the greatest producing blood lines ever known. He is ready for immediate use and is offered at the ridiculously low price of $400.00.

WRITE OR WIRE US AT ONCE.

A. W. Morris & Sons Corporation
WOODLAND, CALIFORNIA

PRINCE BUTTER BOY WALKER
Senior and Reserve Grand Champion at Sacramento, 1917.

Holstein Friesian Cattle
Herd Sires:
Prince Butter Boy Walker
King Mead of Riverside
Yolo Valdessa Hengerveld
Young bulls by these sires and out of cows with records.
Write or Call
J. H. HARLAN CO., Woodland, Cal.

Edgemoor Farm Guernseys

Imperial Itchen May King, 25174

PRETTY PRODUCTIVE PROFITABLE

A Few Animals of Either Sex For Sale

SANTEE, CALIF.

H. F. SCRIBNER
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FOR MILKING MACHINES

Clear and Clean as Water

B-K keeps tubes and cups sweet and clean. Penetrates milk solids—kills the bacteria. Is clean—harmless—cannot taint milk. B-K makes rubber parts last longer—cannot harm metal. Used and recommended by Milking Machine Manufacturers for years. Cheapest in actual use—sold under guarantee. Get B-K today—end sour milk troubles. Send us your order and your dealer's name. Send for dairy bulletins and "trial offer."

General Laboratories—Madison, Wis.
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CALVES

RAISE THEM WITHOUT MILK ON BLATCHFORD'S CALF MEAL

Write for free particulars

COULSON POULTRY & STOCK FOOD CO
PETALUMA, CALIFORNIA

Dealers in PAPER

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Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

HOW TO HAVE DAIRY COWS TESTED.

[Written for Pacific Rural Press.]

Many dairymen do not seem to understand the meaning of dairy law No. 576, which requires that cows from which unpasteurized or raw milk is sold must be free from tuberculosis. Some have understood that free testing by the State had been discontinued. Dr. J. P. Iverson, State Veterinarian, gives the following information:

"This law requires that cows from which raw or unpasteurized milk is to be sold be tuberculin tested by a representative of this office or a recognized representative of any county or city inspecting department, and this service is required to be furnished the cattle owner free of charge. This office has not discontinued the practice of testing cows for tuberculosis free of charge and we have a number of inspectors regularly employed on this work throughout the State. The law does not permit the collecting of a fee for this testing."

Some dairymen have been led to believe that all they need is a certificate from a local veterinarian stating that he has tested the cows and found them free from tuberculosis, but such certificates are valueless. If you want your cows tested so as to comply with this law, send a card to the State Veterinarian, Sacramento, stating the number of cows you wish tested and your location, so his representative can find you easily. The work will then be done at no cost to you.

As to the necessity of retesting, Dr. Iverson says: "Dairymen selling milk must have their cows tested every six months if reactors are found in the herd. If no reactors are present, an annual test is required."

NOVEL JERSEY JUDGING AT ORLAND.

[Written for Pacific Rural Press.]

For judging the Jerseys at the Glenn County Fair the American Jersey Cattle Club furnished a score card on which was a large circle marked off in multiples of five and totaling 100, to indicate the 100 points of a perfect score.

On top of this was a smaller circular card, pivoted at the center so as to whirl around. This was divided into sections to correspond with the different features of a cow, and gave the number of points for each feature, these being: Head 7, neck 4, body 37, udder 26, teats 8, milk veins 4, size 4, general appearance 10. As each feature was judged, an arrow on the smaller card was turned to indicate on the large circle the number of points allowed. After all features were considered, the complete score was registered.

There is much to be said both for and against score card judging, but whenever it is employed this method will be found of great convenience in keeping scores.

BEET PULP PRICES FIXED.

Maximum prices on beet pulp were recently announced by Food Commissioner Merritt as follows: Wet pulp direct from factory, 80c per ton; wet pulp from silo, $1.25 per ton; dry pulp, $40 per ton f. o. b. factory, including commission of wholesale distributors. Priority in shipment will be given dairy demands. The fixing of these prices is another step toward protection of the dairy and beef cattle herds of California from an actual world-wide shortage of feeds.

The Redwoods Ayrshire Farm (B. D. Weeks) at La Honda, San Mateo county, reports that Ada Rome of Willowoak, one of their registered Ayrshire cows, has given birth to triplets. All three are heifers, well marked and perfectly formed. They are all living and the owners expect to raise all unless something unforeseen happens. They are sired by Willowmoor Robin Hood 32nd, who is considered the best of the Robin Hood line.

DE LAVAL Separators Save in 7 Ways

QUANTITY of cream that no other separator will recover completely, particularly under the harder conditions of every day use.

QUALITY of cream as evidenced by De Laval butter always scoring highest in every important contest.

LABOR in every way over any gravity system, and also over any other separator, by turning easier, being simpler, easier to clean and requiring no adjustment.

TIME by hours over any gravity system, and as well over any other separator by reason of greater capacity and the same reasons that save labor.

COST since while a De Laval Cream Separator may cost a little more than a poor one to begin with, it will last from ten to twenty years, while other separators wear out and require to be replaced in from one to five years.

PROFIT in more and better cream, with less labor and effort, every time milk is put through the machine, twice a day, or 730 times a year for every year the separator lasts.

SATISFACTION which is no small consideration, and can only come from knowing you have the best separator, and being sure you are at all times accomplishing the best possible results.

Easy to prove these savings

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency write the nearest De Laval office, as below.

DE LAVAL DAIRY SUPPLY CO.

LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST.
Alpha Gasoline and Distillate Engines, Ideal Green Feed Silos, Acme Ensilage Cutters and Blowers, Irrigation Equipment, Centrifugal and Deep Well Pumps and Alpha Spraying Outfits. Catalogs of any of our lines mailed upon request.

61 BEALE STREET, SAN FRANCISCO

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Here is the Latest Photo of

King Korndyke Pontiac 20th

He has been looked over by many good judges recently and all agree that he is a wonderfully good individual and getting better every day. He looks a great deal bigger to us than the $6,500 we paid for him last December. You will begin to hear from some of his sisters soon, daughters of King Korndyke Pontiac, and everybody knows that his dam, Miss Valley Mead De Kol Walker, is one of the greatest heifers of the breed.

Why not breed your best cows or heifers to KING KORNDYKE PONTIAC 20th now, while you have the opportunity? Later on he will be needed for the exclusive service of our own females.

A few young bulls for sale, sons of Prince Riverside Walker, whose get won First at the State Fair. Our entire herd is tuberculin tested.

TULARE HOLSTEIN FARM

W. J. Higdon, Owner TULARE, CAL. H. L. Redd, Herdsman

Imported and American Bred Stallions

Percherons - Belgians - Shires

My Fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.

The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.

Correspondence invited and visitors always welcome.

N. W. THOMPSON, Patterson, Stanislaus County, California

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

A Kings City hay dealer has been disciplined for incorporating adobe dirt and other foreign substances in baled hay to increase its weight.

The Ayrshires shown at the State Fair we pronounced of excellent quality, and good enough to win in Scotland, the home of the breed. Authorities state that better Ayrshires are being bred in California than anywhere else in the world.

A. W. Morris & Sons of Woodland announce their big sale of 100 head of choice registered Holstein females for November 12, at their farm. This gives buyers an opportunity to get foundation stock from one of the most noted herds in America.

The older Tilly Alcartra gets the better she produces. A. W. Morris & Sons of Woodland report that this wonderful cow has gained over 2600 pounds on her former world record in 8½ months. For the month of August, which was her eighth month in milk, her daily average was 92 pounds.

A. B. Spooner & Sons of San Luis Obispo have a splendid son of King Korndyke Pontiac, born July 9, out of the $510 Holstein cow they bought at the December Guaranty Sale. This calf is a half brother to W. J. Higdon's $6,500 bull, which stood next to the grand champion at the 1918 State Fair.

McAlister & Son, the noted Holstein breeders of Chino, are making preparations to do some extensive testing this fall, and no one ever saw a finer lot of prospects than are to be found in their barns. Watch for State and perhaps world records to be made. This concern recently sold a fine young bull to James Donahue of Puente.

At the State Hospital, Stockton, grade cows are being fed 1 pound of grain for every 5 pounds of milk produced. Also the hay is fed in individual stanchions so that each cow gets her share. The milk is weighed every week and tested every two weeks. One cow gave 559.5 pounds of milk and 23.5 pounds of butter in seven days, and at present, seven months after calving, is giving 64 pounds of milk a day. Some production and persistency for a grade cow!

Swine and Swinemen.

F. A. Brush of Santa Rosa sold a herd of five Berkshire sows and a boar to H. C. Muddox, banker of Sacramento, who is establishing a herd for his son.

A. Buckland & Son of Fresno recently received a very fine Poland-China boar from the East, sired by Gerstdale Jones, the $6,600 boar. The best is none too good for their herd.

Elmer Lamb of Ceres recently sold a Duroc boar and a sow to Jake Rodgers of Gazelle, a sow to John Harder of Montpelier, and a boar to the Spreckels Sugar Company, Kings City.

Dr. L. J. Belknap of San Jose, who had announced a public dispersal sale of 50 head of Durocs, informs us that the demand has been so great that he will not be able to hold the sale and will sell his stock privately.

F. A. Brush, Berkshire breeder of Santa Rosa, received orders from the Kamehameha School of Honolulu for a Berkshire sow, also has an order for two sows from Guayaquil, Ecuador, and one sow from Rio de Janeiro.

H. P. Slocum & Son were so well pleased with their winnings at the State Fair that they decided to show at the Washington and Oregon State Fairs, then at a few of the California county fairs, and then at Los Angeles and San Francisco.

L. A. Denker of Saugus had his car sidetracked for several hours on the desert, on his way to the State Fair, and his herd boar, Director, died from the heat. This boar was sire of the pig that won the grand championship over aged boars.

H. I. Marsh of Modesto will show at the Fresno Fair the wonderful herd of Poland-Chinas that he had at the State Fair, headed by the well-known I B A Wonder. We'll bet Hale will be a "whole hog" when the ribbons are passed around.

C. C. Roberts, the enterprising Poland-China breeder of Chico, reports a litter of eleven husky pigs by Jumbo Model and out of Black Big Bone Model, one of his best sows, sired by Black Big Bone 2nd, grand champion of Iowa in 1915. Some royal blood in those pigs.

W. H. Rough of Arlington Station, Riverside, is doing his part to win the war by raising 125 head of big-type Poland-Chinas sired by the world champion boar, Superba, and out of Big Orange strain sows. He also has a fine herd of Jerseys headed by Raleigh Finance.

The James Mills Orchard Corporation of Hamilton City sold two carloads of fat hogs a few weeks ago for 18¼c—the highest price ever paid in California. At the State Fair someone told Mr. Mills that he was the only breeder in the State who had the nerve to raise Berkshires for the market in carload lots.

Hale I. Marsh, the Poland-China breeder of Modesto, has recently made the following sales: One boar to C. C. Brown, Durham; two boars to Franks & Miller, Antioch; two boars to Miller & Lux, Dos Palos; one boar to W. F. Cordes, Stockton; one boar to Sheldon B. Hunter, Bradley; seven boars to Joseph F. Lahaney, San Francisco; one bred gilt to J. H. Kindel, Modesto.

At the recent Glenn County Fair the officers of the California Swine Breeders' Association launched their State-wide movement to obtain better marketing and feeding conditions. Units of the association will be formed in every county, and eventually it is hoped to have every grower of pigs in the State a member of one of these units. The association will work to get the breeder a greater percentage of the price paid by the consumer, yet at the same time not run up the price on the latter. Also a pure feed law will be asked of the next Legislature, so that feeders will not be obliged to pay for filler often found in proprietary feeds.

Beef Cattle.

The Rancho San Julian Shorthorns, located in the mountains twelve or fifteen miles out of Santa Barbara, are in fine condition, and the calves are developing splendidly.

Arrangements are being made for two beef sales to be held at the San Francisco Live Stock Show. Shorthorns will be sold on Thursday morning, November 7th, and Herefords Friday morning the 8th.

Chas. Soule of Montague recently purchased from Carruthers Farms two bulls, aged 14 months each, for $1,500; also five heifers at $500 apiece. These heifers were by Count Glory and prove what a wonderful sire he is.

Dr. H. M. Elberg of the Roselawn Stock Farm, Woodland, informs us he will not sell all of his stock as announced previously by mistake, but will have a sale next spring of about twenty-five of his young Shorthorn bulls and heifers.

Congdon & Battles, the noted breeders of Aberdeen-Angus cattle, who sent their show herd down from Yakima, Wash., to the State Fair, recently sold a carload of yearling bulls to Thos. H. Davis, Visalia. S. Zaneth of Guadalupe also took a yearling bull.

Twenty-five head of Herefords from the noted herd of Harris & Sons of Missouri have been shipped from a Pacific port to the Princeville Plantation, near Honolulu. In the shipment were five bulls, the average price of which was $2,500, and twenty heifers went at $1,000 each. The heifers are bred to the $30,000 bull, Repeater. Why didn't California breeders get this order?

A list recently issued by Shorthorn breeders shows that in a period of three months 407 animals were sold at public sales at an average price of $1,550. The highest price recorded was $16,500; two passed the $10,000 mark; twenty-three reached $3,000 or more. Since this list was issued a Shorthorn bull has sold for $20,000. Shorthorn breed-

Endorsed by U. S. Food Administration

In these days of critical food shortage here's how Herbert Hoover, U. S. Food Administrator, feels about the California International Livestock Show:

"I am a firm believer that such enterprises not only further production in this country, but greatly improve the *quality* of production and have the utmost educational value in placing before producers, national necessities and methods in their attainment. I wish you every success."

Largest Exclusive Livestock Show ever held on the Pacific Coast

Representative exhibits of Beef Cattle, Dairy Cattle, Hogs, Sheep, Horses, Poultry, etc. There will be REAL COMPETITION. $38,000 in Premiums. Judging by nationally known experts.

Special Events: Night Horse Show, Band Concerts, Military Spectacles, etc. Every possible comfort for exhibits, exhibitors and spectators. You'll be welcome!

Special railroad rates from all points.

For detailed information write Joseph E. Painter, Manager, 1205 Merchants Exchange, San Francisco.

(3)

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

SAN FRANCISCO - NOV. 2-10, 1918

NOW Is The Time To Buy Holsteins

before the great demand after the war

AT THE

2nd MODESTO SALE, OCTOBER 17, 1918

OUR CONSIGNMENT INCLUDES:

A three-year-old heifer by the $15,000 bull, Spring Farm Pontiac Cornucopia, who is a son of the 44-lb. cow, K. P. Pontiac Lass, the highest record daughter of King of the Pontiacs. The first five dams of this heifer average over 34 lbs. butter in 7 days. Due to freshen November 8-18—to the service of King Segis Alcartra Prilly, the Grand Champion Bull of California, 1917-18.

A four-year-old daughter of Spring Farm King Pontiac, who is a 37-lb. son of King of the Pontiacs, bred to King Segis Alcartra Prilly. This heifer has a 22-lb. three-year-old record and is capable of making a much larger record.

Two high-class cows with 25-lb. 7-day records, one with over an 800-lb. yearly record.

A ten-months-old bull, beautifully marked, light in color and a great individual, sired by King Segis Alcartra Abbekerk, our senior herd sire, who is a 30-lb. son of the $50,000 bull.

Dam of this young bull made 29.86 lbs. butter in 7 days last winter and we look for her to make a very much larger record this winter as a four-year-old. Her dam has a yearly record of 980 lbs. butter from 24,000 lbs. milk. This bull is good enough to head a high-class purebred herd.

Our herd won at the California State Fair this year:

Grand Champion Bull	First Calf Herd
Grand and Senior Champion Cow	First Three-Year-Old Cow
Reserve Grand and Senior Champion Cow	First Yearling Heifer
Junior Champion Heifer	First Senior Heifer Calf
First Get of Sire	First and Second Junior Heifer Calf

Five other awards in classes

Also produced this year eight 30-lb. cows, with records from 30.41 lbs. to 37.60 lbs. butter in 7 days. Also nine two-year-olds making records above 20 lbs.; from 21 lbs. to 26.50 lbs. in 7 days as junior two-year-olds. No other herd in the West has made such a showing in one season.

BRIDGFORD CO., Knightsen, Contra Costa, Cal.

TYPEY SON OF MODEL FRANCIS GLISTA 173142

from a Daughter of Prince Riverside Walker.

The A. R. O. records of Model Francis Glista's dam, granddam and of his sire's dam and granddam average 30.70 pounds in seven days. His first seven dams average 4.25% fat. The calf's dam made a high record under unfavorable conditions. This and other young stock for sale.

C. C. SLATER Pacheco, Contra Costa County

ers are to be congratulated upon the present demand for their products.

Sheep.

J. W. Marshall of Dixon has just received two very fine Shropshire rams from England for use on his flock.

University of Nevada exhibited at the State Fair a $1,000 Corriedale ram, imported from New Zealand. Four of his ram lambs have already sold for $100 each.

The $3,000 Rambouillet ram purchased by Bullard Bros. of Woodland at the Salt Lake sale was pronounced by Prof. Coffey the best Rambouillet in the United States. At this same sale Bullard Bros. received $1,000 for one yearling and $650 for another.

The ram sale held at Salt Lake City was a great success, and both purebred stud rams and range rams sold for record prices. A yearling Rambouillet ram sold for $6,200—the highest price ever paid at auction for a ram of that breed. A number of rams of the same breed sold for $1,000 each.

J. Bidegaray of Fresno bought 31 Rambouillet rams at the recent Salt Lake sale. They were of Butterfield, Quealy and Bullard breeding and represented the cream of the sale. Mr. Bidegaray is doing a very extensive business, having sold over 700 rams to breeders in this State. Keep your eye on him and his stock.

The F. A. Mecham Estate of Petaluma reports a big demand for both registered and range rams. They have recently sold Rambouillets as follows: 24 to Henry Peters, Elmira; 36 to J. Menduca, Williams; 14 to David Squires, Hopland; 26 to Mrs. Winslow, Anderson; 11 to Wm. T. Veerkamp, Placerville; 3 to W. M. Smith, Cloverdale; 2 to J. B. Lofflin, Kelseyville; 2 to J. B. Roher, Montague; 2 to H. Jameson, Plymouth; 1 to C. Hostler, Santa Cruz. Shropshires, 4 to J. F. Ray, Albion; 2 to J. H. Clark, Laytonville; 2 to J. L. Cheney, Cazadero.

Livestock Miscellaneous.

Ruby & Bowers of Davis recently shipped several head of mules to Brazil. They believe that this is the first shipment of the kind to go from California to that South American country. But we'll bet our last shirt that it won't be the last.

L. B. Burk of the Bureau of Markets, Department of Agriculture, Washington, was at the State Fair investigating Coast livestock conditions, and particularly the purebred end. The Government plans on doing much to help breeders of registered stock.

A tract of 480 acres, part of the Fruitvale Estate, commonly known as the Kearney vineyard, 45 acres of which are in bearing Muscat and Thompson vineyards, bordered with fig trees, the remainder being in alfalfa and pasture, will be offered for sale on October 1, 1918, by the Regents of the University of California in order to aid the increased food production campaign and to obtain funds for the general betterment and more intensive cultivation of the remaining Kearney vineyard property. Invitations for bids, including a complete map of the tract and embodying all the terms and conditions of sale, are now obtainable at the offices of the Kearney vineyard at Kearney Park, Cal.

LIVESTOCK DIRECTORY.

SWINE

Poland-Chinas.

AM IN NEXT DRAFT, so will dispose of my few remaining brood sows; several young pigs and herd boar. Herd boar by Big Long Jumbo (227939), out of Black Big Bone Princess (589850). One sow by King's Chief Revenue (247983), out of Candy Kid (513-246). One sow by President (229941), out of Golden Lass (798352). Pedigrees sent same day as animals are shipped. Prices reasonable. Howard C. Peterson, Reedley, Cal., Box 396.

CLOSING OUT MY ENTIRE HERD of three year's selection. I offer herd boars, bred and open sows and gilts and spring pigs of both sexes. The best blood lines. The big, prolific kind. Write for prices today. J. H. Cook, Paradise, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshew, Hanford, Cal.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough Greenfields, Arlington Station, Riverside, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

REGISTERED POLAND-CHINAS of choice breeding and careful selection. C. C. Roberts, Rt. A, Box 411, Chico, Cal

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts, weaned boar pigs. C. B. Cunningham, Mills, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BOAR PIGS—Farrowed April, 1918, sired by Baron Duke 201st, National Grand Champion, and from Riverby Princess 3rd, litter mate to World's Champion Sow. Other spring boar pigs from same boar and 650-pound prize-winning sows—all at very reasonable prices. Natomaris Rancho, Office 906 K St., Sacramento.
Owners: Sandercock Land Co.,
In charge of sales of Natomas Lands.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

SPECIAL OFFERING — Three registered Berkshire brood sows, regular producers of large litters, now bred to outstanding boars of Rival Champion blood. Write today for full description and prices. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

FOR REAL GOOD BERKSHIRES write Frank B Anderson, B 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

SOME OPEN GILTS and young boars from Taxpayer, Burks Good Enough and King Col. strains for sale. Shipped on approval. F. W. Gardner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

SELLING OUT DOS HERMANOS DUROCS. Your opportunity. My herd boar, sows and young stock priced to sell. Hans Duveneck, Ukiah.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

CHERRY CHIEF CRITIC is our herd boar. Good enough to please any one. Stock for sale. Write us. Craig's Ranch, Owensmouth, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

NO MORE BOARS sired by my 1917 State Champion, but can furnish a few sows. J. M. De Vilbiss, Patterson, Cal.

RANCHO DEL SUR DUROCS are the large, smooth, prolific, easy feeding kind that pay. Donald H. Graham, Lancaster, Cal.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal

DUROC-JERSEYS OF THE BIG TYPE—Cholero immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento

CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J H Minto, Patterson, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P Slocum & Sons, Willows

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

FOR SALE—40 head of Holstein cows, some are registered, the rest are choice grades; 17 milking others coming fresh Ranch five miles south and five miles east Hanford. Wm. Harlan Smith, Route C, Box 181, Hanford, Cal. Phone 48F2.

TOYON FARM HOLSTEINS—Straight, deep-bodied grandsons of King Valdessa, from 30-pound dams. Good values in sons of high record heifers. Address First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B 437, San Jose, Calif

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

FOR SALE—Four-year-old registered Jersey bull, a direct descendant (25 per cent) of King's Valet, Imp. (No. 79143), and a very beautiful animal, with many records behind him. Chas. Nelson, Elk Grove, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls. Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D., Berkeley.

FOR SALE—Guernsey Bull Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

FOR SALE—Two thoroughbred registered Hereford range bulls. Offspring from these animals show exceptional qualities. Price, $250 apiece. Bryan-Bernard Cattle Co., Napa, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. O. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

300 HEAD young sheep for sale. Bred for December lambing. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

FOR SALE—One 18-month-old Toggenberg Billy, one 4-month Toggenberg Billy. L. Skadsheim, Winton, Cal.

BISHOP BROS., SAN RAMON, CAL. — Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep

25 CHOICE purebred Rambouillet bucks for sale. Alfred Kuhn, Henleyville, Cal.

HORSES.

FOR SALE—Seven head of well broken Norman horses weighing from 1500 to 1700 lbs., with harness complete, at reasonable prices. Apply or write to L. M. Edwards, Wheatland, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums"

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

Poultry for Profit

By Susan Swaysgood, Pomona.

GREEN FEEDS.

This is the time to start that garden of poultry greens, if it is not already planted. The northern part of the State has had rain to start things growing, and in the south we nearly all have irrigating water, so that both north and south should now set out a supply of green feed. Giant mustard, as I have told you before, is the very best winter greens I know of, but if you can plant a variety so much the better. Green feed is a great help in making smaller feed bills; besides, it brings better returns, keeps your flock healthy, and cleans the ground.

Those who happen to have a good big patch of mangels are in luck, too, for they are a valuable feed just now. If they can be cut up with a root cutter, so much the better. But just split in two and placed split side up in the yards, the hens will eat the last bit. Kale will be good for a couple of months yet, and about February it will be time to start the hotbeds to get more plants ready. Kale plants can be made to yield a fair crop along till April or May, but they will go to seed then in spite of all you can do, and that is too late to put in fresh plants, so that, all things considered, it is best to put in the new plants before the old ones go to seed.

HANDLING THE YOUNG CHICKS.

Quite a few have written me that they were either hatching chicks or buying just hatched chicks, so that we expect things will be moving a little. To those who are buying I want to say be careful about feeding the first few days. When chicks have been taken out of the warm incubator and sent by express they should be fed very lightly for a few days and not given feed and water indiscriminately.

RECEIVING YOUNG CHICKS.

If the chicks arrive in the morning or about midday, put them in the warm place provided for them and sprinkle a little ground oyster shell on the boards. This with a dish of water that has had the chill taken off is all they should be served until they have had time to move around a little. Towards evening sprinkle a little dry chick feed or ground toasted bread for them to pick at, just what they will clean up before going under the hover, and don't be afraid they will die of want, for every chick that absorbs the yolk has enough food to last it several days. I have heard of them being shut up in a barrel for eleven days without food and coming out strong. The greatest trouble with beginners is that they feed too much and too often. For the first ten days great care should be given to both the feeding and

HOVERING OF FALL-HATCHED CHICKS.

Take time to teach the chicks where to go to warm up, and if you teach them to understand at first the question will never need be asked, "Why do my chicks huddle up in little bunches?" They huddle up because they have not learned where to run to get warmed up when the morning is chilly, so they get together and try to warm each other. That is the one fault I have to find with fireless brooders. After the chicks leave them in the morning, they soon get that cold, damp feeling that one's clothes have that have been laid across a chair during the night and a little fog has crept in and settled on them. When they touch the skin they don't feel any too inviting. We know the clothes will soon warm up, but the chicks are not so wise, so they don't run back to the hover to get warmed up as they would if there were a smell of something warm.

I always turned up the brooder lamp in the early morning so that, instead of the brooder being colder, it was warmer and more inviting to the chicks.

SAN FRANCISCO POULTRY ASSOCIATION MEETS OCTOBER 9.

The San Francisco Poultry Association, in co-operation with the Food Administration, will hold a meeting on October 9 in the lecture hall of the Phelan building, 760 Market street, San Francisco. Doors will be open at 7:30 p. m. Everyone interested in the food problem is invited to attend. The chief object of the meeting is to encourage city-lot poultry culture. The Food Administration will demonstrate the real necessity for increased attention to this war-time aid to meat production, and experienced poultry keepers will give practical advice for the benefit of beginners in this branch of agriculture. Attention will also be directed to the poultry show of the association that is to be held in connection with the International Livestock Show, November 2-10. The following poultry judges have been engaged: For Standard classes, C. G. Hinds and W. S. Russell; and for Utility, L. W. Potts. Many letters of encouragement have been received from well-known breeders, in which they mention their intention to enter a number of fowls for our coming show. Entries will close October 15, and entry blanks will be mailed on or about October 1.

MORE AND BETTER POULTRY AT ORLAND.

The poultry show at the Orland Fair was largely local and therefore in its improvement over last year reflected the development of the industry in that district. Nearly 400 birds were shown, and attracted interested crowds. The farmers' favorites, White Leghorns, Barred Rocks and Rhode Island Reds, were the largest classes. There were small showings of White Wyandottes, Buff and Brown Leghorns, White and Black Minorcas, Buff and White Orpingtons, Silver Bright Bantams, and Golden and White Cochins. There were also some good rabbits, pea fowl, guinea fowl, ducks, geese and turkeys.

Poultry Breeders' Directory

FALL CHICKS—Book orders now for your future meat and egg supply. Write for special circular on fall chicks. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

PRIZE WINNING Rouen and colored Muscovy ducks for sale. Choice Light Brahma cockerels, $4 to $10 each. Muscovy eggs, $2 per 15. Emma Miller, Farmington, Cal

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

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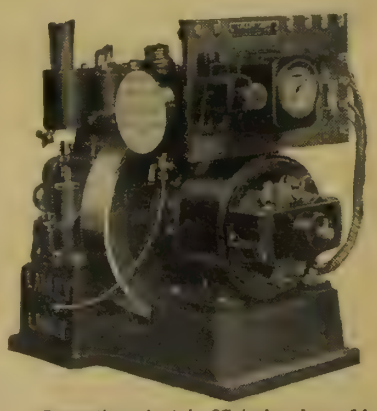

Generating plant is 27 inches long, 14 inches wide, 21 inches high. Storage battery is included in complete outfit.

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HOME CIRCLE

THE COMING DAY.

Unfurled to breeze beyond the seas
Old Glory greets the eye,
Not empire's lust but people's trust
Its starry folds imply.

For noble ends our land contends,
God bless the soldier lad!
Let freedom's might enforce the right,
The common heart make glad.

Heaven speed the day when all array
Of war's grim power shall cease,
When everywhere sea, earth, and air
Shall chant the lay of peace.

Then shall good-will all spirits fill
To bless the sons of men,
And earth shall hear through welkin clear
The angels' song again.
—George Croswell Cressey, D. D.

THE PAYNE FAMILY'S BLACK-MARK PAPER.

The Payne family was holding a council on the porch after supper. Father Payne sat in his big chair and smoked his pipe thoughtfully; mother Payne darned stockings and considered gravely the matter under discussion; sixteen-year-old Elizabeth hulled strawberries for breakfast in as grave a manner as one could use toward strawberries; and Margaret, who was the oldest and just home from college, stood against a piazza post and tapped her foot impatiently.

Perhaps, however, it is hardly fair to state that the entire family was gathered together in council. Three were absent. These were William, Paul, and Robert—aged respectively fourteen, twelve, and ten years. Frequent shrieks from the stable, where an impromptu circus was in progress, gave conclusive evidence of their whereabouts. It was just as well that they were absent, as they were the subject of the discussion on the porch.

"I really don't know what to do about it," mother was saying. "If I keep at them too much, I'll develop into a nagger, and that will never do!"

"Never!" said father, emphatically. "Better be anything than that! Still something must be done. If they keep on this way, they'll be handicapped all through life. I hoped high school would help Billy, but it hasn't."

"He is some better, dear," encouraged mother.

"It's the association," explained Elizabeth, from her corner. "Just so long as they have circuses with Jimmy Brown, who says 'hain't got no' every time he opens his mouth"—

"But, Elizabeth," remonstrated her father, gently, "you know we've gone all over the subject of association. The boys must run up against all kinds of boys and men, and learn to discriminate. Better listen to bad English than to inculcate snobbishness. Only I wish we could somehow make them acquire a real enthusiasm for correct speech. I don't like this constant correcting from every other member of the family. As mother says, it savors too much of nagging. Margaret," he finished, looking at the tall girl by the post, "I guess it's up to you. Can't college help you out?"

"It has already, dad," answered Margaret, thoughtfully. "I think I'm on the right track. I got the idea from a funny bulletin-board we had in the house last year at school, but I think it will work out here. No one's to know until tomorrow morning. Only, dad," she called back as she hurried into the house to make preparations for her mysterious scheme, "you'll have to promise to be Lord High Treasurer, for there are rewards in this idea of mine. I thought of gilt stars, but those would never do for Billy and Paul and Bob. You will accept the position, won't you?"

"Depend upon me," said the Lord High Treasurer. "I'm already installed."

The next morning the mystified and interested Payne family examined a large sheet of clean white wrapping-paper on the dining-room wall. On its left side were written perpendicularly the names of the entire family—father, mother, Margaret, Elizabeth, Billy, Paul, Bob. Opposite each name and far across the paper extended innumerable small squares. A well-sharpened pencil attached to a string dangled from a tack above the paper.

The curious Billy, Paul, and Bob refused to eat their cereal before the mystery should be explained, and loudly called Margaret until she came from the study where she and her father had withdrawn for private consultation. Billy looked on somewhat disdainfully while his sister explained the paper and its mission. It seemed rather too much like school to him, but his attention instantly improved when Elizabeth quietly whispered in one ear that it might possibly have something to do with new fishing-tackle.

"All ordinary mistakes — bad enough but not terrible—like 'it's me' and 'hadn't ought' and 'you was' will count each of us his age for every time used," explained Margaret, adding footnotes to the paper on the wall. "For instance, Billy, if dad says 'you was,' it goes into this first little square against him, and he loses forty-five. The same with mother. I'd lose twenty-two, Bobby ten, and so on. But there are two exceptions. 'Ain't' or 'ain't got no' costs ten extra. That makes twenty-four for you, Billy, you see, and fifty-five for dad or mother."

A roar from the boys at the thought of dad or mother saying "ain't got no."

"What about 'hain't?" asked Paul.

"It ought to count more," answered the manager, thoughtfully, "but I guess we'll make it count the same as its awful twin."

"Does slang count?" asked the still skeptical Billy.

"Not at present," said his sister. "Rome wasn't built in a day."

"And now," finished the Lord High Treasurer, "I'll name the rewards. They will be made the first day of August—six weeks from now. Every member of this family who has not more than five hundred against him on August 1st has his or her choice of the following articles." He consulted a paper. "A new gown, two new books, an air rifle, a new fishing-rod and flies, a league baseball, some new wireless apparatus, some new boxing gloves, a sweater, a sled, some skates, or any other article much desired and not too expensive."

"Well," said Billy, "that's all right, dad, but where do you and mother come in? Near as I can figure, you're the only ones that have a ghost of a chance, except perhaps Margaret and Elizabeth, and you a—I mean haven't named a thing four yourselves."

The Lord High Treasurer looked at mother and then crossed to her seat at the table.

"I've got to admit, Billy, that I forgot all about mother and me," he said, "but I know now. If mother and I win out, we'll go on a second honeymoon."

"Ugh!" said Billy.

So the contest for correct English in the Payne family began, and so it continued throughout the summer. Honest Margaret filled the little squares and each night tabulated their contents. It was wonderful how Billy and Paul and Bobby Payne set a guard upon their lips, and equally wonderful how critical they became of every word which fell from their parents' and their sisters' mouths. Never will Billy Payne forget the day when his college-bred sistes said "those kind" at the dinner-table, and he knocked over two chairs in his effort to get to the paper and write it in the square opposite her name. "Ain't" disappeared from the family circle, and its hated twin was seen no more.

By July 25 Billy, with 416 against him, spoke more circumspectly than ever, and finally talked no more than was absolutely necessary. By July 31 he was jubilantly inspecting new fishing-tackle, while his younger brothers were trying to decide between boxing gloves and an air rifle.

The morning of August 1 found father and mother Payne packing their grips for the second honeymoon. That same day at lunch Bobby came to the table late but wholly amused.

"What do you think, Margaret?" he cried. "Jim Brown's mother has a black-mark paper for the Brown family over the kitchen-table, and Jim's working for squirrel traps!"

"Well," said Margaret, after Bob's information had been thoroughly commented on, "it's August and we've all won out, so I suppose the paper had better come down."

"No, sir," cried Billy, "I say keep it up till Christmas anyway. It's not half bad, after all!"—Mary Ellen Chase in the Christian Register.

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Owing to difficulty in obtaining raw materials and labor, and the rising costs of both, piano manufacturers raised their prices to us several times in the past year and a half—we were forced to raise our prices accordingly. The manufacturers now warn us that, as their production has been cut down by the War Industries Board to a small fraction of their original output, they cannot manufacture pianos on a quantity basis and sell at a quantity price—that the prices of the small number of pianos they will be permitted to make will soon increase enormously.

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LOS ANGELES, CALIFORNIA

Agricultural Summary

An Unprecedented Cattle Market.

Receipts of cattle on the Chicago market for the month of August were the largest of any year since 1910, yet prices were not only the highest on record for August but some classes made new high records for any time. The marketward movement from some sections was swelled by drouth-enforced liquidation, while the unprecedented prices proved another strong magnet in attracting supplies to market centers. Receipts locally included approximately 60,000 western range cattle, the largest August receipts of this class for nine years. It was in quantity, however, rather than in quality or condition that the month's receipts excelled. The supply, while yielding a big quota of cattle of suitable weight and flesh condition for Government contract beef, contained probably the smallest proportion of choice and prime corn-fed cattle included in a run of similar volume for years. Top hogs, touching $20.30 at the close of the month, sold 30c above the former yard record, scored in August, 1917, and stood $8.75 per cwt. above the highest price ever recorded prior to last year.

The Boom in Butter.

It is on—and has been for some time. It is now above the 60c mark and is still rising in the price thermometer. The rise is simply the result of the operation of the law of supply and demand. Current production is entirely inadequate to meet consumptive demand, and storage stocks, both here and in the East are being drawn upon heavily. Furthermore, Uncle Sam has commandeered 60 per cent of the storage stocks. All this makes the prospect look roseate to the dairyman, despite the difficulties of scarce feed and a lessened labor supply.

New Crop Limas, 12c.

After a careful inspection of the lima bean fields in all directions, the California Lima Bean Growers' Association is making its first offering of the 1918 crop at 12c a pound. Prices on future sales, it is announced, will be ruled by the law of supply and demand. The lima bean yield will average normal. The Los Angeles Chamber of Commerce estimates the Southern California bean crop at 9,000,000 bushels, with a value of $40,000,000. California grows nearly half the beans produced in the United States.

Government to Control Cotton.

Steps looking to the fixing of prices for standard grades of raw cotton have been taken by the Government in the naming of two committees—one to investigate the entire cotton situation and the other to control during the period of this inquiry the distribution of cotton by purchasing all of the staple needed by the United States and the allies at prices to be approved by the President.

East Eager for California Grapes.

Fresno grapes are bringing good prices in Eastern cities this season. Last week some shipments of Malagas brought from $2,300 to $2,500 a car in New York and Philadelphia, and from $1,500 to $2,100 at points further west. The damage done by the recent rains has resulted in a serious shortage of shipments, with the usual effect on prices.

A Hog Top Price of $20.90.

The Chicago top price of $20.90 on hogs reached this month is the highest on record in that market. It is interesting to note that the highest prices reached by hogs on the Chicago market for the past six years have been in August, September, or October, when the new crop hogs are barely ready for the market and the old crop is mostly in.

Help Sought for Barley Growers.

Representatives of California barley growers have arranged a conference with U. S. Food Administrator Hoover to devise ways and means for the sale of the State's surplus of 750,000 tons of barley.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, Sept. 25, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 2	2.09

BARLEY.

Buyers believe that barley will be cheaper and are not offering more than $2.15 and $2.20. Some small sales are reported at the latter figure.

Choice feed, per ctl	$2.15@2.20

OATS.

There was little demand for oats this week and the market was weaker in sympathy with barley.

Red feed, per ctl	$2.50@2.55
Red seed	2.90@3.10

CORN.

Corn is nominally unchanged. The only corn on this market at present is Egyptian. (First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$4.20@4.25
Milo maize	3.95@4.05
Egyptian	4.05@4.10

HAY.

Receipts of hay for the past week were only 670 tons against 1331 tons the previous week. The heavy decrease is accounted for by the heavy rains of the previous week. This rain went through piles of baled hay from top to bottom and rendered most of it practically valueless. Even with these small receipts there is no demand on this market, every one seeming to have as much hay as they require for the present.

Wheat No. 1	$23.00@25.00
do, No. 2	20.00@22.00
Choice tame oat	24.00@26.00
Wild oat, new	19.00@23.00
Barley, new	19.00@23.00
Alfalfa, first cutting	16.00@20.00
do, second cutting	22.00@24.00
Stock	18.00@21.00
Barley straw	50@80c

FEEDSTUFFS.

Rolled barley and rolled oats were weaker this week in sympathy with the weakness of the whole grain and the prospect of early range feed.

New alfalfa meal, per ton	$33.00@34.00
Coconut cake or meal	45.50
Cracked corn	86.00@88.00
Oilcake	78.00
Rolled barley	49.00@50.00
Rolled oats	57.00@58.00
Bran, carload lots in S. F.	23.75
Mixed feed, do, do	25.00
Middlings, do, do	25.75

POTATOES, ONIONS, ETC.

The vegetable market has resumed almost its normal condition after the rains and most descriptions have been benefited by the wetting. Potatoes and onions are unchanged in price although sweet potatoes are somewhat lower. Lettuce this week is selling by the dozen head instead of crate. Green corn is almost off the market and practically all coming in is of very poor quality. Celery was plentiful this week, with very little demand. Cucumbers are lower.

Peas	7@9c
String beans	5@8c
Garden beans	7@8c
Wax beans, per lb.	5@6c
Carrots, per sack	75@85c
Rhubarb, San Jose, per box	$1.00@1.25
Summer squash	75c@$1.00
Cucumbers (hothouse), per box	None
do, Alameda, lugs	60@75c
Eggplant, per box	75c@$1.00
Lettuce, Sacramento, doz	15@25c
Celery, bunch	20@25c
Tomatoes, per crate—	
Merced	Nominal
Bay	$1.25@1.50
Potatoes—	
Garnet Chile, on street	None
Whites	$2.25@2.50
Sweets, per lb.	4c
Onions—	
River Reds	None
Yellows	$1.50@1.75
Australian Browns	1.50@1.75
Garlic, new	16c
Green corn, Alameda, per sack	Nominal
Okra	5@7c

BEANS.

The old crop is being cleaned up better than was anticipated and probably nearly all of it will be sold by the time the new crop is ready for market.

Bayos, per ctl	$ 7.25@ 7.50
Blackeyes	6.75@ 7.00
Cranberry beans	10.25@10.50
Limas (south, recleaned)	12.00
Pinks	7.10@ 7.30
Red kidneys	Nominal
Mexican Reds	7.25@ 7.40
Tepary beans	7.50@ 8.50
Garbanzos	8.00@ 8.75

POULTRY.

The market is easier on hens, fryers and young roosters, although it is stronger on some other descriptions, especially on squabs.

Turkeys, live, young spring, lb	36@37c
do, old	32@33c
do, dressed, old	34@38c
Broilers, 1½ to 2 lbs	39@42c
do, 1¼ lbs	45c
do, ¾ to 1¼ lbs	47c
Fryers	37@38c
Hens, extra, per lb., colored	36c
do, Leghorn	32c
Smooth young roosters, per lb. (3 lbs. and over)	38c
Old roosters, colored, per lb	24c
Geese, young, per lb	27@28c
do, old, per lb	25c
Squabs, per lb.	50@52c
Ducks	29@30c
do, old	25@27c

BUTTER.

Extra butter passed the 60c mark this week, going to 63c on Monday. Later it receded to 61½c and was strong at that point. Prime firsts touched 56c, but immediately receded to 55c. The exchange adopted a new scale of commissions on butter, which went into effect September 24, as follows:

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	60	60	62	63	61½	61½
Prime 1st	55	55	55	55	55	55
Firsts	Nominal					

EGGS.

Eggs, both extras and extra pullets, took a somewhat sensational drop last Thursday, but they developed strength the next day and extras closed the week at the highest price of the season. The cause of the drop is said to have been a temporary overstock in this market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	58	58½	59½	60½	61½	63
Extra 1sts	Nominal					
Firsts	Nominal					
Extra pullets	51½	51½	52	52	54½	55½
Market Price						Discount
Up to 46½						6 %
From 47 to 50						7½%
50½ to 53½						7 %
54 to 57½						6½%
58 to 62½						6 %
63 to 68						5½%
68 to 75						5 %
75½ to 83						4½%
83½ to 93½						4 %

CHEESE.

Outside of California flats, which showed weakness, the cheese market was strong this week, with advances scored on Cheddars and Oregon triplets.

California Cheddar, flats, fancy	30½c
Fancy California flats, per lb	30½c
First California flats, per lb	28c
California Y. A. fancy	31c
Oregon triplets, fancy	32½c
Oregon Y. A. fancy	30½c
Monterey cheese	24@27c

FRESH FRUITS.

Cantaloupes are about finished. The stock on the market is poor and practically without demand. Grapes and apples continue to be the leaders, with a standard price of from $1 to $1.25 for the first. Berries have not yet recovered, although there are quite a few shipments of strawberries being made.

Apples	$1.50@2.50
Peaches, 4-box crate	.75@1.25
Figs, black, per box	None
do, double layer	$1.00@1.25
do, Single Row Whites	75c@$1.00
Strawberries, per chest	$7.00@10.00
Blackberries, per chest	Nominal
Raspberries, per chest	$8.00@10.00
Plums	$1.00@1.50
Cantaloupes, flats	None
do, ponies	$1.00@1.25
do, standard	1.25@1.50
Watermelons, per lb	1@1½c
Pears, Bartlett, per box	$1.50@2.50
Grapes, seedless	$1.25
do, Malaga	$1.00@1.25
do, Fontainbleu	None
do, Tokay	$1.00@1.25
do, Isabella	1.00@1.25
Persimmons	1.25@1.50
Alligator Pears	3.00@3.50

CITRUS FRUITS.

Oranges and grapefruit continue strong with higher prices demanded for the latter. Lemons are still weak.

Oranges	$7.50@8.50
Lemons, fancy	4.50@5.50
do, choice	3.50@4.00
do, standard	3.00@4.00
Grapefruit	5.50@7.00

DRIED FRUITS.

The loss by the recent rains is creating a heavier demand for other dried fruits and those whose prices have not been fixed by the Government. These are being firmly held. Last week's prices still stand.

Apples	13@14c
Pears	11@14c
Prunes, graded, price to growers:	
gain in dip	11c
Prunes, graded, prices to growers:	
20-30, inclusive, per lb	15c
31-40, inclusive, basis	10c
42-51, inclusive, basis	9½c
52-61, inclusive, basis	8½c
62-71, inclusive, basis	8½c
82-90, inclusive, basis	8c
92-100, inclusive, basis	8c
102-121, inclusive, per lb	4½c
122 and up, per lb.	4c
Apricots	12@13c
Figs	13@17c
Raisins—	
Muscats	5½c
Thompsons	6½c
Sultanas	6½c

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop at mill	7.00

HONEY.

The honey crop of this State is pretty well cleaned up, but the warm weather following the recent rain may induce the bees to collect more honey. If they do, the additional honey will doubtless sell at lower prices. Dealers believe the exportation of honey is over for the present year.

HIDES.

Taken off Aug. 1 to Sept. 1, all weights: No. 1, 19c; No. 2, 17c; No. 3, 16c; bulls and stags, No. 1, 15c; No. 2, 13c; kips, No. 1, 21c; No. 2, 19c; calf, 31@33c.

Horse—Dry, per lb.: No. 7, large, $2.25@2.50; medium, $1.75@2.35; small, $1@1.50.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, Sept. 24, 1918.

There was a noticeable advance on grapes of all varieties this past week, in practically all markets, each succeeding day reporting a higher market. Condition on arrival seems to be overlooked. The damage to the Tokay crop confirms the estimate of last week and probably in the Lodi district will exceed 50 per cent. To date, rain-damaged stock has not appeared upon the market and it is problematical as to how it will be accepted by the trade. If berries give any evidence of keeping quality, the fruit will not affect the market, but if badly decayed, we predict will hardly pay freight charges, though we do not look for any serious effect upon sound stock, but any quantity of this rain damaged stock may temporarily effect the market.

The Bartlett pear market was a big surprise good stock selling freely at $4.00 and better; some cars of fancy grades from the Tehachapi selling in excess of $5.00.

The railroad and terminal congestion in the Eastern markets that affected deliveries a week ago, has been greatly relieved and stock is now moving with practically no interference.

There is quite a demand for wine grapes in most of the markets, but some of the stock is showing up wasty and hardly bringing freight charges. Berries, any portion of which can be made into wine, are selling at prices that are netting the growers from $50.00 to $75.00 a ton.

Practically all deciduous fruits are cleaned up, with the exception of late clings, which have met with a surprisingly strong demand and though only a small proportion of the crop has been packed for Eastern shipment, a sufficient amount has arrived in the East to indicate that the trade was in a position and ready to take care of a large block, to good advantage.

The light supply of Tokays has had a tendency to boost prices for Malagas. The stock is arriving in most cases in very fine condition. About 80 per cent of the crop has been harvested and what is yet to be shipped, if not affected by later rains, ought to sell at prices equal to Tokays.

The Emperor season has opened with a very sharp demand. About 50 per cent of the crop will be packed in sawdust and the balance in crates and lugs. The stock is of good color and of excellent quality. We anticipate a sharp demand throughout the season.

Following are the averages for the week: New York: Pears—Bartlett, $1.20; Winter Nellis, $2.75; B. Hardy, $3.63; B. Clairgeau, $3.62. Peaches—Phillip Cling, $1.82; Salway, $1.92; Levi, $2.52. Grapes—Malaga, $2.15; Tokay, $2.40; Muscat, $1.88; Black Prince, $1.49; Cornichon, $1.77; Alicante Bouchet, $2.06; Zinfandel, $1.58.

Boston: Peaches—Phillip Cling, $1.40; Salway, $1.79; Levi, $2.05. Pears—Bartlett, $3.67; B. Hardy, $3.50; B. Clairgeau, $4.00. Grapes—Tokay, $2.62; Muscat, $2.02; Malaga, $2.26; Cornichon, $2.37. Plums—Kelsey, $2.02; President, $2.65; Gros, $2.07; Grand Duke, $2.45.

Chicago: Grapes—Malaga, $2.01; Zinfandel, $1.32; Alicante Bouchet, $1.50; Tokay, $2.13; Rose Peru, $1.35; Muscat, $1.44. Pears—Bartlett, $3.90; B. Hardy, $2.90; Heath Cling, $1.30; Phillips, $1.55; Levi, $1.80.

Total shipments, by cars, from August 13th to 20th, inclusive: 21 peaches, 32 pears, 1317 grapes. Total shipments to date, 1918, 15,421 cars. Total shipments to date, 1917, 14,268 cars.

Special Citrus Market Report

San Francisco, Sept. 25, 1918.

In the East, California Valencias are in strong demand, and the supply is insufficient for trade requirements. Sizes 200 and larger are bringing premium prices. The best grades are selling at $8.95 to $10.50, choice at $8.05 to $9.75, and standards down to $6.50 a box. At California shipping points the market is on a basis of $7.50 to $7.75. Holdings are being closed out so that Valencias will be out of the way when the Central California Navel crop comes on in November.

The lemon market, which was down, shows some improvement, but it pays to ship the better grades only. The foreign stock arriving in New York has been too long in transit and only a fraction of the shipments is fit to be put on the market.

The total shipments from California for the year are: Oranges, 16,432 carloads; lemons, 5,588 carloads. Last year to date they were: Oranges, 14,182 carloads, and lemons, 7,604 carloads.

LOS ANGELES

Los Angeles, Sept. 24, 1918.

BUTTER.

There has been another sharp advance in this market since our last review. Receipts continue light, only 248,800 pounds for the week against 295,700 pounds the same week last year. Current receipts are now running lighter than the requirements of the trade and this, coupled with an advance of 3½c on extras in Chicago and 4c in New York, caused an advance here on extras up to Monday of 4c, and not much to be had at this advance.

We quote:

California extra creamery.....58c
do, prime first.....56c
do, first.....55c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	54	54	55	58	58	58
1917—						
Extra	44	44	44	46	46	46

EGGS:

There was quite a picking up in the receipts the past week, and under better offerings the market broke 2c on extras and 1c on pullets up to Monday. Case count unchanged. Prices had gotten so high as to check consumption. Receipts for the week by rail, 678 cases against 788 cases the same week last year. As the arrivals by truck continue to run about four times as large as the railroad receipts, the supply for the week was 3390 cases against 3940 cases the same week last year.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	57	57	55	55	55	55
Case count	54	54	54	54	54	54
Pullets	51	51	51	51	51	50
1917—						
Extra	48	48	49	49	49	50
Case count	47	47	47	47	47	47
Pullets	40	39	40	40	40	40

POULTRY.

There is no change in this market from a week ago. Receipts continue light and so is the demand.

The following prices were agreed upon last Friday, September 20, and hold good until the coming Friday:

Broilers, 1@1¼ lbs.....35c
Broilers, 1½@1¾ lbs.....35c
Fryers, 2@3 lbs.....31c
Roasters (soft bone), 3 lbs. and up....31c
Stags and old roosters, lb.....20c
Hens.....24@31c
Tom turkeys.....32@35c
Ducks.....22@28c
Geese.....15c

VEGETABLES.

Potatoes were a little firmer the past week under lighter receipts, and demand is good. Onions in good supply; slow of sale and lower. Cabbage steady but dull. Tomatoes were in good demand. String beans and lima beans steady. Bell and Chile peppers slow of sale, but market is steady.

We quote from growers—

Bell peppers, per lb.....2½@3c
Chile peppers, per lb.....2½@3c
String beans, per lb.....5@6c
Lima beans.....4@5c
Potatoes, local per lug.....75c@$1.00
do, do, per cwt.....$2.00@2.25
do, northern, per cwt.....2.50@2.90
Sweet potatoes, per lb.....2½@3c
Garlic, per lb.....8@9c
Onions—Stockton Yellow Danvers, cwt.....$1.65@1.80
Onions, White Globe, per cwt....1.85@2.15
Onions, Small Bermuda, per crate..80@90c
Cabbage, per 100 lbs.....$2.00@2.25

FRUITS.

Offerings were good, and so was the demand for all fancy stock. Grapes and pears showed most life, though peaches and plums sold very well. Figs steady. Quinces slow sale, but steady. Apples coming in more freely but sales slow.

Figs, Black Spanish, 7-lb. box.....35@50c
do, White, 7-lb. box.....30@50c
Peaches, freestone, per lug.....$1.00@1.25
do, clings, per lug.....1.25@1.50
Pears, local, per lb.....2@3c
Pears, Mountain.....3½@4c
Nectarines, per lb.....4@5c
Grapes—
Malagas, per lb.....2½@3c
do, Muscat, per lb.....2@2½c
do, Liberty, per lb.....2½@3c
do, Rose Peru, per lb.....2½@3c
do, Tokay, per lb.....4@4½c
do, Cornichon.....4@5c
Apples, Bellefleur, 4-tier.....$1.65@1.75
do, 3½-tier.....1.70@1.80
do, Gravenstein, 4-tier.....2.25
do, do, 4½-tier.....2.00
do, Bellefleurs, local, per lb.....2@2½c
Avocado pears, small, per doz...50c@$2.00
do, large, per doz.....$4.00@5.00
Plums, per lb.....5@6c

BERRIES.

There were more strawberries in the past week, and they were slow sale and a little lower. Blackberries rather scarce, steady and in fair demand. Raspberries scarce and higher.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate....$2.00@2.25
Poor to choice, 30-basket crate 1.50@1.65
Blackberries, 30-basket crate.... 2.50@3.00
Raspberries, 30-basket crate..... 3.00@3.50

MELONS.

Market was well supplied the past week with watermelons, and they met with a fair demand at steady prices. Casabas continue to come in freely and were slow of sale and weak. Cantaloupes are in only moderate supply; demand good and market steady. Honeydew melons also sold fairly well.

Cantaloupes—
Tip Top, home-grown standard crate.....$1.15@1.25
do, do, pony crate.....70@80c
do, do, jumbo crate.....$2.50@2.75
Columbia, jumbo crate..... 2.75@3.00
Paul Rose, standard crate.....$1.25
Casabas, per lb.....1½@2c
Pineapple, standard crate.....$1.15@1.25
Watermelons, per 100 lbs..... 1.00@1.25
Honeydew melons, 16-inch crate 1.00@1.10
do, jumbo crate..... 3.25@3.50

HAY.

Not much in the past week and very little wanted. A few cars of alfalfa were taken by the dairy people, but they were the only buyers on the market. No demand for horse hay. The market is the dullest for years. Light receipts, however, prevent a break in prices.

We quote f. o. b. Los Angeles—

Barley hay, per ton.....$24.00@26.00
Oat hay, per ton..... 26.00@28.00
Alfalfa, northern, per ton.... 21.00@22.00
Alfalfa, local, per ton..... 22.00@24.00
Straw, per ton..... 9.00@10.00

BEANS.

There was a fair demand for limas and blackeye beans the past week. All other varieties are neglected.

We quote from growers—

Limas, per cwt.....$11.50
Large white, per cwt..... 10.00
Small white, per cwt..... 10.00
Pink, per cwt..... 7.50
Blackeye, per cwt..... 6.25
Tepary, per cwt..... 8.50

COTTON.

There was less life in this market the past week than for some time. The announcement that the Government had decided to fix the price of cotton and control its distribution took the trade by surprise, and little was done. But with the opening of the current week there was more disposition to take hold. October closed in New York at 31.99c and December at 31.53c. In New Orleans October closed at 30.42c and December at 30.40c.

SERVES YOU RIGHT

It was right after the recent heavy rains Mr. Fox, our horticultural editor, was up in Napa county. He visited a fruit grower who had ten tons of prunes in trays. The weather was threatening and Mr. Fox knew that those prunes needed to be stacked pretty lively. But did he merely advise the farmer what to do? Not much! He knew that labor was scarce, so he pulled off his coat and helped stack those trays.

Not an unusual case, either. Mr. Leachman cried a sale for one of the breed associations at the recent State Fair. Mr. Whitten recently helped a swine breeder immune his hogs when they were threatened with cholera. Why, the different ones on our staff are helping our subscribers constantly, both here in the office and out in the field.

For our men are not theorists and chair-warmers. They are real, practical farmers, with tanned hands and calloused palms. They have worked out personally the very problems you are tussling with, and they are ready and anxious to serve you just as they are serving others.

Why fight your battles alone? Hundreds of farmers have been able to increase their profits through the money-making methods described in our columns, and the advice and help given by our field men. Why not you?

If we haven't covered the problems that are troubling you most, tell us what they are. We will spare neither time, labor nor expense to give you the best possible information or advice on the subject. You will find the Rural Press not a cold, heartless institution, but a personality, warm and sympathetic, which will cheerfully give you "help for every need."

And that's why people swear by the paper. That's why they can't afford to get along without it, no matter how much they find it necessary to economize in other ways.

Special Livestock Market Report

San Francisco, Sept. 25, 1918.

CATTLE—Small lots of cattle continue to be offered in California with a fairly steady market and with cow stuff commanding somewhat better prices. Several shipments of good size arrived from Oregon points. The quality was good, though they were rather light in weight. Nevada also contributed some good cattle this week.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11½@12c
No. 1, weighing 1200 to 1400 lbs.11½@11¾c
Second quality.....10@10½c
Thin.....8@9c
Cows and heifers—
No. 1.....7½@8c
Second quality.....6½@7c
Common to thin.....4@5c
Bulls and stags—
Good.....6@7c
Fair.....5@6c
Thin.....4@5c
Calves—
Lightweight.....11c
Medium.....10c
Heavy.....8½c

SHEEP—Sheep and lambs are steady, with supply taking care of all demands. Full quotations are paid by the trade.

Lambs—
Yearlings.....12@12½c
Milk.....14@14½c
Sheep—
Wethers.....11½@12c
Ewes.....9@9½c

HOGS—Hogs are coming in more freely than for some time past and the quality of the receipts is much improved.

Hogs—
Hard, grain-fed, 100@140.....18c
do, do, 140@300.....18½c
do, do, 300@400.....18c

DRESSED MEATS.

Steers, No. 1.....20@21c
do, second quality.....19½@20c
Cows and heifers.....16@18c
Calves, as to size, etc.....18@21c
Lambs—
Suckling.....23@25c
Yearling.....21@22c
Sheep—
Wethers.....18@20c
Ewes.....27@28c
Hogs.....27@28c

Los Angeles, Sept. 24, 1918.

CATTLE—Good, fat steers continue scarce, firm, and are wanted at full quotations. A lot of thin and medium stuff is being offered both from California and Arizona, however, and the market for it is dull and weak.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs.....$9.00@12.00
Prime cows and heifers..... 7.50@ 8.50
Good cows and heifers..... 7.00@ 7.50
Canners, per cwt..... 5.00@ 5.50
Calves, per cwt..... 8.50@ 9.50

HOGS—Few are coming in, but at present high prices killers are taking but few. Fresh pork is so high as to curtail consumption, hence the lighter demand.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225@275 lbs..... 16.00@17.00
Light, 175@220 lbs..... 16.50@16.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—There was a better tone to this market the past week. Choice muttons and fat lambs were in fair demand. Poor and medium stuff, however, was both dull and weak.

Per cwt. f. o. b. Los Angeles—
Prime wethers.....$9.00@10.00
Prime ewes..... 8.50@ 9.50
Yearlings..... 9.50@10.50
Lambs.....15.00@16.00

North Portland, Sept. 23, 1918.

CATTLE—The cattle supply today is 110 head and 150 calves. The percentage of strictly good cattle remains small. Prime steers, $12.00@13.25; good to choice steers, $11.00@12.00; medium to good steers, $9.75@11.00; fair to medium steers, $8.25@9.25; common to fair steers, $6.00@8.25; choice cows and heifers, $8.00@9.25; medium to good cows and heifers, $6.00@7.25; fair to medium cows and heifers, $5.00@6.00; canners, $3.00@4.00; bulls, $5.00@8.00; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—1750 head of hogs came forward over Sunday. While the run is heavy, the quality is all that could be desired, trading is brisk and prices are well maintained. Prime mixed, $19.50@19.75; medium mixed, $19.25@19.50; rough heavies, $18.50@18.75; pigs, $16.00@17.00; bulk, $19.50.

SHEEP—The arrival of sheep and lambs over Sunday was 1050 head. Trade is fairly good and prices are generally steady. Prime lambs, $13.50@15.00; fair to medium lambs, $11.00@12.00; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@9.00.

Classified Advertisements

MISCELLANEOUS.

FOR SALE—Pumping plant: 8-h.p. engine, 4-in. centrifugal pump, 160 ft. 0 in. 6-inch pipe, 550 ft. 0 in. pipe, one 45 deg.-90 deg. elbows. Plant can be seen in operation any time. Inquire or write G. W. Heer, Santa Ynez, Santa Barbara county, Cal.

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All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works,** 160 Eleventh street, San Francisco.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

FOR SALE—Holt 30 tractor, Fire Bottom Benicia plow, 28-inch disks. Also 8-foot double disk harrow. Price $2,500. Fair Oaks Ranch, Willits, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

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COUNTRY LANDS.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dept., Chico, California.

SANTA BARBARA HOME FOR SALE—Beautifully situated. Shade and fruit trees. Almost new house, 7 rooms, bath and toilet; 1½ acres on paved road near old Mission. Might exchange for part. No agents. Price $6500. P. O. Box 567, Santa Barbara.

WANTED—Reliable man to rent 30-acre ranch near Livingston, Cal. Must understand vines and give good reference. Take possession November 1st. For particulars address H. L. Shultz, Livingston.

WANTED TO RENT—A dairy farm with cows and equipment. Must be good proposition and up-to-date methods used, where man of experience can show ability. Dairyman, care Pacific Rural Press.

ORCHARD FOR RENT—Fifty acres apples; forty acres Bartlett pears; thirty acres bean land. Paradise irrigation district. Dr. C. A. Oliver, Chico, Cal.

SEEDS AND PLANTS.

WANTED—1918 sweet and bitter hard shelled almond seed, suitable for nursery planting. Seed must not be bleached. Submit quantity, sample, and price per pound. Fancher Creek Nurseries, Fresno, Cal.

WANTED.

WANTED—Position as superintendent or foreman on fruit or general farm by married man. Splendid executive ability, practical, experienced. References furnished and required. Address X. Y. Z., General Delivery, Atwater, Merced Co., Cal.

OWNER OF 360-ACRE MOUNTAIN RANCH desires responsible tenant. Cash or shares. Enclose stamp for particulars. Address, F. B. Plant, 178 Kempton Ave., Oakland.

POSITION WANTED to take charge of a hog ranch by a single man, experienced in handling registered stock. Hans Duveneck, Ukiah, Cal.

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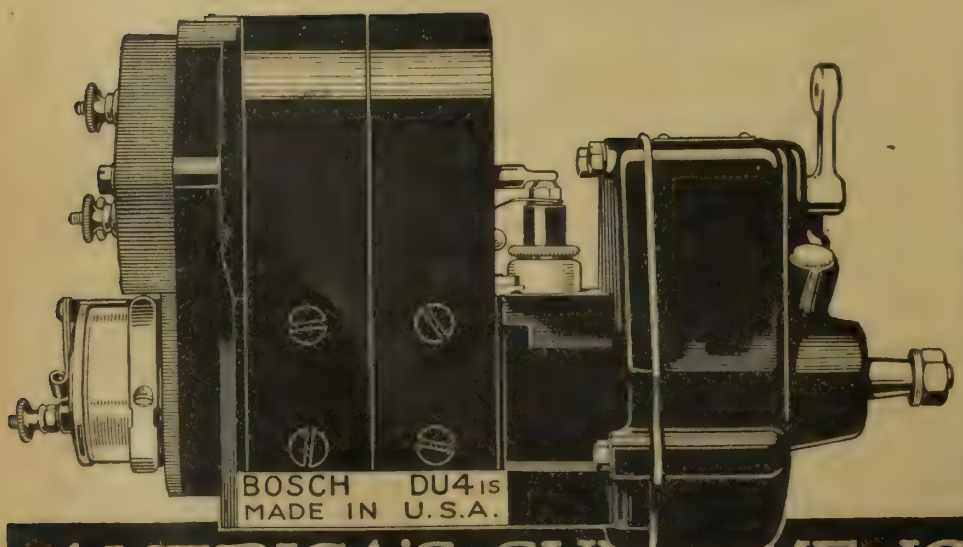

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Vol. XCVI—No. 14 Forty-eighth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO OCTOBER 5, 1918 LOS ANGELES

T.I.C. Stato Library

ALL'S FAIR IN WAR

Written for Pacific Rural Press
By R. H. Whitten

DOWN in Los Angeles a man died the other day. Residents of that healthful city won't admit that the grim reaper ever swishes his sickle in that direction, but this man certainly had been put to the by-by.

Elijah was sent down with his chariot to escort the deceased to the realms above, and their course took them over Exposition Park. Elijah mistook the place for Paradise, and was so captivated by its appearance that he decided to stop for a few minutes and give it the once over. So he started to wander one way and the deceased went another.

The latter soon met C. R. Thomas, the live-wire manager of the Livestock Department of the Liberty Fair, who took him in tow and, in his customary enthusiastic way, pointed out the interesting features as they walked slowly along the flower-lined paths.

When Elijah was ready to ascend upward he called to his companion, but the latter very emphatically refused to accompany him. "Nothing doing," he said. "Heaven has no attraction for me now. It can't beat this place, and I'm going to stay here."

This story is not far out of the realm of possibilities, for the attractions at Exposition Park are almost enough to make a dead one jump up and down with delight. The park is one mammoth flower garden, and with its artistic buildings, its pretty walks and drives, it constitutes an ideal place for such an event. It is almost in the heart of the city, and is reached by six different car lines.

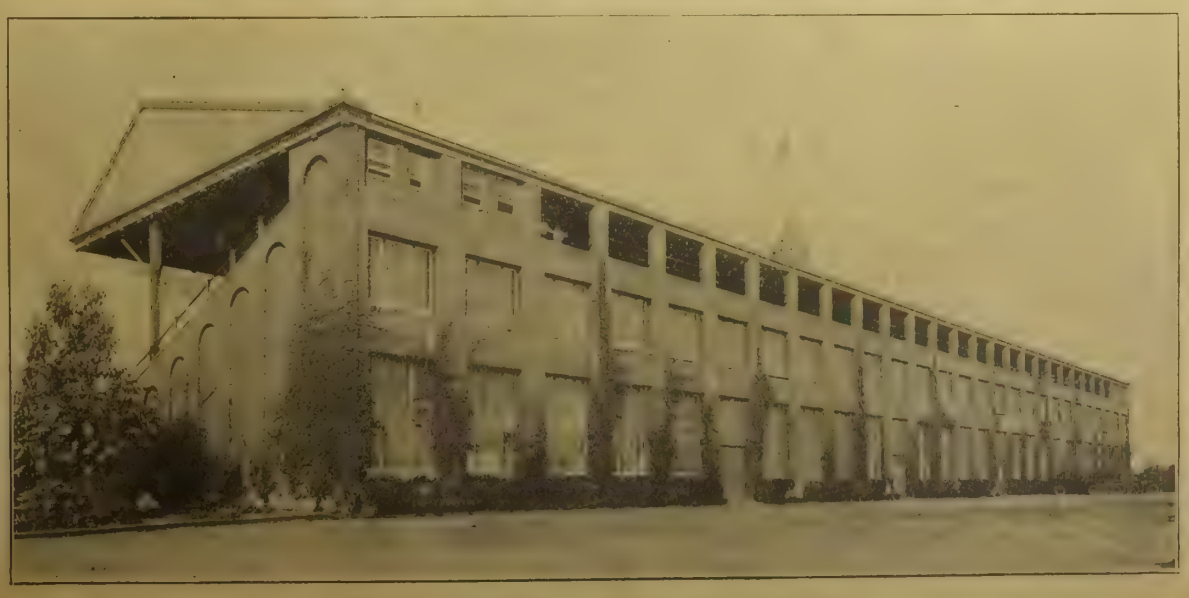
"Doubtless," an old lady remarked, as she bit into a luscious peach, "the good Lord could have made better fruit, but He never did." Doubtless, we say, He could have made a more attractive place to hold a fair, but He never did.

Everything about the grounds is just as complete and convenient as it is attractive. There are several substantial brick buildings for housing agricultural and horticultural exhibits; there is a one-mile race track with a concrete and steel fireproof grand stand; there are new barns and sheds for livestock, nicely arranged, electric lighted, and all fronting on a paved street that has been named Livestock Avenue.

Yes, more fairs than ever in war time. Uncle Sam encourages them to speed up the production of crops and livestock. He even supports them by sending wonderful exhibits direct from Washington. He wants you to attend, to get new inspiration and to learn improved methods for your work.

You can't afford to miss the great Liberty Fair to be held at Los Angeles, October 12 to 26, and especially the Livestock Show, October 20 to 26. It is a call of both duty and opportunity.

Main Exhibit Building, which will house the Food and School Exhibits at the Liberty Fair.



Rear view of the steel and concrete fireproof grand stand.

Wonderful Food Exhibit.

During the fair the present State Exposition Building will be known as the Food Products Building. Approximately 10,000 square feet of space will be given over to food exhibits. The local exhibits will show what California is doing to help win the war, and the Government exhibit will interest housewives along economic lines and give them many hints that will chop down the high cost of living.

Fruits and Flowers.

In the Horticultural and Floricultural Building will be housed the best of the fruits California has to offer; the finest of its flowers. The horticultural exhibit will include deciduous and citrus fruits, semi-tropical fruits, berries, nuts and all of the different dried and preserved fruits. Prizes aggregating nearly $5,000 in money have been appropriated for this department.

On Thursday, Friday and Saturday of the first week a dahlia show will be held for flowers grown in California. It is expected that at least 50,000 individual blooms will be exhibited, and that it will be the largest exclusive dahlia show ever held in the West.

During the second week there will be a general flower show for all classes and varieties raised exclusively in California. There will be exhibits from commercial and private growers—mostly from the latter—and blooms will be shown from some of the finest estates in California.

Implements and Tractors.

The Agricultural Implement and Farm Tractor Pavilion is 328x60 feet, and will house the greatest exhibit of farm implements that has ever been made on the Coast. On account of lack of space there will be no demonstration of field tractors, but many firms will install tractors on blocks and run them on their own power.

Uncle Sam's Part.

The Government exhibit, di-

(Cont. on page 376.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

OUR ARC OF THE CIRCUIT.

WE ARE giving prominent attention in this issue to bombardment of the public mind preparatory to a major movement upon the west-front of the Animal Industry of the United States. The general strategy is to break in both flanks of the Sierra Nevada, drive irresistibly from the centre and before the winter closes in roll back all the champion middle-horns, short-horns and no-horns upon the Mississippi Valley—just as our boys and their allies are rolling back much less valuable cattle, the Hohenzollerns, upon the Rhine. Foch does not say much about his plans with the Huns, but we have no objection to stating ours in detail and to say to the public boldly—"You just watch us go through!"

This is the first year that the Pacific Coast has entered fully into the national aspects of the pure-bred animal industry. We have sported with more or less success upon the local edge of it and we have sent successful scouting parties to the very center, as national captures by California champions have shown, but our unbeatable champions have so multiplied both by introduction and home-breeding and our superiority of natural conditions for breeding and feeding has been so fully demonstrated, it is no longer possible for California to pose as the sunset of the animal industry when we are clearly entitled to function as the high-noon day of it. And so we marked out on the map of the United States a great Western circuit—as was claimed with much geographical and animalistic detail in the Pacific Rural Press of March 9, 1918. Thus early was our 1918 campaign for supremacy in the livestock industry set forth: thus early did we announce that on this new far-western front of livestock movement California was to mass shock troops on two sectors, Los Angeles and San Francisco, and champions from the more northerly stretches of our livestock domain were to rally at Portland—and thus from three points the Pacific Coast interests would flank and charge through the Sierra and sweep forward across the greater half of the country from its western rim to the very center of it at the Chicago International.

THE LIBERTY SHOW IN LOS ANGELES.

AND NOW the time is near for the opening of this campaign. Our right wing will be moving forward from Los Angeles with the opening of a general southern State Fair, October 12 to 26—the special feature of which will be the Liberty Livestock Show, October 19 to 26. Other writers on other pages will satisfy the reader that this event has been developed with great skill and attractiveness and that it will be an opportunity to secure wisdom for safe use of money and land in livestock production and to fill one's soul with enthusiasm and enjoyment—without which industrial activity is dead as the recent fighting of Hindenburg! And the splendid effort which has been put forth to secure for the Liberty Show all the material and inspiration which are needed to fill the appreciative heart with wisdom and impulses for action, reflects the spirit of the effort's environment in Southern California. Rains have fallen and the whole country has the aspect and sensation of California's best in autumnal spring time. New grass is starting and the sight and smell of it awaken the senses of man and his animals to new buoyancy and joy of life and action. It will be a splendid time to undertake a sojourn of a week or a month in Los Angeles and vicinity, before the throngs of Eastern winter fliers return to their accustomed hibernation. All the hotels and private lodgings will welcome the thousands who should attend. Their capacity is so ample and their rates so diverse that any purse can match its contents with acceptable rest and nourishment. Californians from all parts of the State should seize the present occasion for a general rally in the south. Mr. McAdoo is running his trains with unusual respect for schedules. The State highways are almost continuous in their perfection of surface for your own wheels and the runs, both through the interior valleys and by the coast line, are delightful and edifying. It will be really patriotic, also, for all who can command the trip to take it. It will give new nerve for productive effort and will be educative in the way thereof.

We are, however, pleading for a great success in popular appreciation and participation for the Liberty Fair not so much for personal nor even for sectional advantage as we are for the relation of the event to the general advancement of our livestock industries. If the right wing at Los Angeles springs to its place and attains its objective, the influence upon the whole forward movement will be strong. San Francisco's International on November 2 to 10 will be the next point on the new circuit, and we shall give a special issue to the preliminaries for that event, which need not now be particularized. Following San Francisco, Portland will advance the left wing, as we have already pictured. Thus the Pacific Coast will attain its present livestock objectives in three jumps—and the first thing to do is to throw a fine long spring from the starting scratch in Los Angeles.

PRO-GERMAN WEATHER.

SINCE our last issue there have been more September rains in parts where the preceding bunch of freak storms did not stage performances. This time Southern California and the southern San Joaquin had to take their shares of the unseasonable occurrences, with the result that beans and raisins had to receive the punishment instead of the prunes which the earlier rains lashed the hides from. Losses have been serious. It will be a long time before California will want more such heavy September rains and a long time, in the nature of things, before she will get others like them.

Our climatological friend, L. E. Blochman of Berkeley, while expressing due appreciation of our industry in compiling records in our issue of September 21 to show that September rains have no prophetic seasonal significance, suggests that we might go a step farther and give a reason why they are in this way insignificant. He shows us from his collection of daily maps issued by the U. S. Weather Bureau for a number of years that the storms which spoil the prunes and spill the beans for us do not belong to the storm system which gives us our dependable crop water, but are in fact a misdirection of the storms of the Sonora system, which throws down dog-day torrential precipitation in Mexico and adjacent parts of our southern border, in Arizona, etc. This is shown by the fact that our early fall rains usually move northward from the south and may be very heavy in spots in California while Oregon is unreached and dry, and the same may be true for our lower valley points, while our upper coast, which is normally our humid region, may get little or nothing. This fact is strikingly shown by this years' September storms, which gave Eureka 1.83 and Red Bluff 7.08 inches, San Francisco 2.53 and San Jose 6.33 inches, etc. These facts are a reversal of normal procedure at these points, for the normal seasonal rainfall at Eureka is 46 and at Red Bluff 25 inches; at San Francisco 22.27 and at San Jose 16.79 inches. The underlying fact is that the storms which make California crops are produced in good allied weather factories—that is, in our own Alaska territory or in the territory of our trusted ally, Great Britain, or in parts of the ocean adjacent thereto; and the water is conveyed to us by cyclonic movements which are southward bound from these northerly areas, while the storms which steal in upon us unseasonably from the south are made in Mexico and may therefore be suspected of pro-German motives and methods. Being between these two overlapping forces and being quite well equipped to measure the approaches of our own beneficent northern-made weather, it will certainly be wise to extend our weather spy system into the southern source of storms, which are as a rule malevolent and against which we should be better warned and enabled to protect our products.

COLOMBIAN FARMERS!

OUR FRIEND of the Bulletin, whose gallant efforts to protect his city parishioners against skinning by corner and curbstone food venders we recently commended, has fallen into sad thoughts. We infer from what we read in his columns that it is not so easy to evangelize these city pirates as he thought at first—in fact, we presume it is really a job which would cause Billy Sunday to think twice. With that matter, however, we have nothing to do except to imagine that possibly the unrepentent rascality which he disclosed among the retailers led him to look for softer hearts to break and so he arraigns the iniquity of the "farmers," as he calls them—being the producers who sell their own produce at the Colombo market place in this city. The Bulletin writer's complaint seems to be that all the profits which he could pry loose from the retailers were immediately added to the wholesale prices by the Colombo "farmers," where the consumers tried to escape retail extortion by buying for themselves at this apparently Italian commercial resort. We do not doubt what our contemporary cites as facts, but we would suggest that the Colombo "farmers" are really market gardeners and they are much better at a trade than real farmers are—though not better perhaps than all farmers ought to be and will be when they are more fully organized and sell their produce by their own agents. In fact, we are not offended at the statement that the growers may get more for themselves when they can compel retailers to profiteer less, for that is exactly what we think they ought to do. Therefore, we do not claim that what is said about the Colombo produce artists as "farmers" is foolish: in a way it may be prophetic.

FARMERS SELL NOTHING FOR NOTHING.

BUT OUR contemporary, having mistaken market gardeners for farmers, proceeds to describe other operations which he also attributes to farmers, and they are so foolish that we wonder if he has any sense left. He undertakes to describe the contract-buying of orchards and writes this:

> By this system the city contractor goes out when the trees are in bloom and buys the entire crop, he to take the fruit from the trees. His contract makes the unformed fruit his property. The farmer has no interest in it.
>
> Then the contractor, when the fruit is ready for market, looks the market over, decides whether he will ship, how much he can ship and not reduce the price, and either sells the balance on a subcontract to some canner or sells to the canner what he thinks will go well there.
>
> Understand, the producer only gets paid for what the contractor gathers, in nearly every case. If the producer price is high, the contractor is chary about gathering. If the market goes off in the city or at the cannery, he would rather lose the fruit than pay the farmer.

We are quite willing to admit that there are more kinds of chicanery among fruit contractors than we know about: in fact, we are not slow

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 1, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	1.83	1.38	68	50
Red Bluff	.31	7.39	.86	90	54
Sacramento	.10	3.58	.42	82	56
San Francisco	.04	2.57	.50	72	56
San Jose	.01	6.34	.40	78	50
Fresno	.50	.58	.30	88	60
San Luis Obispo	.86	1.47	.51	80	52
Los Angeles	.44	.66	.07	96	60
San Diego	...	.19	.07	94	62

to believe almost anything that can be alleged against them; but this narrative conveys the idea that the grower is more kinds of a fool than the contractor can be a knave. In the first place, it is said that the fruit is all sold and the grower has no more interest in the disposition of it. In the second place, it is said that the grower allows the contractor to take as much of the fruit as he chooses at a certain price or to take none of it if he so desires. In other words, our friend claims that California farmers are such fools that they allow the contractor to buy the crop Indian fashion: "You take the buzzard and I'll take the turkey; or I'll take the turkey and you take the buzzard." We are quite ready to believe that there are contractors so slick that they never pay for anything and most farmers have a turn or two with them sooner or later, but if there are farmers who will sell a crop on the trees without getting some hard money in advance, or who will fail to bind a contractor to take and pay for all the fruit which is of a certain grade, we have still something to learn about fool farmers.

WILFUL WASTE OF FRUIT.

THE REASON why our contemporary undertakes the foregoing essay on the inequities of fruit selling is to provide an explanation of the fact that much fruit is wasted in current orchard policy which ought to be delivered to city consumers at a low price. In the first place fruit cannot be delivered in the city at a price which city people hold would be "better than nothing to the grower." If extortionate retailing cost could be reduced, there would naturally be more and more fruit coming in, because the grower would then presumably receive enough for it to meet his cost of picking, packing, hauling, freighting and selling, but exhorters on this subject seem to forget that there is an irreducible minimum of cost in all deliveries of fruit within reach of consumers and when the returns fall below this the grower cannot move it. He has already lost more than he can afford perhaps in the use of the land and the care of the trees. All this he cannot recover and if he undertakes to move the product toward a market which will not return the cost of handling he will be that much deeper in a hole. There may be some fruit wilfully lost through shiftlessness or laziness of the growers, but the amount is negligible. It is mostly on the country places of city people who have no commercial incentive to thrift. When fruit is wasted in commercial orchards it is not wilful: it is wasted because it will not return the cost of saving it, and of course with advancing wages for country labor there is an increasing quantity with potential value which is for this reason irretrievable. People talk glibly about laws to penalize waste of fruit on the ground that it is held back to create a scarcity and advance prices in a sort of a cornering operation. Our judgment is that there is not enough of that done to warrant enactment. Shipments are sometimes reduced to escape loss of cost of production and that has to be done in all kinds of production because producing for less than cost is destruction to grower and starvation later to consumer. We paid two cents for a Bulletin yesterday and we paid three cents today. We believe the advance is necessary under present costs of production and delivery. But the publication of the Bulletin is a monopoly and can fix its price on the basis of cost and we can only take it or leave it—so we take it. Unorganized fruit growers cannot do that. They ought to be organized and do it, but as things now are they can only send in fruit so long as it sells for more than cost and then stop or go broke. Can you change that by a law against waste? City people can get all the fruit they wish except when war or weather strikes it and all they have to do is to make it reasonably profitable to ship it to the city. Under normal conditions it is ridiculous to talk about cornering the supply for San Francisco in a State with California's production. It is the business of San Francisco to determine whether it is enslaved by commercial cutthroats from the water front to the ocean beaches. We do not know, but we do know that San Francisco can get all the fruit it desires if it will arrange to pay the growers reasonably for it.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Bad Peaches with Good Foliage.

To the Editor: I have several varieties of peaches and all have been more or less shriveled, disfigured and covored with tiny spots of gum. Last winter I sprayed with lime-sulphur and the foliage of the trees is in fine condition, although there are many small dead twigs. This latter is also the case with the apricots, but fruit was clean.—Grower, Concord.

You may have killed the twigs by using the lime-sulphur too strong, but the good foliage you mention indicates that the trees are in good health. In this years' pruning cut below the injury so the wounds will be in healthy wood. As to the ruin of the fruit, that seems to have been done by insects which chiseled into the surface in irregular ways, making many-formed wounds from which the epidermis was removed and the sap exuded. We do not know what insect did this. It apparently worked when the fruit was about half grown. It looks as though this injury had no relation to the death of the twigs. Keep watch next summer and see if you can catch the depredator.

Wheat on Summer Fallow.

To the Editor: I have 200 acres of summer fallow which I will plant to wheat. Would you advise me to plow it again or to double disk it? Which will give the best results? Also have 200 acres of bottom land. Would you advise me to dry plow or wait until the rains come and winter-sow it?—R. B., Orosi.

On your first field it depends upon what shape the land is now in. If it is a free soil and summer fallowing has been done, we should rely on disking. If there is a plow-pan and the soil is heavy, we should plow the pan up and then disk well. Wheat likes a firm seedbed but not a plow-pan, which will cause it to drown out or dry out—according to the rainfall. If your bottom land is reasonably clean, we should plow and sow dry. If it is foul, we should plow dry (if the rains do not wet it early), disk out a crop or two of young weeds and sow in December. These hints are framed up, of course, for your situation in a dry part of the interior valley.

Crude Oil on Johnson.

To the Editor: Is it practicable to use crude oil on ditch and canal banks to keep the Johnson grass under control?—F. R. D., Biggs.

Such trials of it as we know of have only resulted in a temporary discouragement of the plant.

WORK THAT PAYS

The war has depleted our field staff to such an extent that we need a few red-blooded men to attend to our renewals and secure new subscribers.

It is real, necessary, war-time work, for we are helping Uncle Sam to increase food production by showing our readers how to raise more and better crops.

We can use elderly men, and lack of experience is no barrier. No investment necessary, except that you must have an automobile. Straight salary; permanent work, with advancement.

Write for our proposition and tell us a little about yourself. You will be glad you investigated.

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I declare that Uncle Sam shall not go to his knees to beg you to buy his bonds. That is no position for a fighting man. But if you have the money to buy and do not buy, I will make this No Man's Land for you!

I will judge you not by an allegiance expressed in mere words.

I will judge you not by your mad cheers as our boys march away to whatever fate may have in store for them.

I will judge you not by the warmth of the tears you shed over the lists of the dead and the injured that come to us from time to time.

I will judge you not by your uncovered head and solemn mien as our maimed in battle return to our shores for loving care.

But, as wise as I am just, I will judge you by the material aid you give to the fighting men who are facing death that you may live and move and have your being in a world made safe.

I warn you—don't talk patriotism over here unless your money is talking victory Over There.

I am public opinion!

As I judge, all men stand or fall!

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Timely Topics on Pruning Prune Trees

[Written for Pacific Rural Press by John J. Fox.]

After the boxes and trays have been scrubbed with lye and put away, the grader cleaned and put under cover and the cover-crop harrowed or cultivated in, prune growers will get right to work on the trees. It has required much fortitude to face the recent "visitation," but every place I have been, after the first dazed condition had passed, the grower went to work to save whatever could be saved. And now to prepare for next season. The late rain has saved thousands and thousands of trees and invigorated them all. And they needed it. The Rural Press said some months ago that if we did not get early rains there would be heavy losses of trees from malnutrition. The rains came and saved that situation.

It is none too early to begin pruning. For the sooner this work is done and the trash cleared out of the orchard the more free the orchardist is to get in and spray whenever he wants to. Also the less will the cover-crop be injured and the ground will not be tramped unnecessarily during the wet weather.

FRENCH PRUNES.

If the suckers have not been kept out of the tree, they are the first thing to be removed. No strong growing sucker should be permitted to remain unless it is seen that it is needed to replace a decaying or moribund limb, or to fill up space where one has broken off. For a strong sucker will begin to starve the best of limbs by the time it is three years old. In saving a sucker for future use, it should be pinched before it is mature, otherwise it grows in length out of proportion to its strength and very often has no laterals to speak of on its lower length.

WHAT WE ARE STRIVING FOR AND HOW TO GET IT.

We are pruning our trees to increase the quality of the fruit-bearing wood and of the fruit. As the prune bears its fruit on two-year buds, it is necessary to cut so that we may induce a healthy growth of new fruit wood each year and yet not so hard as to create a heavy wood growth at the expense of a year's crop. This, then, is a matter of individual judgment, which has to be exercised according to the growth and character of the tree. Small, very spindling growth will produce small prunes. One of the commonest errors is to leave too much fine brush. To go fumbling around in these dense masses with a hand shears to thin out would take too long in a commercial orchard. Therefore, the thinning of twigs must be done in clusters, cut right back to a leader or strong lateral and let in a little daylight. Later, when new wood is produced, the very small twigs will die out and slough off. Long, useless, small limbs with a little bunch of twigs at the tip can generally come off. There is usually one of these under an end crotch. The chief thing to be aimed at is to keep the tree fairly open but not exposed; to "thin out" every year; to induce some new, healthy fruit wood each year, and eliminate dying wood.

If your tree has overborne, or produced a large crop of stick-tights that made neither size nor sugar and had to be batted off the tree, cut harder than usual and if half a limb has to be sacrificed it must be cut carefully and cleanly back to a leader or fork in such a way that it can heal over. This is very important. A slovenly pruner will often leave a little stub sticking out instead of pruning off close so that the bark may cover it. These are called "Jap knots" because it is difficult to get Japs to do the careful work needed. If a large cut is made, it should be covered with asphaltum. For here is where the soft rot enters that makes the wood spongy on the inside of the tree or limb. It is lots of trouble, but that is part of the business.

RENEWING OLD LIMBS.

Any limbs that show decay or half-dead fruit wood at the ends should be cut back to vigorous wood at a strong fork. If there is none, then it is time to see about renewing that limb and a sucker can be saved for future use. When a sucker is three years old it should be large enough to take the place of the limb it has been robbing unless it is seen that that limb is still doing good, profitable work. But if the limb is cut back to the sucker at the second year, there is more danger of losing the sucker, too. In any case great care must be taken of these large cuts. Henry Wheatley of Napa is experimenting on a small number of trees in his orchard to see if he can rehead them at a height of about 14 feet.

IMPERIAL OR CLAIRAC MAMMOTH.

These trees do not need so much pruning as the French after they have arrived at maturity and the fruit appears more on the bud spurs than as terminal clusters. They only need to be thinned out and sometimes shortened back on the limb when its carrying strength is endangered. It is impossible to prop everything. The Robe de Sargent carries its fruit also largely on bud spurs. It is an upright grower and thrusts out its limbs like a bunch of spears instead of having feathery, drooping twigs. Occasional shortening back is advisable. Both these varieties have strong wood like the French.

The Sugar prune, on the other hand, has brittle wood, like a Jefferson plum. Because of this and the fact that it is a heavy bearer, it must be pruned practically on the lines of a peach or apricot and pruned back every year.

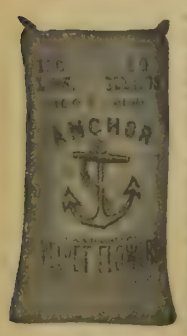
TREATMENT OF YOUNG TREES.

Damsons are treated like a French prune and the various plum trees a modification of Sugars or Robes, according to their varying character.

Once more let us return to the much-discussed question of the young tree. It should be headed at not to exceed 18 inches. It may sometimes be let go after one more cutting, though I favor cutting two years of growth. The main leaders at head-high may be 4 or 6 in number. After the second cutting, French prunes should be allowed to go and be topped no more. Then fruit wood will form. They will come into bearing earlier, produce as fine a tree and, in my opinion, are not so likely to gum and die off in areas as if cut back hard again till four years old.

It is claimed by some that after a tree is once planted out it will make a large tree quicker if it is never pruned back at all. Perhaps it will, but that center will have to come out some time and when it does the limbs are left in too horizontal a shape to sustain a large load and the center of the tree is exposed. Let us stick to building our trees. Back to nature can be carried too far. Adam and Eve found that out.

SULPHUR



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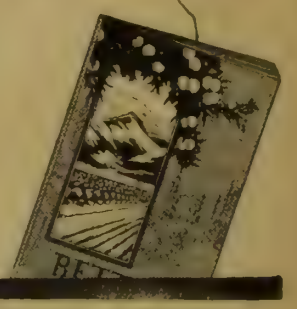

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California Associated Olive Growers

[Written for Pacific Rural Press.]

This association has been called upon to modify entirely its selling plan to meet the changed conditions of the market affected by the war, these conditions including a falling off in the demand for canned ripe olives for purely economic reasons and an increased demand for the Italian type of olive, owing to the impossibility of obtaining transport from Europe for their exportations. The association has therefore deemed it advisable for the best interests of its growers to sell its entire crop on a guaranteed basis for the period of two years, without hazard of any kind and for cash on delivery. This is better than trusting to an uncertain canned olive market, which bids fair to remain thus until the war is over.

The association is just as much in business as ever and more time will now be given to building up and strengthening the institution. Its expenses have been cut to a minimum and its members are safeguarded for the next two years, with returns to its growers greater, under existing conditions, than could be made if the fruit were processed and canned. At present the association deals only in ripe olives and operates its plants for a period of only five months per year. During the next two years the association purposes to devote itself to acquiring an intimate knowledge of growing and packing food products other than olives, in order that it may keep its plants in active operation throughout the year when the two years' lease has expired. The lessees, the Pacific Products Corporation of Boston, Mass., has given a substantial bond for the faithful performance of its contract. It will confine itself to preparing the Italian type of olive, which is not competitive with the canned ripe olive of the association in any way. The above constitutes the substance of the manager's (J. C. Martin, Jr.) statement to the members of the association.

ORCHARD IRRIGATION IN NAPA COUNTY.

[Written for Pacific Rural Press.]

Henry Wheatley, president of the Napa County Farm Bureau, has irrigated part of his prune orchard for two consecutive years. A large portion was irrigated for the first time this last summer. A portion was left which acted as a check to determine results. He estimated that the trees irrigated will this year yield about $100 worth more of prunes to the acre than those not irrigated. It costs him about $5 per acre to supply the water, which is pumped—electric power being used. Two furrows are plowed between each row of trees—the furrows being about six feet apart. This is accomplished with a heavy double-breasted plow drawn by a Yuba tractor. The water is allowed to run down these rows for from three to five hours or more, as the flow is only about 50 gallons a minute. The ground is, of course, cultivated as soon as it is in a fit state to work, after the water has been turned off.

The irrigation was applied through June and the early part of July and the benefit is not alone in the crop but in the increased vigor and condition of the trees themselves. Those trees that were irrigated earliest made the best showing as regards color, foliage and fruit. The last part irrigated showed a small percentage of cracked fruit. Mr. Wheatley said at the time we were there in July: "Whether the fruit cracks or not, I shall continue to water for the sake of bringing my trees through in good shape." And he wins!

HIGH PRICES FOR GRAPES.

The spoiling of many grapes has led to a high price being paid on those shipped East, Tokays from Lodi, Florin and Elk Grove bringing from $3.15 to $3.35 per crate; Vacaville Tokays from $1.85 to $2.65, the average price for these grapes being $2.84 per crate; Malagas averaged from $1.75 to $2.75; Cornichons $3.35 per crate and Fancy Muscats $3.40 per crate. Of wine grapes shipped, Alicante Bouchet brought $2.40 and Zinfandel $1.50 to $1.85 per lug box. These prices establish a new record.

Almond growers should keep their varieties separate or they will lose in price. Deliver each variety promptly as soon as it is harvested and bagged.

LARGEST STOCK IN AMERICA
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Concentrated
In Perfect Mechanical Condition

Because of the shortage of manures in this territory it will be well to consider NOW your fertilizer requirements for the next twelve months. More carefully handled and prepared than other manures. From highest nitrogenous feed.

Steer Analysis		Sheep Analysis	
Available Nitrogen	1.58 to 1.75%	Available Nitrogen	1.75 to 2.00%
" Phosphoric Acid	.86 to 1.20%	" Phosphoric Acid	1.12 to 1.29%
" Water Soluble Potash	3.48 to 3.92%	" Water Soluble Potash	3.62 to 3.88%
" Humus	5.07 to 5.70%	" Humus	7.42 to 8.12%

Highest in organic, and free from foreign matter. Shipped commercial dry basis.—Saves four-fifths labor in application. Write for price and particulars today to insure prompt delivery.

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423 Citizens National Bank Building, Los Angeles, California. Phone 65643.

"You Can Just See Them Grow"

"Look at 'em!—Planted two years ago, and just see how they've taken hold! When I put them in I wouldn't have believed that blasting the holes instead of digging them would have made them grow like that. But there's the *proof* and it's the kind of proof that looks good to me. Another couple o' years and they'll be bearing. Then I can 'cash in' on my forethought in planting with *dynamite*."

"Am I glad?"

"You *bet* I'm glad that they told me about

HERCULES DYNAMITE

"Try it yourself the next time you plant. I'm not the only man who will tell you it's a good thing. Ask any man who has used dynamite."

"That isn't the whole story either; you can keep your bearing orchards in good shape by blasting between the rows every year or so. The shock of the explosion stirs up the packed soil around the roots and gives them *breathing* space. Your trees will show you quickly enough whether they like it or not; you'll see the difference in a year. They will grow better, and look better. And lusty trees bear the kind of fruit that brings the top notch price on the market."

"Why don't you send to the Hercules Powder Co. for their book, 'Progressive Cultivation'? It tells you all about the use of dynamite on the farm. You can profit by it as I did. If my copy of this book was the last one in the world I wouldn't part with it for a thousand dollars!"

HERCULES POWDER CO.
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Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for _____

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If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

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Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

PRUNE CONDITIONS TO DATE.

After again visiting the principal prune growing sections and getting official reports from the smaller ones, we venture the estimate of this year's prune crop at 45 per cent of what was expected from August estimates. In the Santa Clara Valley we figure 15 per cent of first-class fruit, 15 per cent of No. 2, and any salvage beyond this an unknown quantity. For as nobody knows what some of these damaged prunes will bring, large quantities were dumped and no further chances taken. Most growers have made every effort to save all fruit that was fit to offer for human consumption, in spite of the many difficulties encountered of obtaining adequate man-labor, of dull weather, damp drying grounds and clean tray shortage. In this last trip through the orchards one is immediately struck by the improved condition of the trees everywhere. Foliage in many sections looks better than it did early in August. The buds are plump and well filled—as good as they have ever looked at this time of year and better than most years. Where every man was secretly worrying about his trees at the beginning of harvest, that anxiety has been removed. Wherever the rains went they have left behind them good conditions in orchards, many of which now have a fine carpet of green, which will be turned under later as a cover-crop.

EMERGENCY LABOR IN THE SOUTH.

In many of the Southern States women are organized and being used to a large extent in harvesting the crops, both in the orchard and field. Both white and colored women are doing their stint and it is found that they are capable and industrious. Men teachers and high school boys have been spending their vacations on the farms. In Tennessee chores are turned over to women and children. One hundred women are reported plowing in one county. Tractors work day and night. In Oklahoma farmers have co-operated in the purchase of tractors and using larger implements. In West Virginia, Banks, factories and stores have released employees for short-time farm work. Farmers are working longer hours and Sundays. In Georgia white women have organized to pick cotton and packed a large part of the peach crop. Anti-loafing laws or ordinances for drunks and slackers have been enacted, for, to use a good old quotation, "Neuters, in the middle way of steering, are neither fish nor flesh nor good red herring."

NEW MARMALADE COMPANY.

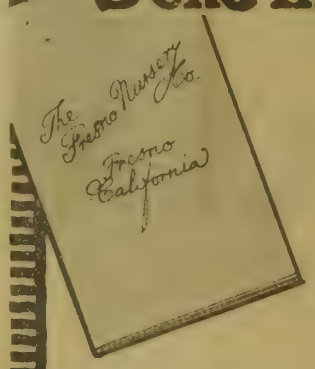
At a meeting on September 4 of the Citrus Growers representatives of 49 associations signified their intention of joining the new marmalade company evolved from the Crawford corporation, making it a purely mutual exchange proposition, to be owned exclusively by exchange members. It is their present intention to take charge of the sale of all cull oranges and grapefruit of their members, making as large a proportion of the fruit as possible into marmalade and disposing of the rest by converting it into candied peel, orange juice, etc. The market for good fruit will thus be improved and a good return made to members on culls. The intention is to advertise the marmalade widely under the "Sunkist" brand.

The amount of marmalade produced from this season's crop is expected to be one and a quarter millions of pounds. Next season 7,000,000 pounds will, it is hoped, be manufactured. Two factories are now in operation. About $60,000 has been provided as an advertising fund and the first advertisements will appear in national magazines early in the year. Good luck to the undertaking.

CURRANT MAGGOT.

The larvae of this fly are in the ground and the best way to control is to dig over and stir the ground thoroughly under and around the bushes now and then late in March. This may be effective enough to save your gooseberries and currants from containing maggots next spring. There seems to be no other way yet of dealing with this creature.

Send in Your Name



Every Horticulturist in the State will want our new Fruit Tree Catalog when published. Your name and address on a postal card sent now will assure you of a copy.

FRESNO Climatic conditions cannot be excelled for the production of well matured trees. "FROM THE ROOTS UP" is our motto. Commercial orchardists all over the state purchase our pedigreed trees because they give best results.

Place your orders now and have us reserve your stock. Do not forget to send your name and address and make sure of receiving an early copy of this year's catalogue and price list.

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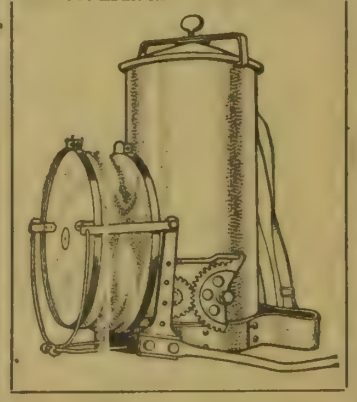

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"Our Service Department will help you with your Fertilizer problems. Write for our booklet Fertilizer Efficiency."

HAUSER PACKING CO.

LOS ANGELES, U. S. A.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Universal Sugar Price.

The Sugar Equalization Board established by the Government will fix a universal price on sugar for the whole country, based on the average cost plus a small margin of profit to cover expenses of handling. In practice, the work of the board will amount to this: (1) All the available sugar supply will be districted, and as much beet sugar will be distributed in the West and Middle West as those sections can consume; Hawaiian cane sugar will be shifted to the Pacific Coast and Canada; Louisiana sugar will be sent throughout the Southern States; Cuban and Porto Rican sugar will be retained in the Atlantic Coast and Central States. (2) The profits made by the board in selling cane sugar at 9c which was bought at 5c or 6c will be used to equalize the loss suffered in buying Western beet sugar for 8c or 8½c and selling it at the same price. (3) Under the board, each section of the country is assured of its supply of sugar, so profiteers cannot operate. With beets at $10 a ton and the price of sugar assured, both grower and refiner may go ahead with confidence in the future of the industry. It will also give a feeling of relief and assurance to the consumer.

An Urgent Appeal.

An urgent appeal is again sent out by the United States Food Administration to save all fruit pits of every description, and all walnut and almond shells, and the shells from pitted apricots. These shells, as before stated, are needed, and badly needed, for the manufacture of carbon used in gas masks to protect our boys at the front. Hundreds of tons more can be saved if every home, restaurant or small producer sets aside every pit or shell—even those that come off the table after you have eaten your prunes, plum jam or canned peaches. Two hundred peach pits or their equivalent in other shells will produce enough carbon for one mask. No quantity is too small to be of use. Your local Red Cross will tell you where small amounts may be mailed. Boy Scouts, mothers of scouts, soldiers and sailors will bear this in mind. And the saving must go on as long as the war lasts.

Federal Land Bank of Berkeley.

During the month of August this bank approved 166 applications for loans totaling $511,700; 143 loans were closed in the amount of $426,400. This brings the number of loans already made by this bank to 2528, with a total in the hands of the borrowers to date of $7,609,100. Seven hundred and thirty-three more loans have been approved but not yet closed, and the amount is now probably past $8,000,000. The total number of loans closed by all the Federal Land Banks since their establishment is 55,325, with a total amount loaned of $124,877,354.

Fighting Pear Blight.

Burle J. Jones, Farm Adviser of El Dorado county, who was in charge of the campaign against pear blight in his fruit growing section this year, says the blight has been dormant this summer but is again showing up in the form of hold-over blight. He is urging the farmers to cut out infected wood at once and burn it.

The Raisin Crop—a Bonanza.

This season's raisin crop is estimated to reach 175,000 tons—almost twice the tonnage of the 1912 crop, and the price of the fruit has more than doubled. It is only to be expected, in view of the heavy plantings of Thompson seedless, that they shall gradually come down to meet the price of Muscats.

Pear Prices in New York.

California Bartletts last week brought from $4.50 to $5.90 a box. A large quantity of California pears have arrived on Eastern markets over-ripe, owing, it is supposed, to the fruit cars not being properly refrigerated. These sold down to $1 a box.

Why Choose the Salway Pit?

The reason for choosing the Salway pit for planting for tree stock is (1) that it is hardy and makes more growth; (2) continues to grow later in the fall and is not inclined to sucker.

Separate Varieties.

Almond growers should keep their varieties separate or they will lose in price. Deliver each variety promptly as soon as it is harvested and bagged.

Why Grapes May Dry Up

To the Editor: I am considerably annoyed at the loss of a great many bunches of grapes in my vineyard which about the time of maturity wither up and become entirely useless. I have discussed the matter with some of my neighbors and a considerable difference of opinion exists. Some of them say it is due to excessive heat; others say it is due to stinging of insects; others say it is due to alkali in the soil, and others think the damage is done by small birds. Will you kindly state your opinion as to the cause of this injury?—Subscriber.

[Answer by Prof. F. T. Bioletti, University of California.]

I am unable to tell from your subscriber's letter what may be the cause of the drying up of his grapes. Grapes dry up about the time of maturity from a great variety of causes. If most of the grapes on a vine dry up, it is usually due to lack of water in the soil. In this case, the drying up is usually not complete; that is to say, the grapes simply shrivel and fail to produce the proper amount of sugar, acid, and juice. Usually much the same symptoms are produced by anything which destroys the leaves of the vine, such as vine hoppers. The attacks of root insects are often responsible for the more complete drying up of the grapes, but usually only on a part of one side of a vine. The grape root worm or adoxus vitis often has this effect, especially on Tokay vines. Alkali may have a similar effect, although where this is the cause it is usually very plain from the appearance of the vineyard. Whatever the cause, excessive heat, especially when it comes suddenly, will intensify the damage.

How the packer is saving millions out of waste

—and how this results in higher cattle prices for the stockman

The development of by-products out of waste means a saving of about one hundred and fifty million dollars annually—a sum sufficient to keep New York's six million people supplied with meat for six months.

THERE was a time when the steer was handled solely for its edible meat, its hide, and its tallow.

The remainder of the animal, in weight totaling many millions of pounds annually, was thrown away—a sheer waste.

Today virtually all of this former waste is utilized. Over 250 articles are now contributed by the steer to human needs, and a larger proportion of the animal is saved for human food.

At the time of writing $135 is, on the average, the price paid for the average beef animal to the stockman by Swift & Company.

But if the old order of waste still prevailed and only the hide and tallow were saved, Swift & Company would be obliged either to pay not more than $125 to the stockman, or to charge the public higher meat prices.

Thus, you see, by-product utilization results in a saving of about $10 per animal—a saving which, when multiplied by the total number of cattle dressed annually by Swift & Company, over two million, amounts to more than twenty million dollars annually. This saving goes to the stockman in higher cattle prices and to the consumer in lower meat prices.

If applied to the entire number of cattle dressed annually in America, approximately fifteen million, this saving would amount to about one hundred and fifty million dollars annually.

The real development of by-products came with the development of the larger packing organizations.

Success was attained not easily, but by patient effort, by exhaustive experiment, by intense specialization. It has been a big job and has called for big methods—a job far beyond the resources of the old, unorganized system of local meat dressing.

Not only are the by-products saved but their value has been increased through better handling of hides, fats, and other edible portions of the steer.

Swift & Company is glad to have had a part in this development. It is an achievement of thrift—an achievement that has made possible today lower meat prices to the consumer and higher prices to the producer of cattle than would have been possible under the old methods.

Swift & Company, U. S. A.

A nation-wide organization owned by more than 22,000 stockholders

Bean Prospects on the Pacific Coast

[Written for Pacific Rural Press.]

Prospects for small white beans appear better and the rain damage less the farther south one goes from Salinas to Lompoc Valley along the coast. This is the chief small white producing area of California; and the bluepod strain comprises by far the greatest proportion of these. Harvest was in precisely the same stage throughout the entire distance. In all districts some beans were still uncut, but most of them were in piles. Very few had been threshed. The beans which had shattered in harvesting were sprouted as much as a half inch long on the third day of the rain. Where pods in the piles had opened, the beans within them also had sprouted. The Salinas district has about 20,000 acres of beans, half of which, according to Farm Adviser T. C. Mayhew, are small whites. On the higher levels the average normal yield is about five sacks per acre, as told by Chris Fanoe, one of the few who had threshed, while in the lower lands ten sacks is normal. The yield per acre this season is about normal; but the loss by about six inches of rain is probably 50 per cent. It will be greater if sunshine dries the pods quickly. Cloudy weather, with wind and plenty of turning, might save a greater proportion. Vines still standing allow many pods to rest one end on the ground.. These will have rotted and the lower beans sprouted. On heavy land it is hard to cut them by machine, as they mix too much with the mud. If weather remains wet the beans mold. Discoloration is the least of the damage. Pods which do not open or decay protect their beans from wetness and shattering. The large plantings of the Salinas Land Co. near King City are later than fartner down the valley. Of their 1600 acres of small whites, blackeyes, and bush limas, only about 200 acres had been cut before the rain. Beans in the Paso Robles district are mostly grown among young orchard trees. Martin & Cousins report that Red Mexicans did poorly this season on account of thrips, for which spraying with blackleaf 40 seemed ineffective. Pintos proved very successful. G. A. Nehrhood, who is one of the largest orchardists there, reports a half crop of beans, with pinks doing better than Mexicans, this being the first visitation of thrips. His teparies yielded six or seven sacks per acre, all varieties being without irrigation. Around San Luis Obispo westward to the sea and southward, the beans are principally bluepods and yielding fine crops, up to 15 sacks per acre or more, with poor crops scarce. A. B. Spooner on the coast has various areas going over 15 sacks per acre, others going far below that. Mr. Spooner and his tenants expect about 5000 sacks of bluepods from about 500 acres. Spring rains coming in a bunch prevented getting some land, especially adobe, into fit shape to hold the moisture and mature a good crop. The September rain in Los Osos Valley and surrounding territory was 1.63 inches, enough to require turning of the beans and put them in danger of popping when the sun shines. More beans per acre and more acreage are to be found in this valley than last year. Arroyo Grande Valley received only about two-tenths of an inch of rain and the beans were not injured. Cutting proceeded right after the rain. E. C. Loomis had contracts with growers to furnish 22,000 sacks, but many of the growers are coming back for more, having underestimated their crops. The bottom lands are all beets and beans, mostly bluepods. Hills where the beans have to be sledded to the bottom are producing four or five sacks per acre where they had previously been used only for range. Lompoc Valley, in Santa Barbara county, according to A. C. Whittemore and H. M. Hawkins, produced last year 266,655 sacks of bluepods, 14,401 of pinks, and 4586 of large whites. Mr. Whittemore and A. Lehman figure the average yield normally about 12 sacks per acre and expect the total yield this year to equal or excel that of last year. Mr. Hawkins thinks the yield per acre averaged about 18 sacks last year and will be about 14 sacks this year with increased acreage, making the total crops about equal. He believes there are about 300,000 bags of bluepods this year and not half as many pinks as in 1917. Santa Maria Valley, according to Mr. Scaroni of the Bank of Santa Maria, has about 60,000 acres of "small white" beans and a few pinks. His estimate of yield is more modest, being about 7½ sacks per acre. It must be said that estimates of average yield per acre are very unsatisfactory because one estimate may include fields which fail while another may include only fields which pay well to harvest. Santa Maria has beans which will yield 25 sacks per acre. Lompoc claims more for her valley floor.

BERMUDA ONION SEED.

Just as the Coachella Valley has made a name and created a demand for her Bermuda onion seed, she has lessened her production. This is owing to having experienced two successive years of poor yields. Most of the seed has been imported from Teneriffe (Canary Islands), but war conditions have made the imported article difficult to obtain. And, besides, many of the Texas growers prefer the California seed. S. S. Lawrence of the Seed Report Service, U. S. Department of Agriculture, has just given us this information, as it is most desirable that the growing of this seed for the market be extended to meet the increasing demand. Bermuda onions for seed were first planted in Coachella Valley in 1904. Satisfactory crops were obtained for the following eleven years, which led the growers to look for an average yield of 1000 pounds to the acre. In 1917 the yield dropped to 175 pounds. Thrips and "burn" are reported to be the cause of most of the damage last year and this. The acreage for 1918 is said to be 140 and the estimated yield to be 20,000 pounds. A shortage of bulbs for seed is also reported. Mr. Lawrence says that there is a large foreign demand for our vegetable seeds, which are chiefly grown in the Santa Clara Valley and the delta region of the Sacramento. Onions, carrots, beets, spinach, salsify are all less than demand. On sugar beets we will have to import one-fourth of our seed this year, but shall grow enough next year.

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Hay prices are soaring. It is up to every rancher to make his field produce to the utmost.

We successfully introduced this wonderful type of seed in this section. And we stand solidly back of it. We guarantee it to be the true Hairy Peruvian strain. To insure perfect results we advise you to buy only the special Germain variety.

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CAUTION—For your protection Germain's Hairy Peruvian Alfalfa Seed is sold ONLY in sealed and stenciled bags.

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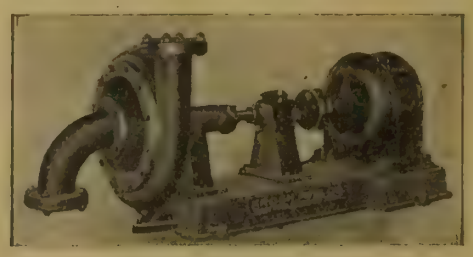

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Field and Garden Notes

Modesto Field Crops.

Grain in the Modesto Irrigation District was practically all under cover when the rain came, according to Henry G. Turner of The Grange Co. Wheat was all in warehouses and mostly sold to mills or Government. Perhaps 5 per cent of the barley was in the field and damage may have reached $2 per ton on this. There will be at least three times as much wheat acreage next year, most of it to be on land that would otherwise be in barley. Seed wheat sales have exceeded any recent years. The 1500 sacks of Early Baart seed offered by The Grange Co. were long ago sold. Most of the wheat in this district is Bluestem and Club, with a little Sonora on land suitable for only this variety. There will be a fair acreage of oats, but barley is hard to move and the acreage will be much less next year.

Hay Damage Severe.

Very little hay was in the warehouses. People were awaiting better prices. Of baled hay not less than 50 per cent damage is estimated by Mr. Turner. What was stacked probably suffered not more than 10 per cent as a whole, with alfalfa less than that. Showers at this writing will increase the damage greatly if long continued, as cutting has progressed since the first rain.

Bean Damage Light.

Most of the beans cut before the rain were blackeyes and teparies. Damage to the latter is slight, and to the former not over 10 per cent. Quite a few Mexican reds, pinks, and red kidneys had been sown late as a second crop after grain or hay. These are not ripe and so were not damaged much.

Alfalfa Seed Demanded.

More alfalfa seed is being sold since the rain this fall by the Bomberger Seed Co. than at any time last year up to mid-January. Most of the sales have been for planting north of Modesto, where rains were heaviest, as fall planting depends on rain or subirrigation or pump irrigation. Gravity irrigation played out early in most districts.

Alfalfa Seed to Be Scarce.

Rain damaged the alfalfa seed crop so severely that much of it will not be threshed; and dealers who expected to ship East have had to give up these plans. Much of the seed, however, is simply discolored and not much damaged.

One Use for Bermuda Grass.

In going through a fruit orchard its owner remarked to us, "This Bermuda grass is a good thing to have in an orchard. It compels the farmer to cultivate." Most tillers of the soil are philosophers.

A Weatherproof Coat

In every Raynster there is a Raynster Label. That label assures you something more than just a raincoat. It is the sign of the best in weatherproof clothing of all kinds. It is the proof of full value for money received.

Buy a Raynster today and be sure the label is in it. Raynsters are good insurance of health and clothing for every member of your family.

There are Raynsters in all styles of weatherproof clothing. The heavy rubber surfaced kind for outdoor work; cloth coats suitable for dress or work, these are good overcoats as well as good raincoats; heavy ulsters that are warm and shower-proof, splendid for driving in cold or rainy weather. Raynsters are made for every member of the family and are priced according to materials and workmanship necessary to produce each particular kind—the label guarantees value for price—always look for it. Don't buy just any old raincoat when your dealer can get you a Raynster.

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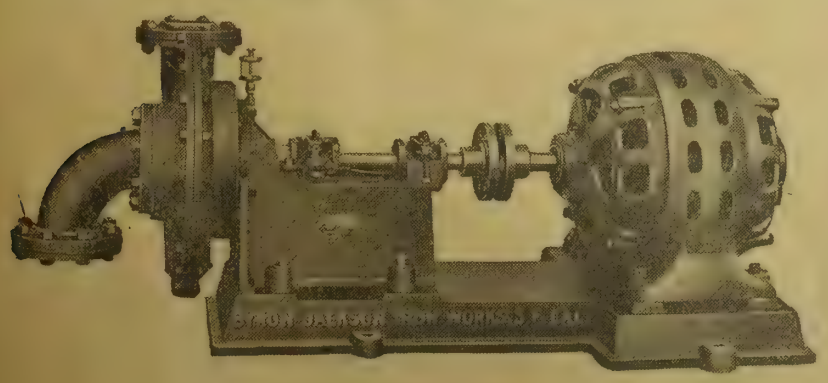

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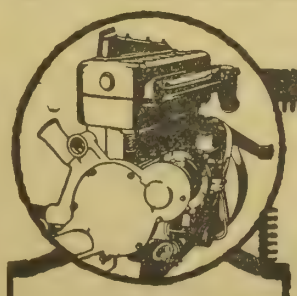

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Only perfect satisfaction can account for the use of ZEROLENE by the majority of automobile owners.

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They know from the records of their service departments—and we know from exhaustive tests—that Zerolene, correctly refined from selected California asphalt-base crude, gives perfect lubrication with least carbon deposit. Get our lubrication chart showing the correct consistency for your car.

At dealers everywhere and Standard Oil Service Stations.

STANDARD OIL COMPANY
(California)

ZEROLENE

The Standard Oil for Motor Cars

San Joaquin Valley Crop Notes

[Written for Pacific Rural Press.]

Merced County Crops.

Merced tomatoes every year are the earliest of any in the State except those from Imperial Valley, according to F. L. Landram of Merced, whose estimate of the 1918 shipments, based on crate material sold, is 150,000 twenty-pound boxes. Returns the past two years have been satisfactory to growers, who are very prosperous. No canning tomatoes are raised around Merced, and the shipping season is over by July 15. Italian Early and Early Stone are the principal varieties, with the latter increasing in popularity on account of better smoothness and larger size, though it is about two weeks later than the Italian Early. The fields have been free from disease or insect pests, the greatest danger being from frost in the spring. Earliest shipments are made by express, arriving on the Bay city markets the morning after shipment in the evening. A great many tomatoes were hauled by truck to Sacramento this year. Those destined for points within the State are generally shipped "in the blush" after color has come on one side and are practically ready for use on arrival at the consumers' tables. Those shipped out of the State go mostly to Oregon and Washington, leaving Merced green, but arriving at markets practically ready for use.

SWEET POTATOES.

Prices on sweet potatoes for this season surpass any previously received, having been $3 or more per 100-pound crate up to this writing, with possibility of lower prices for a period and then higher prices for stored stock, as surveyed by Mr. Landram, who estimates that about one-fourth of the shipping crop is stored by growers on their ranches. The shipping season starts about July 1 and sales from storage usually continue from December to March 15. Many early shipments go to Washington and Oregon, with a few to Denver. Last year the price did not go under $2.50, so growers are feeling prosperous. Yields per acre this year are hardly up to normal on account of water shortage.

GRAIN AND BEANS.

Yields of grain per acre in Merced county were not over 65 per cent of last year, as estimated by J. D. Wood of Balfour-Guthrie Company's local office. Some intended for grain was cut for hay and Mr. Wood estimates the acreage harvested at about 90,000 of barley and 12,000 of wheat. The latter was nearly a failure on account of the lateness of rain and its sudden stopping. This year's barley seems as yet to have no market and next year's wheat acreage will be a great deal more than ever before.

H. K. Huls, who operates the Merced bulk grain elevator, says that wheat will be planted on all clean summer fallow and half of the acreage will be Early Baart if they can get the seed. Club, Australian, and a little Bluestem have been raised, but Baart will be worth more than other varieties as recommended by the Sperry Flour Co. Barley cannot be moved at over two cents, according to Mr. Huls, and it requires recleaning, being full of oats due to careless cultural methods.

Bean acreage is three times greater than ever before, as estimated by W. D. Boyden of the Merced Elevator Co., and the yield is the biggest ever produced. Bean acreage in Merced county has always increased every year. Blackeyes and teparies lead in acreage, with a few Pinks, Red Mexicans and Large Whites always grown. Not enough beans have been threshed to set the price. Last year teparies were sold where they were not known, but Mr. Boyden says repeat orders will not come from either consumers or the dealers.

Atwater Sweet Potato Cannery.

Second sizes of sweet potatoes under about 1¼ inches in diameter are being bought at $25 per ton for canning by the Sunlit Fruit Co. at Atwater. This factory expects to can about 1500 tons, according to F. E. Simpson of the Sunlit Co. About 500 tons are being received from the Turlock district and the rest from Livingston, Atwater, Keyes, Arena, etc. Field run potatoes have been bought at $30 per ton, the large sizes being sliced and peeled at less cost and therefore able to be sold in the cans at the same price as the smaller ones. Loss by peeling, spoiled potatoes, etc., is figured about 34 per cent. The season opened up at $2 per dozen cans holding 1½ pounds net. The Government is taking most of them. The sweets are peeled by a lye process. The larger sizes are sliced and all are packed dry by hand, with no moisture added at any time. After packing in the cans, they are exhausted and cooked in retorts. Their appearance improves with passage of time after canning.

Turlock District.

The cantaloupe and watermelon deal is about over in the Turlock district, as stated by A. J. Eddy of

Alfalfa Seed

of known purity and germination is a big step toward better producing hay fields, but experienced planters are now demanding more. They insist upon planting seed particularly

ADAPTED TO THE NEEDS OF THE SOIL.

That is why there is only one trade mark that insures universal satisfaction. Besides being pure and of strong vitality our

GREEN BRAND GOLD

alfalfa seed meets the need of every soil condition. There Are Seven Different Kinds. One is best suited to your soil and moisture conditions.

If you have not received a copy of our illustrated booklet describing the different kinds and their adaptations write for it today.

BOMBERGER SEED CO.
725 10th Street, Modesto, Cal.
(DESK A)

The LAUSON 15-25
DUST PROOF-ALL GEARS ENCLOSED

Surplus Power

The engine is the heart of a tractor. It must supply a steady flow of power. There must be power to spare. Soil conditions increase the draft at the drawbar. Wet grain requires more power at the belt pulley.

The LAUSON-BEAVER-valve-in-head motor has 30% surplus power. The valve-in-head principle is noted for its efficiency under heavy load. It burns kerosene successfully. It is dust-proof but accessible. The bore is 4½ inches and the stroke 6 inches.

Pulls Four Plows

The LAUSON 15-25 is rated a 3-plow tractor. And yet in the National Tractor Demonstration at Salina, Kansas, it pulled four 14-inch plows to an average depth of 7½ inches at the regular plowing speed of 2¾ miles per hour through the entire demonstration week.

Designed for Belt Work

The LAUSON 15-25 is made to run the ensilage cutter, grain separator, corn sheller, feed grinder, rock crusher—any kind of belt work requiring surplus power.

Twenty-three Years of Engine Building Experience

For twenty-three years we have been making LAUSON Frost King Engines—the standard of farm engine excellence. 1½ to 28 H. P.

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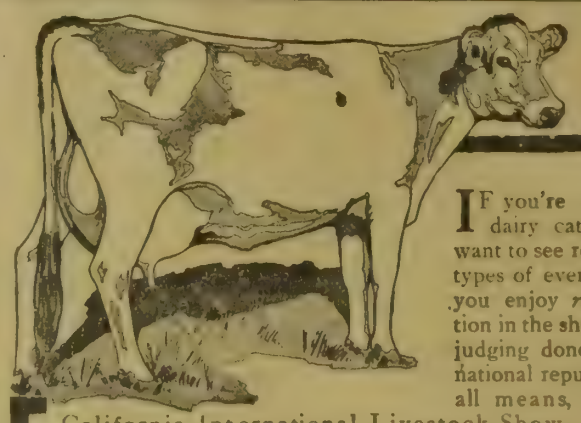


IF you're interested in dairy cattle—if you want to see representative types of every breed—if you enjoy *real* competition in the show ring with judging done by men of national repute—then, by all means, attend the California International Livestock Show.

Remember—the dairy exhibit is only *one* of the big features: There will be equally strong showings of Beef Cattle, Horses, Sheep, Swine, Poultry, etc.

And besides—there will be a daily Horse Show at night, featuring the finest aggregation of high-school horses ever assembled on the Pacific Coast.

$38,000 in premiums. Plenty of education and amusement. Be sure to come! You'll be welcome!

Special low railroad rates from all points.

For detailed information write Joseph E. Painter, Manager, 1205 Merchants Exchange, San Francisco

Entries positively close Oct. 5th. Make your entries NOW!

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW
SAN FRANCISCO - NOV. 2-10, 1918

FULL POWER ON TURNS

BECAUSE OF THE SINGLE TRACK.

Will the tractor you buy turn in a 10-foot circle (5-foot radius) pulling as strong on the short turns as on the straight away—and will it do that without slipping one side or one wheel? That's of vital importance! Many tractors work well when pulling straight—it's on the turns that you get good or poor service from your tractor.

The Bean TrackPULL Tractor is the only small orchard-and-vineyard tractor made that delivers full power on short turns and it turns without slipping one side, pivoting, or doing anything else that a tractor shouldn't do.

Many tractors will turn themselves around all right, but the tractor you need, whether in orchard, vineyard or field work, must take the tools around too and keep them at work all the way around. This requires full power on the turns.

This remarkable machine is built on patented FRONT-DRIVE principle—you steer with the single track which does all the pulling whichever way you go. You can turn within the same row (see illustration above) without lifting out the tools, making as short a turn as with a team!

Absolutely no other tractor acts so like a team while doing three times as much, is so handy, so efficient, so staunch, and so protected against over-strain!

You'll want the Bean TrackPULL eventually. Send coupon at once for catalog, complete description, and name of nearest demonstrating agent.

Don't buy a tractor that does less. Don't do without one that does so much

Bean Trackpull Tractors
WITH INVALUABLE PATENTED FRONT-DRIVE

New Features in 1919 Model.

1. Motor—Improved oiling system; improved carburetor control, governor equipped.
2. Track Rollers—Provided with hardened steel thrust washers.
3. Drive Sprocket—Solid steel ring, machine cut, hardened and heat treated assures long service.
4. Bearings—Provided with improved dust-protected greasing facilities.
5. Rear Wheels—Provided with dust cap, wear-resisting bushings and improved greasing facilities.

Price advances to $1445 Nov. 1st. By taking October delivery you will get the latest model with all 1919 improvements at the present price of $1340.

Bean Spray Pump Co., 233 W. Julian St., San Jose, Cal., or Dept. A-10, 131 N. L. A. St., Los Angeles, Cal. Send me catalog and full information without obligation on my part.

Name .....
Street .....
City ..... State .....
County .....
No. of acres .....
Kind of crops grown .....

the Turlock Merchants and Growers, Inc., and confirmed by the writer's observations. Cassabas are still freely coming in. About 2800 carloads of cantaloupes have been shipped. A great deal of the planting did not mature crops on account of drouth, but on the whole yields per acre have been very good, the crop has reached Eastern seaboard markets in only fair condition due to delays en route, but prices have been exceptionally good. C. M. Stetson of Ceres reports cantaloupes selling by the carload at $6 and $7 per crate. The watermelon season was very profitable until about mid-September, when markets failed to justify further shipments. The wilt disease has not been so serious as in previous years, but aphis did some damage. Sweet potatoes are becoming quite a crop here, the Turlock Irrigation District having been asked for water for 2392 acres last spring, and the crop having yielded an average around 100 to 125 crates per acre, with the Sunlit Fruit Co. taking all second sizes for canning at $25 per ton to the growers. The price for shipping has not gone below 3c per pound to the growers f. o. b. Turlock and other shipping points. The T. M. & G. has shipped about 90 per cent of the crop from the Turlock Irrigation District and also has shipping sheds at Livingston and Atwater.

Beans and Corn.

Acreage of beans, gyp corn, milo, kafir, etc., in territory around Turlock has greatly increased, says Mr. Eddy, though in the Turlock Irrigation District there is not much increase. Beans are coming pretty well, but the yield will not be so much per acre as last year on account of short moisture. "Second crop" beans are doing well. Very few beans have come in for shipment yet, and the season has not opened up enough to quote prices. The warehouse was opened October 12 last year for reception of beans. Varieties this year are more blackeyes, Lady Washingtons, and teparies, with a few small whites, but fewer colored beans on account of poor markets for last year's crop of the latter. A number of carloads of teparies were sold last year to the Middle West, but this may not help in marketing the present crop.

Some gyp corn is already coming in. This comprises the greatest part of the corn acreage. It is yielding about average. Only that which was on the ground during the rain was damaged and it will mostly make No. 2 quality.

Labor Costs Higher.

Growers and shippers have had enough of labor as a rule, though prices were higher than last year, and it was notable that a larger proportion of older men were working. Field workers were generally paid about 50c per hour, non-technical shed workers the same, carloaders 60c and inspectors $7 to $8 per day. The contract price for picking, packing and labeling was 28c per crate for standards, jumbos, and ponies, and 14c for flats. The provision made by the T. M. & G. for housing helpers, as noted last spring in the Rural Press, proved so popular that there was generally a waiting list of applicants for the houses.

FALL ALFALFA SEEDING.

One hundred and thirty-five acres of alfalfa planted from December to February by A. S. Bomberger of San Joaquin county on well-drained sandy loam showed no difference in stand, vitality, weediness, or growth, though the December planting was frosted severely several times. To get benefit from early seeding other than to avoid the rush of spring work, Mr. Bomberger believes earlier fall seeding would give much better results and he expects to plant between 60 and 100 acres this October if possible. An important feature of fall seeding, however, is to have the ground relatively free from weeds, as after a clean-cultivated summer crop.

Mr. Bomberger, without experience on heavy ground, points out that actual freezing of the ground or of water standing at the surface of water-logged ground might easily kill the plants; but there is a considerable advantage and practically no danger in fall sowing on well-drained land in the San Joaquin Valley.

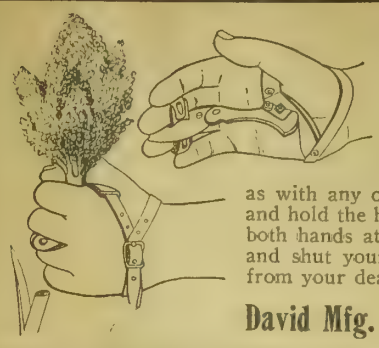
THRIPS REDUCES CROPS.

W. Stearns of Wooden Valley reports about half a crop of pears this year. The yield was light chiefly through the ravages of thrips. Prunes are a good crop with him, though they will run 20 points smaller than usual because of the dry season.

MOISTURE AND ALFALFA PLOWING.

The time to plow out alfalfa is when moisture has penetrated to the depth you want to plow, so the share will ride along the dry dirt and cut the roots easily, because they are firmly held from below.

The new Egyptian Cotton Association of the Imperial Valley is taking steps to erect its own gin at Imperial.



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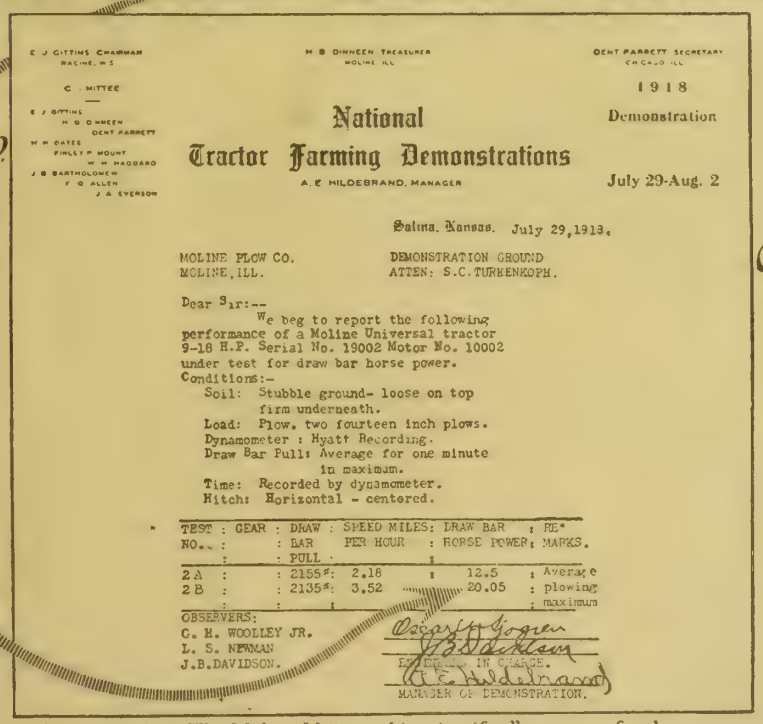
EGYPTIAN CORN
You can use both hands and cut twice as much in a day with the
DAVID HEADING KNIFE
as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers. Pair (right and left) $2.50, from your dealer. *Dealer; order from any jobber.*
David Mfg. Co., Dept. C San Jose, Cal.

Napa County Fair
NAPA, CAL., OCT. 10-11-12
See Napa County at her best. Poultry, livestock, as well as general agricultural products, will be on display. Twenty thousand square feet of exhibits. The roads to Napa are good.
E. P. LOCARNINI, Manager **Napa, California**

Moline-Universal Makes Wonderful Record at National Tractor Demonstration


E. J. GITTINS CHAIRMAN, RACINE, WIS.
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1918 National Tractor Farming Demonstrations Demonstration
A. E. HILDEBRAND, MANAGER July 29-Aug. 2

Salina, Kansas. July 29,1913.

MOLINE PLOW CO. MOLINE, ILL. ATTEN: S.C. TURKENKOPH.

Dear Sir:--
We beg to report the following performance of a Moline Universal tractor 9-18 H.P. Serial No. 19002 Motor No. 10002 under test for draw bar horse power.
Conditions:-
Soil: Stubble ground- loose on top firm underneath.
Load: Plow. two fourteen inch plows.
Dynamometer : Hyatt Recording.
Draw Bar Pull: Average for one minute in maximum.
Time: Recorded by dynamometer.
Hitch: Horizontal - centered.

TEST NO.	GEAR	DRAW BAR PULL	SPEED MILES PER HOUR	DRAW BAR HORSE POWER	REMARKS.
2A		2155#	2.18	12.5	Average plowing
2B		2135#	3.52	20.05	maximum

OBSERVERS:
C. H. WOOLLEY JR.
L. S. NEWMAN
J.B.DAVIDSON.
ENGINEER IN CHARGE.
MANAGER OF DEMONSTRATION.

Develops 20 H.P. on the draw bar and we only rate it at 9 H.P. Think of it!-

Officially Accredited with 26.48 H.P. at the belt- We rate it at 18 H.P.

IN previous advertising we have stated that the Moline-Universal was conservatively rated at 9-18 h. p. Just how conservative is shown by the astonishing official tests made at the National Tractor Demonstration which showed the Moline-Universal to have an excess of over 11 h. p. on the draw bar and 8 h. p. at the belt.

Certainly these tests show beyond question of doubt the efficiency of the Moline-Universal. For each 169 lbs. of weight the Moline-Universal developed 1 h. p. on the draw bar. Compare this with the ordinary tractor which develops 1 h. p. for each 250 to 300 lbs. weight—and you will clearly realize the greater efficiency and corresponding greater economy of the Moline-Universal.

However, we shall continue to rate the Moline-Universal at 9-18 h. p. A tractor to give satisfactory service and stand up for years under the strain of tractor work must have reserve power, and the greater the reserve the better. Under normal conditions the Moline-Universal has from 50 to 100 per cent reserve power. Think what this means.

Ninety-eight per cent of its entire weight is on the two big drive wheels where every ounce is available for traction. The Moline-Universal is scientifically constructed and utilizes its weight to best advantage. It has no dead weight.

From the above report you will see that the Moline-Universal developed 20.05 h. p. at 3.52 m. p. h. pulling two plow bottoms 9 to 10 in. deep in exceptionally hard plowing. At 2.18 m. p. h. it developed 12.5 h. p. The difference in speed accounts for the extra draw bar pull. At 3.5 m. p. h. under average conditions the Moline-Universal will plow as much in a day as a 3-plow tractor traveling at 2.25 m. p. h.

Just the Right Size

If the Moline-Universal were built to pull a 3-bottom plow, it would be too heavy for light work. As the Moline-Universal is now built it has ample capacity for all ordinary plowing needs, and at the same time is equally suited for light operations such as cultivating, haying, harvesting, etc. which require far more work hours than your heavy work.

You are chiefly concerned in getting your work done quicker and better than you ever did before. You have no fixed power requirements. One day your work may be heavy, the next day light—and the light work is just as important as the heavy. Thus, you must have a tractor which will do both heavy and light work efficiently and economically, and the Moline-Universal fully meets both these requirements. You have plenty of power when you need it and when you don't want it you have no extra expense—as you would have with a heavy tractor for light jobs.

Remember this—here s what the Moline-Universal Tractor will do for you:

(1) Gives you plenty of power for all your work, both heavy and light.

(2) It does all farm work including cultivating.

(3) One man operates both tractor and implement from the seat of the implement in all operations.

(4) Electric lights enable it to be worked nights to make up for unavoidable delays.

(5) Because of self-starter, non-robust labor can operate tractor successfully.

(6) So well made and has so much reserve power that it will give many years of service.

Send for free catalog which gives detailed description of the Moline-Universal Tractor. Address Dept. 97.

Moline Plow Company, Moline, Illinois

Fuel Record 1½ Gallons Kerosene Per Hour With a 24"to 26" Thresher

WATERLOO BOY

ORIGINAL KEROSENE TRACTOR

This tractor is a record breaker in fuel economy. It is the first tractor built in which cheap fuel was a part of the original design and construction. Our patented inbuilt manifold transforms kerosene into a powerful gas and insures its burning all the fuel—no waste.

"I threshed 18,000 bushels grain this summer with the Waterloo Boy Tractor. It required 15 gallons kerosene and about a quart of cylinder oil for a ten hour day." E. C. Haraldson, Hanley, Sask.

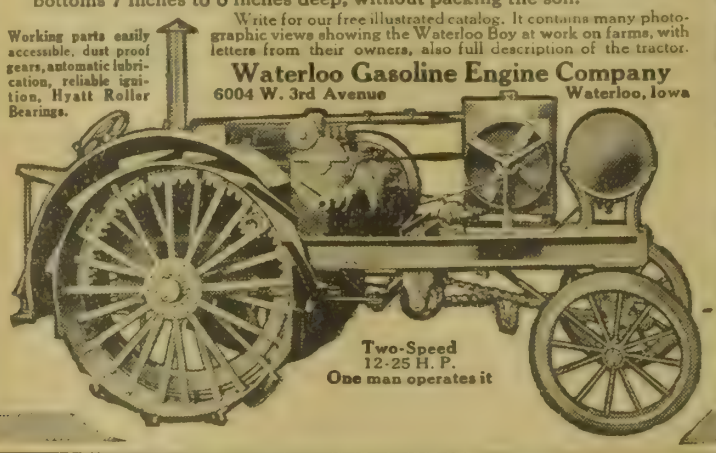
As Efficient in the Field as at the Belt

The Waterloo Boy has a record of pulling any load eight horses can pull. Its simple, powerful motor sends driving force into both the large, wide rear wheels which grip the ground firmly, pulling three 14 inch bottoms 7 inches to 8 inches deep, without packing the soil.

Write for our free illustrated catalog. It contains many photographic views showing the Waterloo Boy at work on farms, with letters from their owners, also full description of the tractor.

Working parts easily accessible, dust proof gears, automatic lubrication, reliable ignition, Hyatt Roller Bearings.

Waterloo Gasoline Engine Company
6004 W. 3rd Avenue Waterloo, Iowa



Two-Speed
12-25 H. P.
One man operates it

A Size for Every Engine and Motor

Piston rings prevent escape of gas and power. They must fit exactly or there is compression leakage, excessive carbon, and power loss. The scientific construction of

McQUAY-NORRIS
LEAK-PROOF
PISTON RINGS

assures equal pressure all around the cylinder walls. They are made in all sizes to fit every model and type of engine, automobile, tractor, etc.—every size accurately gauged to fit the particular model of motor.

Your local dealer or garage has—or can get—our data book of piston ring sizes of practically every engine and motor made. This will tell exactly what rings you need. Complete size assortments are carried by more than 300 jobbing and supply houses all over the country from which you can be quickly supplied. Over 2,000 unusual sizes and oversizes—all widths and diameters—are kept constantly on hand at the factory ready for prompt shipment anywhere.

McQUAY-NORRIS
Superoyl
RINGS

A special ring for engines that pump oil. Used in top groove only of pistons to control excess oil, with McQuay-Norris LEAK-PROOF Rings in lower grooves to insure maximum compression and fuel economy.

SEND FOR FREE BOOKLET
"To Have and to Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

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Hardy Rhododendrons, Azaleas, Boxwoods Hollies and a complete line of Coniferous Evergreens.

Specialists in Specimen Stock for Landscape Work.

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Twice the Power at Half the Cost
Sizes 2 to 30 H.P.—Select Your Own Terms—Direct from-Factory prices. Write your own order—Save $15 to $200. Prompt Shipment. For new catalog, "How to Judge Engines," FREE—by return mail, Postpaid.

Money Back if not satisfied on my New 90 Day Engine Offer

Write Today 2860 WITTE ENGINE WORKS Oakland Ave., Kansas City, Mo. Empire Bldg., Pittsburgh, Pa.

Mechanical Power on the Farm

Tractor Demonstration Notes.

An Avery 25-50 tractor was slowly run up to a wooden block two feet square and three or four feet long, hooked its drive wheel grouser onto the block, climbed on top of it, backed down again deliberately, and then drove forward completely over it.

The W. L. Cleveland Co. had two different sized motor corn-potato-bean, etc., cultivators at work.

A charming young farmerette gaily drove an Avery two-row motor cultivator for F. H. Poss & Co.

F. T. Briles reports sales of 47 Cleveland tractors at the Los Angeles demonstration.

You might think the hard adobe provided good traction, but it was weathered an inch or two on top into a layer that acted something like a plate of ball bearings.

One tractor broke off the axle of its front wheel by dropping into a crack in the adobe on a turn.

After a Trundaar had pulled a Killefer single-standard subsoiler the length of the field, raising a ridge six inches high rounded off two feet wide, a yardstick was shoved into the gash about 21 inches.

Stiff tractor hitches on the P. & O. plows were mighty handy in backing them up for a new start when they dug their noses too deep into the adobe.

A Heider tractor operated a Wilson-Wetterhold grinding machine while a man pitched bean straw, alfalfa, husk-corn, milo, barley, and shelled corn into it at various times. It turned out a much more economical feed than it took in. The cylinder of flat iron plates looks like low upkeep costs.

Pushing a four-row bean cutter about the field, the Moline showed how beans could be cut without running or tramping over them. The cutter was suspended from an arm projecting from the front of the tractor. A lever raised and lowered it, being operated by rope and pulley from the driver's seat. The push of the tractor became a pull from the front end of the projecting arm to which the cutter was hitched.

The Union Sure-Grip tractor was practically the same as when shown at last year's Los Angeles demonstration except a little strengthening in a few parts.

The Rumely 20-40 straightened a plow beam.

The Russell had to wait while its plow was exchanged on account of a broken share and shank.

Five Oliver 14-inch moldboards built for the heaviest plowing were pulled to the hilt by the Best 75.

With the certainty of fate, the Holt 75, with its ten tractor disk plows, chugged along, leaving a beautifully finished job—after Mr. Davis came from Stockton and adjusted the disks.

The Lauson took a load it could carry without effort and did a fine job of plowing.

A 45-foot Forkner springtooth "tractor tiller" was pulled around every afternoon by a big Caterpillar.

The Appleton is a late arrival in California, being handled by C. S. Anthony since F. H. Poss Co. has taken over Avery tractors for the entire State.

The demand for disk gang plows is ten to one greater than for the same plows with moldboards which may be attached in place of the disks, according to J. H. Davis, plow inventor of the Holt Mfg. Co. Their disk plows have always been bolted to the I-beam frames, but the moldboards have been fastened by clamps.

Automatic Tractor Disk Harrow.

A new labor-saving implement for the heaviest cultivation by tractor is that shown and operated at the Los Angeles Tractor and Implement Demonstration, September 17 to 22, by the Killefer Mfg. Co. The disks were heavy enough to stand the gaff on the clods of hard, dry adobe bigger than water buckets which the tractor plows turned up. The new labor-saving feature is an arrangement of flat iron bars so attached to each other and to the disk frame that when the chain from the tractor was hitched one way it pulled the disks straight and when hooked by a right-angled hook into a special plate they were pulled to the angle desired. No labor of man or tractor was required except to loosen the strain on the pulling chains and place the hook or remove it while sitting on the tractor. Crossed iron bars and chains between the forward and rear gangs made the rear ones follow suit when the forward disks angled or straightened. The whole outfit is entirely flexible and carries a rack for a heavy load. It is made in five, six, seven, eight, ten, and twelve-foot widths, the eight-foot one weighing 1675 pounds. One man operates both the tractor and the disk without loss of time and without moving from his seat.

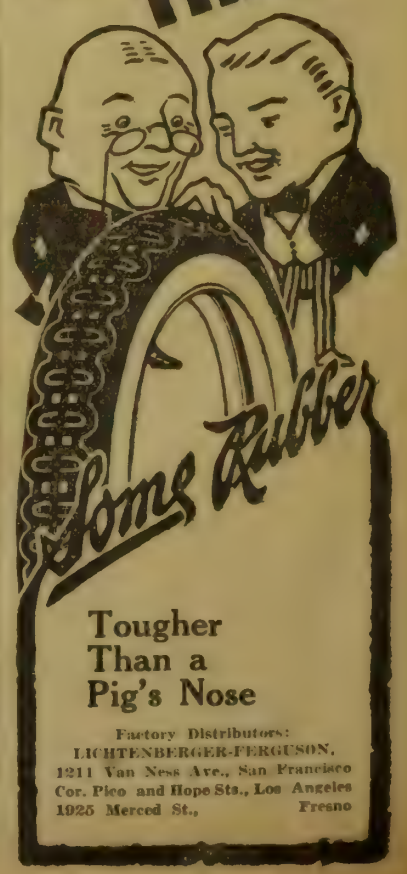
Portland Tractor Demonstration.

Fifty-four tractors of 25 different makes were demonstrated at Portland, September 5, 6, and 7, according to Eugene Smith, who managed that demonstration after completing his work on the one at Davis last spring. The demonstration was unusually successful from the standpoint of visitors and of exhibitors, and a great volume of business was transacted. All kinds of soil, hillsides and valley land were turned, under more nearly average farming conditions, than at Los Angeles. Mr. Smith says they had no such machinery exhibit as featured at the latter.

Inner Tube Suspended 376 Pounds.

A five-inch cross-section comprising one-twenty-ninth of a Norwalk inner tire was hung so it held the weight of a rock weighing 376 pounds. This stretched the piece less than two feet. The demonstrator remarked that the Government test for rubber is to stretch a five-inch section to 25 inches for 25 minutes. How nearly it returns to its normal size shows how nearly pure rubber it is. Only rubber of 95 per cent or greater purity will float, and the demonstrator showed that Norwalk tubes would float.

NORWALK TIRES



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Tougher Than a Pig's Nose

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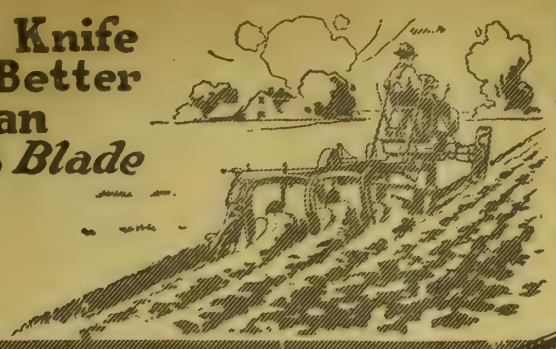
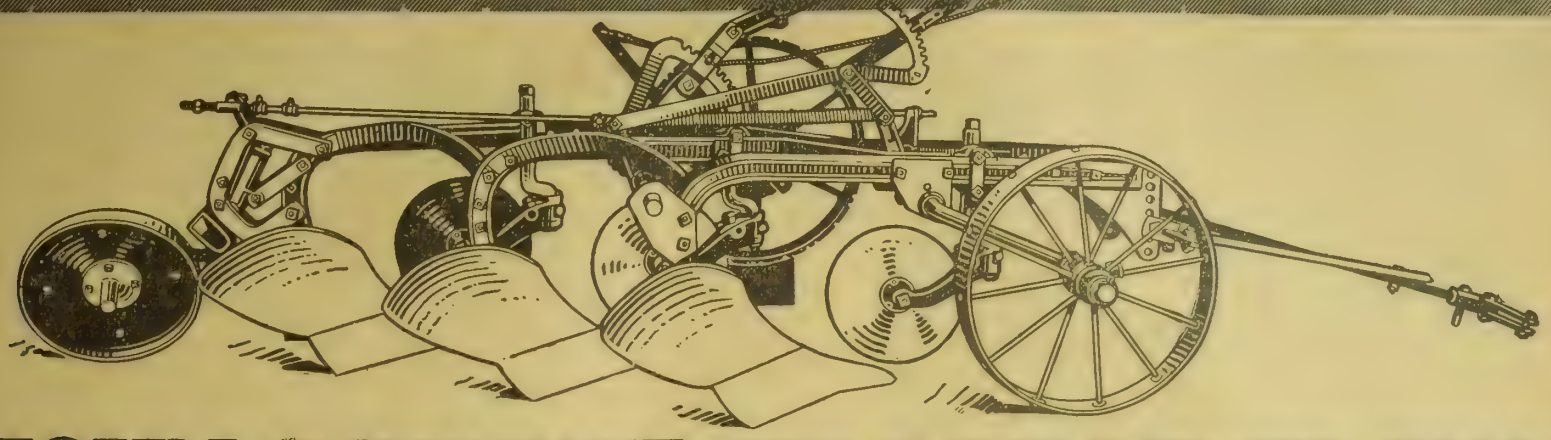
1925 Merced St., Fresno

No Knife Is Better Than Its *Blade*



No Tractor Plowing Outfit Is Better Than Its *Plow*



JOHN DEERE TRACTOR PLOWS

Give Special Satisfaction To California Farmers

Get These Books

Write today for our free booklet describing fully the John Deere Light Tractor Plows. It has a message on tractor plow value that you will find profitable to you. Ask also for our big free book *"Better Farm Implements and How to Use Them."* Its 156 pages describe a full line of labor saving implements—(tells how to adjust and operate many of them). It is full of practical information that will help you. Put it in your library. Use it as a reference book. It will be worth dollars to you.

To get these books, mention the implements in which you are interested and ask for Package PT 11.

It takes special tractor plow construction to meet the requirements of plowing in California.

John Deere Tractor Plows, No. 5 and No. 6, have that construction.

The development of their special advantages was directed by men who had made a close study of California tractor plowing conditions.

They have fully proved their special ability in the hands of California farmers and fruit growers during the past year.

These John Deere Tractor Plows are controlled by the wheels at all times because the axles are rigidly fastened to the beams. The land wheel is set back balancing the weight of the plow over all of the wheels and insuring even depth of plowing in uneven ground. The plows get down to position quickly and ***stay in the ground*** while plowing.

The land wheel and front furrow wheel are set so as to permit plowing close up to trees or vines in throwing either to or from the row.

Both levers are out of the way of limbs while the plow is at work.

The power lift for these plows is the simplest and most dependable ever designed. No chains or sprockets to cause trouble. A powerful clutch engages positively and raises the bottoms high and level.

There is unusual clearance between mold board and beams for deep or trashy-land plowing.

These plows are exceptionally strong in every part. Beams are warranted not to bend or break. Beam braces have an extra long lap. Large bolts and lock washers hold all parts rigidly to place.

Besides the special design end extra strength that particularly adapts them for use in California, these plows carry the genuine John Deere bottoms, favored everywhere because of their wearing, scouring and pulverizing qualities.

Their John Deere Quick Detachable Shares save time and labor without sacrificing strength or close fit. Loosen one nut to take the share off. Tighten the same nut and the share is on tight.

The hitch on the No. 5 and No. 6 is adjustable—it adapts the plows for use with any standard tractor.

You can get the size to suit your tractor. The No. 5 plow is furnished in two and three-bottom sizes; the No. 6 in three and four-bottom sizes. Ten, 12 or 14 inch cut.

Ask your John Deere dealer to show you a John Deere No. 5 or No. 6 Tractor Plow. Investigate the special advantages these plows have to meet your needs. You will find them fully dependable for better and longer service in California fields, orchards or vineyards.

John Deere Plow Company

San Francisco, Cal.

California Liberty Fair

EXPOSITION PARK
October 12 to 26, 1918

OUR ANNUAL FALL FAIR
60,000.00 in Premiums 60,000.00

Parade Ground and Soldiers' Mess at Exposition Park.

Largest Live Stock Show Ever Held
Society's Big Event. Famous Horse Show.
50,000 Dahlias 50,000.

Agriculture Floriculture Horticulture Manufactures
Poultry Pigeons Pet Stock

California Liberty Fair, Oct. 12 to 26, 1918.

—Litter Carriers
—Feed Carriers
—Sanitary Steel Stalls
—Hay Tools
—Bird-proof Door Hangers
—And other labor-saving equipment

MAKE YOUR WINTER BARN WORK EASY

You can no more afford to clean out your barn with a wheelbarrow than to cut your wheat with a cradle. One cuts into your legitimate profits just as surely and as deeply as the other—**it robs you of money** which should be in the bank, and of luxuries which should be in your home.

LOUDEN'S LITTER CARRIER OUTFIT

stops the waste. Makes work lighter and life pleasanter—*especially in winter.* Saves daily many hours of the hard disagreeable work—*barn cleaning with a wheelbarrow in cold, wet weather.*

Catalog, barn plans, and full information FREE. Write today.

California Hydraulic Engineering and Supply Co.

68 Fremont, San Francisco
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Your Soil Needs Amboy GYPSUM

California citrus soils are extremely deficient in lime, sulphates. Amboy Gypsum furnishes these—makes available other necessary elements. Increases crop yield. GYPSUM BOOKLET FREE.

Consolidated Pac. Cement Plaster Co., 613 San Fernando Bldg., Los Angeles.

The Rindge Company expects to farm 50,000 acres of land around Stockton the coming year. This company is the pioneer in hemp growing in California, also of raising corn on a very large scale.

General Agricultural Review

Field Crops.

The wheat interests of the State are taking action to convince President Wilson of the expediency of fixing a $2.50 price for the 1919 wheat.

The Government has placed a price of $66 a ton on cotton seed grown in the Imperial Valley and in Arizona—somewhat higher than the average price for seed.

In the sugar beet districts growers welcome the news that Federal Food Commissioner R. P. Merritt refuses to offer a fixed guarantee to the sugar refiners for their next year's product. The farmers feel sure their next year's product will bring a better price than this.

Wild ducks in the rice fields of Butte, Colusa, Glenn, Sutter, Yolo and Yuba counties may be shot whenever necessary to protect the crops, according to an official telegram from Washington. This ruling holds good until the 15th of the month. Only rice farmers, members of their immediate families and employees, however, may shoot the ducks, and they must shoot in open field.

In the Stockton section, wherever men were behind with their tomato picking, there has been considerable loss, while those who were well up with their work had much less loss of fruit. The keeping qualities of onions have been somewhat damaged, especially where they had not been pulled. Those picked had to be turned, but a good many have been sacked and put under cover. Potatoes are only affected on old land plowed shallow. Here a good many vines have been killed down and stunted the growth of the tubers. George Shima claims no damage to potatoes on his land.

Citrus and Semi-Tropical.

The commercial culture of the avocado in the foothill section around Oroville offers great promise, according to the U. S. Department of Agriculture.

Olives have been benefited by this season's weather and the fruit has increased in quality. The crop is expected to reach about 50 per cent of normal.

John P. Coy, Horticultural Commissioner of San Bernardino county, reports no change in the citrus crop report. He says most of the trees are looking fine—a few not up to standard but improving. No fumigation this year except a small amount in the west side of the county. Beans are looking fair, though the acreage is less than last year.

Deciduous Fruits and Nuts.

The Porterville Canning Company has been notified that all the product for the season will be taken over for the U. S. Army.

Orchardists living within auto-riding distance of San Francisco complain loudly of the thievish instances of pleasure parties passing their properties.

Visalia is finishing up her prune crop and will soon be all under cover. Prunes cost about $4.50 a ton for picking or nearly double the cost of a few years ago.

The Yuba City plant of the California Packing Corporation has finished the largest pack in its history. They packed 102,000 cases of peaches as against 96,000 last year.

Grapes.

Perhaps the highest price paid for a carload of table grapes is $3,353, which was the amount paid to the Pioneer Fruit Company for a carload of Tokay grapes in Boston.

The first order for 1918 California raisins placed by the United States Government was announced by the California Associated Raisin Company as amounting to 15,846 tons.

Tokay grape growers in the vicinity of Lodi have suffered less than was originally feared as a result of the early September storm. Some of the fruit being shipped from the old vineyards is as fine as ever left the district. The rains seemed to improve the color of the grapes.

ADVANCED PRICES SET ON 1918 WALNUT CROP.

The walnut crop of Southern California has been made and is now being gathered. It is somewhat larger than last year's—estimated at 33,000,000 pounds. C. Thorp, manager of the California Walnut Growers' Association, says the quality of the nuts is showing a marked improvement over last year's. The price committee met today and named the following prices f. o. b. California points for this season:

	1918	1917
Fancy budded	31½c	24c
Standard	29c	21c
No. 1 soft shell	28c	20c
No. 2 soft shell	25c	16½c

SIXTY-FIVE PER CENT ORANGE CROP FOR CALIFORNIA.

The San Francisco Bureau of Estimates predicts a 65 per cent orange crop for California this year, as against 50 per cent last. The condition of lemons is given as 86 this year, as against 55 last. The condition of the orange crop by counties is as follows:

	Navels	Valencias.
Butte and Sacramento	50	—
Fresno, Kern, Tulare	32	60
Los Angeles	70	88
Orange	85	85
Riverside	55	80
San Bernardino	55	80
Ventura	75	—

The 1918 sugar beet crop of the United States is estimated by the Federal Food Board at 6,359,000 tons, compared with 5,980,379 tons last year. California's production is estimated at 1,041,000 tons, as against 1,331,548 last year.

For years the standard of farmers everywhere—Mica Axle Grease. Its high-quality petroleum grease would alone make good axle grease. But the powdered mica makes it better. It can't gum or cake and it lasts twice as long. No hot boxes. Get a can from your dealer today.

STANDARD OIL COMPANY
(California)

"The Army and Navy will dig the Huns' grave, but We must furnish the Spade"

—*Billy Sunday*

By REV. WILLIAM A. SUNDAY

Uncle Sam's Liberty war chest needs filling again!

We have the cash to fill it as many times as he lifts the lid.

There are only two horns to this dilemma—*you* are either a patriot or a traitor.

The men on the firing line and on the battleships have turned from business, home, mother, wife, children, and they stand ready to give *their* lives and shield with *their* bodies us who remain at home.

We are unworthy to be thus protected, if we do not do our utmost to sustain them.

We must be one in our determination to win this war. We are traitors to the cause for which they are giving their lives, if we do things here that make their efforts harder.

Life is not worth living unless there is something to live for. *Life would not be worth living if that bunch of Heinies should win.*

That is why they cannot win. That is why we cannot lose.

What a mountain of crime God has on his books against that horde of Hellish Huns. What grave is deep enough for this thousand-armed, thousand-footed, thousand-headed, thousand-horned, thousand-fanged pirate of the air, assassin of the seas, despoiler of the earth and ambassador of Hell!

The army and navy will dig the grave, but we must *furnish the spade.*

Our boys will soon hang crape on the door of the Potsdam Palace, and the bands will play Yankee-Doodle and Dixie along the Rhine.

Uncle Sam is the cactus in the Kaiser's pillow.

Our boys have gone over to clean up on that fool bunch of Huns and it is up to us to supply them with whatever they need to finish the job. It takes money to keep the riveters riveting—the sawyers sawing—the machine guns spitting bullets and the grub wagon always on hand with the eats. There is nothing too good for our brave defenders.

Our vocabulary contains no words adequate to express our approval of the achievements of our government since we threw our hat in the ring. We are rich on top of the ground; we are rich under the ground and our rivers creep like silver serpents to the seas, bearing our products.

The children of England, France, Italy and Belgium are laughing once more because they are being fed from Uncle Sam's bakeshop. One carload of meat every two minutes, one hog out of every four, nine million pounds of meat a day—all going over to feed our boys. We are in this scrap to the last dollar, the last grain of wheat, the last day.

We will never stop until Germany dips her dirty blood-stained rag to the Stars and Stripes.

It's a whale of a job we've tackled, but we can and must put it over.

But you must help.

Don't whine. Don't knock. You can't saw wood with a hammer. Don't turn the hose on the fire; add fuel.

Buy Bonds! Buy Bonds! Buy Bonds!

This Space Contributed to Winning the War by

HERBERT DUGAN, San Francisco
HAWAIIAN FERTILIZER CO., San Francisco
MILLER & LUX, San Francisco
BISSINGER & CO., San Francisco
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H. G. KNAPP & SON, San Jose
F. H. STOW TRACTOR CO., Berkeley
CALIFORNIA CORRUGATED CULVERT CO., W. Berkeley
SILVA-BERGTHOLD CO., Newcastle

Santa Anita Rancho

ANOAKIA BREEDING FARM

PERCHERON HORSES—No expense has been spared to place the Percheron stud at Santa Anita Rancho in position to breed Percherons equal to any in America. Young stock for sale.

THOROUGHBREDS—In this stud abounds the blood of world famous horses. Some two- and three-year-olds by REY EL SANTA ANITA for sale.

ARABIANS—This stud is headed by the famous Ibu Mahruss, imported Arabian stallion. A number of his get are offered for sale.

HOLSTEIN CATTLE—Breeding animals in the registered Holstein herd at Santa Anita Rancho, headed by MERCI LAD KORNDYKE BURKE, are the result of careful selection in which the requirements are high individual quality, heavy and persistent production, and proven transmitting ability. All females are placed on official test as they freshen. A few splendid young bulls out of A. R. O. dams for sale at prices well within their value.

BERKSHIRE HOGS—The herd of registered Berkshires is composed of a group of sows and gilts representing the most desirable blood of the breed, headed by KINTYRE LAIRD, first prize senior yearling and reserve Senior Champion boar at P. P. I. E. A few good boar pigs are offered at this time. We are prepared to fill carload orders.

POLAND-CHINA HOGS—Prize winning sows and gilts backed up by many generations of famous prize winners form the breeding basis of the herd. Heading these splendid females is BANKER'S BOY, Junior Champion and Reserve Grand Champion at P. P. I. E. We are prepared to fill carload orders.

MAMMOTH JACKS—The grand group of registered jennets in this stud is headed by KING BERSHEBA, Grand Champion jack of Kentucky. He is one of the greatest individual jacks in America. A few young jacks for sale.

CORRESPONDENCE INVITED.

Anita M. Baldwin

W. H. TAYLOR, Superintendent SANTA ANITA, CAL.

Buy That Bull

AT THE

CALIFORNIA LIBERTY FAIR

LOS ANGELES, OCT. 12 to 26

SONS

of Our Great Herd Sire

"IT"

Dam

Pontiac Clothilde DeKol 2nd

Butter 7 Days 37.21

Sire

Pietertje Maid Ormsby

Butter 7 Days 35.55

Will Be Shown and Offered for Sale.

Just consider that "IT" is from the greatest cow of all time—so recognized by leading breeders—and that her grandsons will put that high per cent butterfat test in your herd that you are looking for.

Take one of these youngsters over. They are the "real stuff."

McALISTER & SON

CHINO, - CALIFORNIA

A Square Deal for California Dairymen

[By J. M. Henderson, Jr., Sacramento.]

[Editor's Note.—One thing about the Milk Producers' Associations of California that particularly impresses us is the fact that they were not formed as money-making enterprises for the originator, but instead were financed by him to supply an existing need for methods of handling and marketing dairy products that would yield dairymen a fair profit. In other words, instead of looking out for his own interests, Mr. Henderson worked to put the dairy industry of California on a more stable basis. Someone has said, "Blessed is he who, having found the highest task he is able to do, devotes his efforts to that task." In financing Milk Producers' Associations, in helping dairymen to secure better cows, and, in general, to encourage more efficient farming, Mr. Henderson has found his highest task, and he certainly is devoting his time, efforts and means to this good cause. In the following article he tells how the first Milk Producers' Association happened to be formed, and what organization is doing for California dairymen.]

THE Sacramento Bank, for the past fifty years, has been a large lender of money on farming property in all parts of the Sacramento and San Joaquin Valleys. In recent years I noticed a gradual deterioration of actual prosperity among the farmers, and most particularly among the dairy farmers. Naturally, it became my business to find the reasons and to determine a remedy. Agriculture is the foundation of all business. A prosperous agricultural community makes a prosperous State and nation; conversely, a poverty-stricken rural community makes a poverty-stricken nation.

There are so many definitions of prosperity it may be well to define it for this article. My definition of prosperity is what anyone would consider the fundamentals of contentment: a reasonable amount of work; a reasonable amount of recreation; and a reasonable opportunity for education, for advancement, and for the rearing of a family to be useful citizens.

There has been a gradual tendency for our rural populations to emigrate to the cities. The cities, as a consequence, have become congested with underpaid, half-starved populations, and the country communities have become less populous. There has also been a marked increase in the number of farms which have been leased to itinerant farmers and the decrease in resident ownership—which has proven so ruinous to the agricultural communities of England and Ireland.

Of all classes of farmers, I noticed the dairyman was the most injured. He was also the one least organized, and the one whose products were most freely exploited by the gamblers and speculators without his consent. He was the one most subject to the leasing evil, and still the one most essential of all branches of farming. We can do without almost any commodity before we can do without milk and butter.

I found that the middlemen, the gamblers, the produce speculators and others were very careful always to set the selling price of butter and milk by the private operation of the so-called public exchange. By the shorts and overs they established the price to the producer without consulting him in the slightest. Neither did they give him a voice on the exchange. These middlemen were well organized, but, oh, how they yelled when I suggested that the dairymen organize for mutual protection and for the establishment of price strictly on the basis of cost plus a fair profit!

There was no dairymen's association in Northern California a little over a year ago. For the purpose of establishing just marketing conditions; for the mutual protection and betterment of the dairymen of Northern California, through collective purchasing of feeds and supplies; through standardizing our products; through stimulating production by putting the dairyman on a business plane; and for the purpose of producing clean, sanitary milk from healthy, vigorous cows at the lowest possible cost to the consumer, I financed and organized the Northern California Milk Producers' Association. This is one unit of seven of the Associated Dairymen of California, which makes the movement a State-wide one. This association established an initiation fee of $5 per cow, of which fifty cents was payable in cash, and the balance in bankable notes. We had a very hard struggle pioneering, but after several months of endeavor succeeded in gaining 75 per cent of all the dairy cattle in Northern California in the association.

The association is operated strictly on a co-operative basis. We allow no member to sell milk, butter, cheese or any other dairy product except to the association, for which a reasonable fee is charged for operating expenses. Whereas a year ago the dairymen were selling milk at from seven cents to ten cents per gallon, which results in a tremendous loss to the producers, they now average close to twenty cents per gallon to the producer, but which still results in a net loss. But the end is not yet in sight. We are insisting on greater efficiency both in production and distribution. There are so many phases to efficiency, both for production and distribution, that I can merely touch on it here. We must have better cows that will give more milk with the same amount of feed. For this purpose we must have a larger distribution of purebred bulls among the ordinary dairymen. We must also have better methods of farming so as to produce greater tonnage of feed with the same amount of labor. We must also have better and cheaper methods of handling the distribution of milk.

We must eliminate the handling of milk several times after it gets to the cities. Would it not be silly to have two postmen delivering mail in the same block when one could do it so much more efficiently? Similarly, it is very silly to have two or three milkmen delivering milk in one block, when it all could be delivered by one milkman getting his supply from the central depot. This is among other reforms to be inaugurated by us, and will be most insistently forced to the front from now on.

There has been considerable agitation in the large cities to make the distribution of milk a public utility, and to put it under State control. Some of those who have agitated for this reform do not realize that milk is actually sold in California today by the producer at a net loss to himself. It follows that our association must advertise its purpose and educate the consuming public to the fact that all the dairyman asks for is a fair legitimate profit. And he is entitled to have it. You cannot ask any business man to sell his products at a loss. It is one of the aims of our association to produce and handle dairy products so efficiently that one can secure a better price to the producer and at the same time do justice by the consumer. We want to eliminate waste, get all the value from the by-products of milk, establish chemical works for the manufacture of albumen, sugar of milk and other by-products. In this way we will earn our way quickly both to ourselves and to the community at large.

It is astonishing how many poor cattle there are in the United States, when there is so little excuse for it. The agricultural colleges and private investigators have determined beyond any doubt the great value of a

purebred sire in improving the milk production in an average dairy herd. It is the duty of every banker to help educate the farmer in his community to the benefits of a purebred sire, and to help finance those dairymen who want one but lack the cash to buy one. I am practising what I am preaching. I have financed hundreds of dairymen who want purebred bulls, and stand ready to continue to do this in the future.

The average dairy cow throughout the United States will not average more than 3500 pounds of milk in a year. There are many herds of purebreds in the United States that will average 10,000 pounds of milk per year. A sire from one of these herds naturally will transmit the same tremendous production with practically the same feed consumption. Nearly every dairyman can see the logic of getting a purebred sire and is actually anxious to get one, but due to natural timidity and lack of funds continues to milk his inferior cows year after year, and to use the same worthless scrub bulls. All he needs is a little education along the right direction by such associations of dairymen as ourselves and the aid of progressive bankers. I need not say that the banker is repaid for his enterprise a thousand fold in increased business due to greater prosperity throughout the community.

To summarize: We bankers owe to ourselves and the welfare of our communities to encourage efficient agriculture. A prosperous agriculture means a prosperous community as a whole, and will increase our new prospects. There are several methods by which we can be of assistance—by the organization of co-operative farmers' associations; by the encouragement of better livestock; by the distribution of purebred bulls, rams and boars, and by aiding from educational channels greater efficiency in both production and distribution.

Judging Program for Liberty Fair

[Written for Pacific Rural Press.]

The Livestock Show will be held from October 20 to 26. The barns and sheds will be open for the reception of livestock from October 15 to 20.

Sunday, the 20th, and the forenoon of Monday, the 21st, will be devoted to "weighing in."

Monday afternoon at 2 o'clock the Livestock Show will open with a grand march of livestock.

At 3:30 Monday afternoon car lots of cattle and hogs will be judged; also the individual steer classes. The judging of Chester White hogs will begin at the same hour.

Tuesday morning, promptly at 9 o'clock, the judging of Shorthorn and Holstein cattle, draft horses, Poland-China hogs and milch goats will begin.

Wednesday morning at the same time will begin the judging of Hereford and Jersey cattle and Berkshire and Duroc-Jersey hogs.

As fast as the judging of the above breeds is finished, that of the other breeds of cattle, swine and sheep will commence. The judging of horses and cattle will be under one tent and that of hogs, sheep and goats under another.

Only the judge, superintendent, clerk and herdsman will be allowed in the arena while the judging is being done, but after the ribbons are awarded in each class the public will be given five minutes in the arena to inspect the animals at close range. However, they will not be allowed to touch the animals, as handling by strangers makes them nervous and leads to trouble.

It is expected that the judging of livestock will be completed by Friday noon, and at 2 o'clock there will be a grand parade of all the prize-winning animals. Here the spectator can see gathered together the "best in the West" of all kinds of livestock—something that would require hundreds of dollars and weeks of travel to see in any other way.

BERKSHIRE SALE AT LIBERTY FAIR.

You realize that the future for swine breeders is bright, and you want to get into the game. You have decided that the Berkshire is the hog for you, and you want to purchase a few high-class animals. Yet you have no money to squander and are afraid to trust your own judgment in selecting stock. Isn't that about your position?

If so, the Berkshire sale to be held Thursday, October 24, at the California Liberty Fair, Los Angeles, has been arranged for your particular benefit. For not only have the leading breeders of the State made real sacrifices and consigned some of their best stock in order to help beginners get started right, but the Berkshire judge will inspect the stock before it is put up for sale, and all animals not up to a very high standard will be culled and sold to the butchers.

So, no matter how little you know about the fine points of a hog, you will run no risk in bidding on any animal offered at this sale. You will be sure to get one that is of the proper type, has good feeding qualities, will prove a good breeder, and will make money for you.

Be sure to attend the fair on Berkshire day, Thursday, October 24. See the killing contest in the morning and be at the sale in the afternoon. Even if you don't intend to buy, take it in anyway. It will prove a liberal education in hog types and values.

Under orders of the Butte county division of the State Council of Defense, all warehouses in the country must place armed men around the buildings where grain and other food products are stored.

The Farm Center of Chiles Valley, Napa county, at their last meeting had up the question of a stock yard, with the idea of buying all hogs for sale and holding them for a good market.

He Taught Us How

UNTIL recently most of us thought milking to be simply a matter of pull, pull, pull. Some think so yet. But it's not. If you watch a calf's tongue when he swallows you'll see the difference.

He gets his mouth full of milk—then he swallows. And as he does, his tongue massages the teat backwards from tip to udder.

That's Nature's provision for the prevention of congested blood in the teat as a result of the calf's sucking. Sucking draws the blood to the tip of the teat. The tongue massages it back to the udder.

EMPIRE MILKING MACHINES

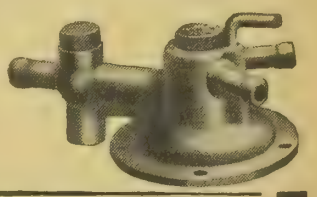
with our new Super-Simple Pistonless Pulsator accomplish the same result. Stops the sucking and lets air flow in between the rubber lining and the walls of the teat cup.

This makes the rubber lining gently massage the teat *from tip to udder*, just like the calf. This action occurs regularly from 48 to 52 times a minute.

With our pistonless pulsator, there are no more leaky pistons resulting in irregular, nerve racking action. The suction is always uniform and gentle. Soothes the cow and results in far greater milk flow. Our local dealer will gladly show you the "Empire" without obligation. Call on him. Write for our new 1918 catalog No. 45

The New Empire Super-Simple Pulsator

The Pulsator Without a Piston



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Also Manufacturers of Empire Cream Separators, Gasoline Engines and Farm Electric Plants

Fuimus Farms

JERSEYS

HAVE BOTH TYPE AND PRODUCTION.

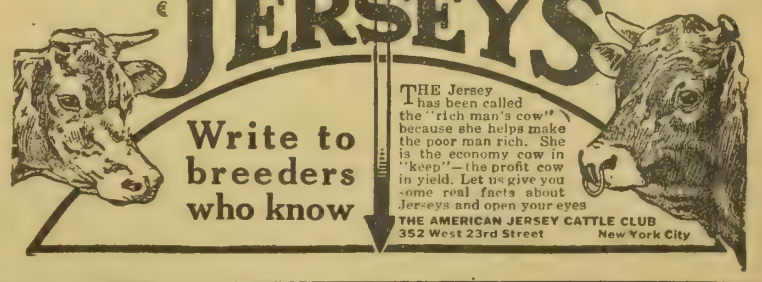
We exhibited four calves at the California State Fair, 1918. We were awarded--

Reserve Grand Champion Cow
Junior Champion Heifer
Junior Champion Bull
First Senior Bull Calf
First Senior Heifer Calf
First Junior Heifer Calf
Third Get of Sire

If you want our kind write or call.

J. E. WHERRELL

1581 Sedgwick St., Riverside, Cal.



Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited

A. A. JENKINS, R. D. 1, Tulare, Cal.

N. H. LOCKE CO.

Lockeford, Cal.

Choice young bulls of King's Valet Blood, backed by Records.

Call at the ranch and make selection.

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing.

VENADERA HERD REG. JERSEYS

Herd headed by **Altama Interest, Grand Champion 1918 State Fair.** Awarded two other championships and 10 firsts, including Aged Herd, Breeders' Young Herd, and get of sire. Young bulls for sale from dams and granddams in Register of Merit.

GUY H. MILLER, MODESTO, CAL.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit cows. Write for information.

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Register of **MERIT JERSEYS** A limited number of bulls for sale

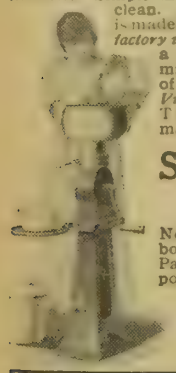
Stop Cream Waste!

$20 more profit per cow every year is the *average* gain of farmers using Viking Separators. Many do far better than that. Proved by carefully kept records of thousands of Vikings.

Don't let the valuable butter-fat dollars slip away in the skim milk through ordinary separators. Get *all* the butter fat that is in the milk with a

VIKING CREAM SEPARATOR

Guaranteed to skim to three one-hundredths of one per cent! No separator at any price gets a higher percentage of cream. Greater capacity than others of equal rating. Mechanically superior. Easy to operate (starts at a touch on the handle). Simple in construction and easy to clean. Lowest in price because it is made in the *largest cream separator factory in the world.* Guaranteed for a lifetime. More than one million in use, in all countries of the world. Look up the *Viking* dealer and investigate. The *Viking* is a money maker for you.



Send For Two Free Books

Not advertising alone but the book, "Making the Dairy Cow Pay," is full of profit-making pointers for dairymen.

Swedish Separator Co.
Dept. BD 507 S. Wells St.
Chicago, Ill.

RIVERVIEW FARM

Offers the 17-month-old Holstein-Friesian bull

'SEQUOIA ZOZO PIETERTJE'

This bull's dam, who is also the sire's dam, is a cow of outstanding size and type with a semi-official record of 20252.4 lbs. of milk containing 735.69 lbs. fat, or 919.6 lbs. of 80% butter. Record at age of nine years. **Price $250.00.**

For photos and pedigree apply,

R. F. FISHER, Carlotta, California.

Consider for your next Herd Sire
a Son of
Colantha Sir Pontiac Aaggie
a Son of
Colantha Johanna Lad

who has two daughters with records above 32 pounds; 20 other daughters that all have outstanding records as heifers.

Our offering this fall in young sires you will find particularly attractive.

GOTSHALL & MAGRUDER
RIPON, CALIFORNIA

CALVES

RAISE THEM WITHOUT MILK
ON BLATCHFORD'S CALF MEAL

Write for free particulars

COULSON POULTRY & STOCK FOOD CO
PETALUMA, CALIFORNIA

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

California Breeders have sold more than **$350,000.00** worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

CALIFORNIA BREEDERS SALES & PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

GINN HOLSTEIN HERD TO BE DISPERSED.

Readers will remember that when W. H. Ginn & Son of Corcoran sold their grade Holsteins a few years ago and went into the purebred business they bought nothing but the best.

An opportunity is now offered others to make a similar start, for the entire herd of 90 head is to be dispersed in order to dissolve the partnership. Think of it! This is not a sale where a breeder wants to get rid of some undesirable stock. You can get the very foundation animals that have made the Ginn herd famous. This includes the herd sire, Aralia De Kol Pontiac Salambo, with 25 of his daughters and 34 cows and heifers in calf to him. Twenty-four of the females are daughters of Merci Sir Pondyke, who is by a son of King of the Pontiacs. Royal breeding here.

And you run no risk, for every animal is guaranteed to be a breeder; every one over six months of age is tuberculin tested and sold subject to retest, except a few of the older cows that will be sold as represented on sale day.

The sale will be held Thursday, October 10, at 9:30 a. m. It will be conducted by the California Breeders Sales and Pedigree Company, and Col. Ben A. Rhoades will be on the block.

BARGAINS AT TREWHITT SALE.

The W. D. Trewhitt dispersal sale of Poland-Chinas, held at Hanford, September 26, brought out a goodly number of spectators, but only a few real buyers. Consequently, most of the animals were picked up at bargain prices.

W. Bernstein opened the sale with a talk about the good qualities of Poland-Chinas, and his short talks throughout the sale helped to make it a success.

The heaviest buyer was T. R. Carlyle of Sanger, who bid in 16 head for $1,360. M. Bassett of Hanford could not resist the temptation to add six of the best to his already fine herd. Alan Milnes of Riverdale found five to his liking, and J. T. Boyd picked five very good ones to start a new herd at Tipton. The bargain of the day was secured by F. E. Fay of Tipton, when Jumbo Equal, the herd sire whose daughters topped the sale, went to him for $85.

Other buyers were A. J. Vancluf, Riverdale; B. M. Hargis, Tulare; W. Bernstein, Hanford; E. R. Eichner, Selma; H. D. McCune, Lemoore; A. Buckland & Son, Fresno; C. G. Hamblin, Hanford; Dr. R. Wilson, Laton.

Col. Ben A. Rhoades cried the sale in his customary entertaining way. Forty-six head brought $4,010, an average of $87.17.

HANFORD POLAND-CHINA SALE.

The mere mention of a sale by the Kings County Poland-China Breeders' Association ought to have the pulling power of a magnet to draw prospective buyers to Hanford. These sales have been held for over three years, this one being the sixth semi-annual sale. Each succeeding one proves better than the last. Buyers are enthusiastic over their purchases and come back for more.

Kings county is the leading Poland-China section of the State, and at this sale, to be held October 9, at the Fair Grounds, 80 head of registered sows and boars from the leading breeders will be offered. For size, bone, strong backs, good feet, easy feeding qualities, and all that goes to make a profitable hog, you can't beat the kind found in Kings county. Plan to attend this sale and take home a few choice animals. F. D. Ross, secretary, Hanford, will be glad to send you a catalogue.

Holstein buyers who want real quality can now get it at the M. Holdridge herd, San Jose. On account of a change of location, it is necessary to reduce the herd, and animals of both sexes and all ages are offered at attractive prices.

You Can Turn Your Damaged Hay Into a PROFIT

Buy a bunch of

Creamcup Holsteins

and make up your losses.

Holstein cattle are good feeders and not over particular: They will turn your losses into gain.

We have sold our Modesto ranch and have all our stock at San Jose and are crowded for room.

We offer a string of mature cows, a string of young cows; some bred heifers and a bunch of fine heifer calves. We also have a bunch of young bulls priced so low that you can grow them at a profit.

Call and see them on Alviso Road, one and one-half miles beyond city limits, out North 1st St.

TUBERCULIN TESTED

M. HOLDRIDGE,

Route A, Box 437 Phone: San Jose 5601 R-5
SAN JOSE - - CALIFORNIA

Registered Guernsey Cattle

THE herd of registered Guernsey Cattle at Elliott-Brant Rancho, have won first, second or third in every class in which they have been shown, and the Junior and Grand Championship at the California State Fair.

Many of the largest records for milk, made in the west, have been made in this herd and the World's Record in the Roll of Honor class was made by a four-year-old cow of this herd.

This Guernsey milk has won the Gold Medal at the California State Fair and has won first in the Los Angeles Health Board tests five times.

Our herd sire is of the richest blood of the breed, and his sisters and brothers have world records both for price and records made.

We have bull calves, from Advanced Register cows with records up to 750 lbs. of fat, for sale at reasonable prices. Write for information regarding them.

We will show at the California Liberty Fair, Los Angeles. Do not fair to see our Exhibit.

ELLIOTT-BRANT RANCHO

OWENSMOUTH - - CALIFORNIA

THIS BULL Will Increase Your Butterfat

He is out of a daughter of Prince Riverside Walker and is a typey son of Model Francis Glista. Both of the above bulls are out of great producing families. Write or come and see him and other Holstein stock we have for sale.

C. C. SLATER, Pacheco, Contra Costa County.

HEAVEN AND HELL

Swedenborg's great work, 400 pages, 15 cents postpaid. Pastor Landenberger, Windsor Place, St. Louis, Mo.

Dealers in PAPER

Blake, Moffitt & Towne

37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

The Mysteries of 'Mill Run' and 'Mill Feed'

[Written for Pacific Rural Press.]

Before the general use of wheat flour substitutes the term "mill run" indicated in California markets that the material was composed of the bran, shorts, and dark middlings that were removed from the wheat in the process of milling. Usually the finer and more or less white middlings had already been separated to use in making a cheap grade of flour.

Under present conditions much by-product is taken from the various substitutes for wheat, and these are being mixed with the material known as "mill run." Most of these new by-products are coarser and less desirable for feed than the material from wheat, and to make it marketable the millers now use the middlings that were formerly sold separately to make what is now known as "mixed feed." There is no standard mixture as yet; each lot is appraised on its merits, according to what it may happen to contain.

Inquiries have been received at the office of the Rural Press lately relative to mill feed prices and where the same may be obtained. It is just as well for stockmen to realize that mill feeds are extremely scarce as well as high priced, and that less dependence must be placed on mill feeds and resort had to such feeds as barley and oats.

As a result of inquiries this week at the headquarters of two of the leading milling companies of this coast, it was learned that they have no bran, shorts or middlings, as such, for sale. These mills now make "mill run" only, and orders for this commodity are booked far ahead of the visible supply. Sperry & Co. inform the Rural Press that orders for lots in excess of ten tons will not be received.

One of our correspondents is particularly solicitous about obtaining millstuffs for his hogs. As a substitute for the almost unobtainable mill feeds, he is recommended to try ground (not rolled) barley, with 5 to 10 per cent tankage or skim milk (or buttermilk). This makes an excellent ration. If tankage is fed, use 10 per cent for growing stock, but only 5 per cent for finishing off.

No patriotic farmer will feed wheat to his stock in these times of war stress, no matter what the price advantage, unless no other suitable feed can be had. If his cupidity gets the better of his patriotism and he insists on serving up wheat to his four-footed boarders, he runs the risk of being called to account by the Food Administration for so doing. Some wheat stocks have been confiscated already where their possession has been abused.

SCOURS IN PIGS.

To the Editor: I have several litters of pigs that are scouring badly. What is the cause of this, and what should I do to overcome it?—J. L. D., Imperial.

[Answered by Livestock Editor.]

This is generally caused by the sow catching cold, by overfeeding her, or by a sudden change in her diet, resulting in an acid condition of milk, which is transferred to the pigs. It should be checked promptly or it will stunt the pigs.

If you are using a stock powder, give the sow one-half pint for every 200 pounds of her weight, once a day for two days in succession; then once a week. If you are not using stock powder, add a tablespoon of baking soda to her slop twice daily.

Carruthers Farms
LIVE OAK CALIFORNIA

BERKSHIRES

Our entire show herd will be seen and later sold at the Western Berkshire Congress sale, October 24, Liberty Fair, Los Angeles.

This includes LIVE OAK CHAMPION, Reserve Grand Champion, and LIVE OAK LAUREL, First Prize Yearling Sow at the recent State Fair. Also the entire herd bred by exhibitor, and which took First Prize.

SHORTHORNS

At the Los Angeles Liberty Fair we shall show the white bull, HALLWOOD VILLAGER; the two-year-old heifer, BROADHOOKS SULTANA 2ND, grand daughter of Whitehall Sultan; the white heifer, LADY ROBERTA; the yearling heifer, MAYFIELD URY; and a roan heifer calf, daughter of Hallwood Villager.

Visitors Welcome at Our Stalls

RHOADES & RHOADES

Expert Livestock Auctioneers

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California

Ben A. Rhoades & Harold B. Rhoades

1501-3-5 So. Main St., - Los Angeles, Cal.

ATTENTION

is called to our

WHITE MAYFLOWER
Undefeated in class 1917, and Jr. Champion at the California State Fair.

Shorthorn Cattle

on exhibition at the

California Liberty Fair

Los Angeles, Oct. 12 to 26, *and*

San Francisco Live Stock Show

November 2nd to 10th

T. T. MILLER

Los Angeles - - California

SPECIALIST IN Registered Beef CATTLE

I am a firm advocate of the use of better sires—Registered Bulls—reflecting through correct breeding a high standard of early development in weight, quality and finish, insuring most satisfactory results.

I devote my entire time keeping in touch with the Registered Beef Trade, much of it among the most expert and reliable Eastern breeders, which enables me to save time and other expenses when buying.

I will deliver at this end for less money than a stranger to the trade can buy at the other end, so let me quote you prices on Registered Beef Breeds Delivered.

I was born among Shorthorns and have been among Beef Cattle ever since. My thirty years' experience in California has shown me just what the State needs in

Registered Beef Cattle

and any one of the following list of a few of my customers—all experienced Beef men—will tell you I deliver the right kind:

MAYO NEWHALL, San Francisco
SIMON NEWMAN CO., Newman
WM. BEMMERLY, Woodland
STANFORD UNIVERSITY FARM
HOLT & GREGG, Redding
H. H. GABLE, Esparto
HOWARD TILTON, Gilroy
B. F. RUSH, Suisun

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HOTEL LAND, SACRAMENTO, CAL.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE CO.

R. D. No. 1
REDWOOD CITY, CAL.

CALIFORNIA HOG BOOK, $2. By W. S. Guilford

Pacific Rural Press, San Francisco.

HAMPSHIRES

—OF—

Boquet Canyon Herd

WON

Grand Champion on a six-months-old pig—something unusual. Also Reserve Senior Champion Sow, Junior Champion Boar, and Reserve Junior Champion Sow. 7 firsts, 6 seconds, 4 thirds.

L. A. DENKER

SAUGUS, CAL.

Director Junior

GRAND CHAMPION

We offer some choice bred sows, and some open March gilts that we will breed to any boar in our herd. Also some brothers and half-brothers to our Grand Champion boar, Director Junior.

Every hog guaranteed to please.

—SEE US AT—

LIBERTY FAIR

Los Angeles, Oct. 20 to 26

OR WRITE

L. A. DENKER, Saugus, Cal.

Orion Cherry King and Col

Strains of DUROCS

15 Bred Gilts and 6 February Boars.

15 Spring Open Gilts, 10 April Boars

See Exhibit at— ORIN KING GANO

Liberty Fair---Los Angeles
OCTOBER 20 to 26

DONALD GRAHAM, Lancaster, Cal.

THE POPLARS RANCH

REGISTERED

Hampshire Swine

See my Herd at

Liberty Fair

Oct. 20 to 26

Have a limited number of three-months old weanlings for sale; am booking orders for future delivery from Gen. Tipton. Have a few young boars sired by Duke's Allen, Grand Champion, 1917, Sacramento.

C. J. GILBERT, Lancaster, California.

Are You Breeding to a Standard?

[Written for Pacific Rural Press by R. H. Whitten.]

"Don't ask me about my stock," said a young breeder who exhibited at the State Fair this year. "I'm disgusted. Not with the judging, but with myself. I have been breeding registered stock for three years and I thought that I knew type. I thought that my stock was good enough, to win here this year, but look at the results. I won very few ribbons, and no high ones at that.

"PENNY WISE AND POUND FOOLISH."

"What's the reason for it? Simply that I kept my nose too close to the grindstone. I read books and papers and bulletins on livestock, and thought that I knew the game, but I failed to attend the fairs where representative animals of the breed are brought together, and the result is that I have been breeding an entirely different type from that favored by the judges. So I've got to get a new herd sire of this type and go through the slow process of breeding up my herd. This will set me back several years and will mean a loss of thousands of dollars to me, all of which I could have saved had I not been 'penny wise and pound foolish.' I thought that I was saving money by not going to the fairs, but I find that it really was the dearest kind of extravagance."

One more illustration before we attempt to draw our moral. Another young breeder was similarly disgusted with himself because he had failed to keep abreast of the times by attending fairs regularly. He won only a few fourth and fifth prizes, but instead of being sore at the judge he went to him and asked why he had not been awarded more ribbons. "And then I was treated to the surprise of my life," he said in discussing the matter, "for I learned from my talk with him that many of the animals I had at home in the pasture would have stood in greater favor had I brought them.

"So I am going home to get those animals in shape for the Liberty Fair at Los Angeles. I am not going to take any more animals to that show than I had at the State Fair, but I am going to win three times as many ribbons, because now I can pick the animals that will measure up to the scale of points and please the judge."

So here we have two true experiences; two good reasons for the existence of fairs; two good proofs that a circuit of fairs is much better than only one fair in a season. And the moral of it all is—learn the type that is wanted, breed for it and stick to it.

SHOW AND BREEDING TYPE IDENTICAL.

The old argument that show type and breeding type are so widely different that intelligent comparisons cannot be drawn is a back number. Time was when there seemed to be little correlation between the types represented at the shows and the animals at home that did the best work. But that time has passed, and standards have been established that are raised to the plane of greatest efficiency and highest practical worth. It has been proved that beauty and production can go hand in hand.

SHOW ANIMALS BREED WELL.

Furthermore, the theory that show animals do not breed well and do not reproduce their kind has been exploded. Take Poland-China hogs, for instance, and only the Illinois and Iowa State Fairs this year. At Illinois a junior yearling, the largest ever shown there, was made grand champion, and he was a son of a grand champion of last year. The grand champion sow at the same show was a daughter of the grand champion sow of the world last year, and sired by the grand champion boar of Illinois last year. The junior champion sow was a litter mate to the junior champion boar.

At the Iowa Fair the grand champion boar was sired by the grand champion of Illinois in 1917, out of the grand champion sow of the world of 1917, and a litter brother to the grand champion sow of Illinois this year. The grand champion sow was a daughter of the grand champion boar of the world in 1916. The junior champion sow was of the same breeding as the sow that won the junior championship of the world last year.

That's the way it goes everywhere. Champions and grand champions this year are sons and daughters of previous champions and grand champions. Winning animals are brothers and sisters, half brothers and half sisters to the winning animals of previous years. And each show demonstrates that, one with another, the type and conformation of the different champions and winners shows great similarity.

Sires of this type—strong in breed characteristics—will stamp their good points upon their offspring and quickly build up a herd.

FARMERS WANT SHOW TYPE.

Besides this pleasing uniformity of type, this definiteness of blood line value, and the consistency of the judging at different shows, it is important to note that the buying of breeding stock shows a marked tendency toward an appreciation of the blood and type of prize winners—not only in the winning animals themselves, but in those that have been kept at home in the breeding pen. In other words, the judgment of the show ring judges has been vindicated by the hard-headed farmers who buy for production and profit only.

MUST HAVE DEFINITE AIM.

So if we expect to reach the goal of success in livestock raising we must learn what the best type is and then breed for that type. Blind effort will not bring success in this or any other line. No matter how hard a man may work, he can't accomplish the best results without having a definite aim. He can't use his powers to the best advantage when he is simply trying to do his best. He must have a goal to reach; he must have a strong purpose to unify his efforts and give direction to his powers.

Suppose a sculptor went to work in a dreamy way and knocked out a

chunk of marble here and there, without any idea of what he was going to create. What would be the result? He would have a rougher piece of stone than the one nature gave him. As some great man has said, "He who cannot see an angel in the rough marble can never call it out with mallet and chisel."

BREED FOR IDEAL TYPE.

And, similarly, he who does not see an animal of the ideal type with his mind's eye will never be able to raise animals of ideal type. Why, an army of soldiers firing at random would accomplish no less than an army of breeders who have no particular aim in their breeding operations beyond the natural increase in numbers.

We must do as little Johnny did with his banty hens. He was not satisfied with the size of their eggs, so he got an ostrich egg, tied it to a beam in the hen coop, and hung a card above it with these words on it: "Keep your eye on this and do your best."

We must profit by Johnny's advice to the banty hens, and aim high. We must keep before us constantly a mental picture of the most approved type of the kind of animal we are raising. And the place to form that mental picture is on the fair circuit. As Prof. Simpson of the University of Missouri says: "The fair circuit is the school of the constructive breeder. Few men attain outstanding success who are not close students of show ring standards and awards."

SHOW RINGS DETERMINE CORRECT TYPE.

You, Mr. Livestock Man, are in business for just one thing—profit. So it is up to you to attend as many as possible of the different fairs that are being held this fall and winter, that you may see the best specimens of the breeders' art, make comparisons, get ideas of preferences, and establish a definite type in your mind—the correct type.

Perhaps you will find it necessary to buy a few new animals to develop the right type in your herd. If so, you will find a fine assortment to choose from, and you need not hesitate to invest considerable money in good foundation stock, for the vision of the breeder's future was never brighter than it is today. The demand for high-class breeding stock, as well as for meat, dairy products and wool, is almost insatiable. It is bound to increase constantly while the war lasts, and will continue for many years after the scrap is over.

Furthermore, while the prices of livestock will continue high, the prospects for cheaper feed this season are excellent. Barley is already selling at a price which makes it a most profitable feed, and the recent abundant rains give promise of a green fall and winter.

So this is the time to get into the livestock game, or to carry it on more extensively if you are already in it, and to breed your herd up to the highest approved standard. And this means—attend the fairs.

Paste the dates in your hat—California Liberty Fair, Los Angeles, October 20 to 26 (livestock show), and International Livestock Show, San Francisco, November 2 to 10. Plan now to attend. You can't afford to miss them.

DAIRY STEER GAINS.

One hundred dairy steers gained 365 pounds in 115 days last spring for W. W. Cochran of Imperial county. The steers were yearlings of mongrel breeding and very thin. They weighed 450 pounds when the feeding began and 815 pounds when marketed.

During the first thirty days they received all the silage they wanted, plus about three pounds of cottonseed meal per day. The second month the meal was increased to five pounds, and the third month to seven pounds. Twenty-five days before the finishing was completed the silage ran out and they were fed cottonseed hulls and eight pounds of the meal.

If you want to raise milch goats successfully, write to the University of California for particulars about the new correspondence course now being offered by them.

ROSE CREST Berkshires

10 Daughters and Grand Daughters of RIVAL CHAMPION BEST 127963, all guaranteed to be safe in pig, to be sold at the

BERKSHIRE CONGRESS SALE AUCTION

LIBERTY FAIR

LOS ANGELES

THURSDAY, OCTOBER 24th

They are the big, smooth, stretchy kind, with plenty of bone, good spread of ribs, heavy loins, strong backs and feet.

Have four boars of the same breeding for sale that will be shown at the Liberty Fair. Look us up at the Fair and see what we have, or write us.

F. L. HALL, Prop.

Perris = = California

BUY BERKSHIRES for PROFIT

They are the best hogs for business farmers, for they make the highest priced pork from the lowest priced feeds. Noted for their prolificacy, prepotency and easy-feeding, quick-maturing qualities.

GREAT LIBERTY FAIR SALE

50 HEAD--MOSTLY BRED SOWS--FEW CHOICE BOARS

Here is the opportunity you have been waiting for to get choice breeding stock at your own prices.

The leading breeders of the State have selected some of their best stock—even their prize-winners—in order to place the right kind of foundation stock in the hands of beginners.

The names of these breeders alone are enough to guarantee the quality of the stock.

It is just the kind you ought to have to start you right and insure your success.

FOREST GROVE LAUREL 2ND.
Her daughter, Live Oak Laurel, will sell.

Maplewood Stock Farm, Calistoga, will consign their State Fair Junior Champion Boar, Maplewood Royal Prince 3rd.

A. B. Humphrey, Escalon, will offer two winning senior yearling sows; also a winning boar pig.

Carruthers Farms, Live Oak, will sell their entire State Fair show herd of ten head, one of which will be Live Oak Laurel, daughter of Forest Grove Laurel 2nd.

F. L. Hall, Perris, will consign 12 sows, several being daughters of Rival Champion's Best, and the rest granddaughters.

Other consignors will include:

Jas Mills Orchard Corporation, Hamilton City.
Anita M. Baldwin, Santa Anita.
Frank A. Brush, Santa Rosa.
Homer Hewins, Calistoga.

REMEMBER THE DATE—Thursday Afternoon, October 24th

This will be Berkshire Day at the Fair. Plan to attend on that day and be sure to take in this great sale. It will prove an eye-opener to you.

Now is the time to get into the game; the Berkshire is the hog to bank on. The kind you buy at this sale will put money in the bank for you.

WESTERN BERKSHIRE CONGRESS

W. M. CARRUTHERS, Live Oak, President **HOMER HEWINS, Calistoga, Secretary**

20 WE ARE SELLING 20

BRED SOWS in

Kings County Poland-China Breeders Ass'n

Nearly all of these sows are sired by

FIVE BOARS OF GRAND SONS

OCT. 9th HANFORD

MODEL FELLOW, 552604

BRED EITHER TO KING GERSTDALE JONES

Who is a grandson of Gerstdale Jones, the $6,600 Boar.

OR KING TIMM

Who is by Severe's Big Timm, a wonderful sire

20 M. BASSETT & SON 20

HANFORD, CAL.

You can fatten a hog without cost

on what your hogs waste, for it's wasted grain that eats hog profits. With a Calco Automatic Grain Feeder the hogs eat as much and as often as they like. But they can't waste grain. It slides down into the circular trough only as fast as consumed. It can't be rooted out.

Calco Automatic Grain Feeder

will pay for itself in a few months through grain saved. It is a permanent investment. Made of "Armco" rust-resisting galvanized iron with a cast iron base. Extremely durable, sanitary; can't be upset. The high cost of grain feed demands feeding economy—Calco Automatic Feeder is the answer.

Try one out—write today for literature and price list.

California Corrugated Culvert Co.

406 Parker St., Berkeley. 417 Leroy St., Los Angeles.

Calco Automatic Hog Grain Feeder

GREAT HERD SIRES

CALIFORNIA JUMBO BUSTER
By Buster Buster, out of a Long Jumbo sow.

A SON OF GERSTDALE JONES
The $6,600 boar. Just arrived.

These boars are the big, smooth Poland-Chinas, with plenty of stretch and bone. Stock for sale—the kind that will make you money. Write your wants.

A. BUCKLAND & SON

FRESNO, - - CALIFORNIA

CHESTER WHITES FOR PROFIT

HIGHLANDER, the $1000 Grand Champion Boar

heads our mammoth herd, bred for large litters, rapid growth and easy feeding qualities. Service fee, $100; sows guaranteed safe in pig. Some corking good March pigs for sale.

OAK KNOLL FARM Box 338 LAKEPORT, CAL.

SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

Noted Lecturer Endorses S. F. Show

[Written for Pacific Rural Press.]

"In my judgment, the best thing that could happen to California is a livestock show of the proper kind," declared Dr. George Wharton James, the noted California writer and lecturer, in discussing the livestock situation in California. Dr. James has been conducting a series of interesting lectures at the Land Show at the Civic Auditorium, Oakland, and besides his favorite topic, "The Missions and Padres of California," he is merging his knowledge of agriculture and horticulture of the West with its economic complement—the raising and breeding of livestock.

"California can compete with any livestock market in the world," declared Dr. James, in discussing the California International Livestock Show to be held in San Francisco, November 2 to 10. "When I say California I mean, of course, potential California, for the State has not come into its own yet. To my mind it is the economic solution of the country. First we raised livestock in California. The days of the Dunphys and the Millers, and other noted families, is now a matter of history. These men of wealth and vision brought to California the first purebred livestock. Then the State gradually went into agriculture, and vast fields of grain and alfalfa were grown. Finally it became a State noted for its horticulture. But for a long time the need of something more than what we are doing has been apparent.

"I have been a student of California for nearly fifty years; first its producing possibilities, and then its landmarks and its literature. I can see no other message to the Californian now than that sent to them by the United States Food Administration, 'Produce, and then produce more.'

"Isn't the handwriting right there on the wall? If we were to produce only that which can be produced from the soil, we would be fulfilling our best efforts. We must produce livestock and we must show the people how it can and should be done. California's wealth lies in her future in livestock. Why, the things essential for such production are right here—climate and food and water. Consider the possibilities of California: First, climate; never too hot nor too cold to suffer a hardship to cattle; feed of the very best quality and plenty of it; the alfalfa of the meadows and the grass of the mountains.

"It is well known that in Merced and Stanislaus counties, where there is alfalfa and barley and pumpkins for the summer feed of cattle, the milk is of the highest quality and flavor and contains the most butterfat, and that the products sell for the highest price. Cheese, butter, malt products with milk and condensed milk itself in these valleys are all of the finest quality, and the most saleable and desirable.

"The weeding out of the mongrel stock for the purebred stock, of course, must follow the livestock industry. But, do not think for a moment that because livestock is the pursuit of many wealthy land owners it is altogether a wealthy man's occupation. It is not. Livestock raising is what will make the country wealthy. It will help the poor man to become rich with the country.

"We must all help in this big war program, and the best way we can help is to produce. We must make possible that which will put our products to the very best use. Show me a country that is a livestock country and I will show you the wealth."

The call of the California International Livestock Show is being answered every day. Besides the entries from our own State, they are coming in every day from all parts of the West, and from the most noted breeders. For instance, H. C. Lookabaugh of Watonga, Okla., will show his famous Shorthorns; Maxwell Miller of Steamboat Springs, Colo., his Shorthorns; William Harrell of Phoenix, Ariz., a carload of Herefords; Frank Reed Sanders of Chandler, Ariz., both Holsteins and Dutch Belted cattle; Thomas Pioneer Stock Farm of Bushnell, Ill., a carload of draft horses; Hereford Corporation of Wyoming, Herefords; J. Schilling, Arroyo, Colo., Duroc-Jersey swine and Hampshire sheep; University of Nevada, Herefords and Corriedale sheep.

In addition to the regular livestock show of cattle, hogs, sheep and draft horses, there promises to be one of the best horse shows ever presented west of Chicago. In style and quality of horses it will bear comparison with such pretentious horse shows as those held annually at Piping Rock, Long Island, at Tuxedo, Saratoga, or Ontwentsia, Chicago.

There will be about forty Eastern horses from noted stables, and about sixty from California, Washington and Oregon. Premiums amounting to $10,000 are offered.

While the horse show will not open formally until November 4, all of the horses will be on exhibition in their stalls the opening day of the Livestock Show, November 9, closing one day before the Livestock Show itself.

Judges so far selected for the livestock show are: Will Reese, Pilzer, Neb., Shorthorns; Robt. Mouser, Cambridge, Neb., Herefords, Angus and steers; William Gillette, Iowa Agriculture College, dairy cattle; Thomas Shattuck, Hastings, Neb., Poland-Chinas and Durocs. Other judges will be announced later. Five hundred dollars in special prizes for Aberdeen-Angus cattle has been offered and $250 has been offered by the Western Berkshire Congress for Berkshires.

All who are thinking of showing livestock should remember that the entries will positively close October 5. Don't wait until the last minute. Send 'em along now.

fered by the National Association,

Meet Us at the Liberty Fair

Are you expecting to buy or sell any stock at the Liberty Fair? Do you intend to investigate milking machines, or silos, or other modern equipment? Are there some puzzling questions that you would like to have answered? Simply hunt up a Rural Press man and let him help you. You won't find him inside of a booth, hollering like a barker at a sideshow and frantically endeavoring to get subscriptions by offering war maps, cheap fountain pens and other trinkets.

The Rural Press is above employing such methods. We have never used any inducements to get subscriptions except the merits of the paper, and we do not feel that a fair is the proper place to solicit subscriptions. People go there to be entertained and instructed. So while we are always represented at fairs, our men go to serve the people; not to impose upon them.

If you need information, advice or assistance of any nature, hunt up a man with a "Pacific Rural Press" badge on. No matter what your need may be, some one of our men will be an authority along that line and will be able to help you. You will find the scope of our service sufficiently broad to cover all of your requirements; you will find willing hands and fertile brains always at your command. And, too, you will find everything done with a warmth of feeling that will prove the deep personal interest we take in you. Remember, this service is absolutely free. Our representatives are not allowed to receive pay or gratuities of any kind. This is a part of the service to which your subscription entitles you. Don't hesitate to take advantage of it. The more we can serve you the better it will please us.

When the New Hogs Arrive

[Written for Pacific Rural Press.]

Expect to buy any hogs at the Liberty Fair? Perhaps you are thinking of getting a new herd boar, or a few choice bred sows. Fine! You can't have too much good stock. But it will remain good only as you treat it right, and it is important to give particular attention to hogs when they are first received.

Handle the crates carefully in loading and unloading them. Don't drive fast on the way home if the road is rough, especially if you have a bred sow. When you get the hogs home, take them out of the crates as soon as possible. The boards can easily be removed from the rear ends of the crates and the animals will back out. Give them all the clean, fresh water they want to drink, but feed them lightly at first. They are under abnormal conditions while traveling and probably have not eaten much. Consequently, they will overeat if given the opportunity, and they need to be fed sparingly until they are back to normal conditions. The temptation to overfeed a hog just received is so strong that it requires considerable nerve to limit its ration, but for the good of the animal this must be done. If possible, give about the same kind of feed that the hogs have been receiving. It is not necessary to keep them on such a ration right along, but abrupt changes upset digestion and cause disorders of many kinds, so it is best to change to a new ration gradually.

Watch the droppings and see that the bowels are kept in good condition by feeding laxative foods. If you do not have alfalfa or green pasturage, some sort of green feed should be supplied.

The hogs should have a comfortable place to sleep, and should be protected from summer sun and winter rain. They can stand cold much better than heat, and if you keep them cool in summer time you will eliminate much trouble. They should be allowed to take liberal exercise, and if they do not show a disposition to move around they should be driven slowly and quietly until they have had a fair amount of exercise.

A young boar should never be allowed to run with sows. It will interfere with his growth. Two boars may be kept together, provided their tusks have been removed, and this should always be done. Be careful about putting a bred sow in with a bunch of strange ones. They are sure to fight her, and, being several against one, they are liable to injure her or ruin the litter she is carrying and perhaps disable her.

If an animal seems stiff or lame when taken out of the crate, bathe its limbs in warm water and rub them thoroughly, using witchhazel or some mild liniment, if you have it, in order to bring back a good circulation of blood, which has been retarded by the confinement and cramped position of the hog while in transit.

The hogs may seem afraid of you at first, as you are a stranger to them. So be very kind and patient with them. Win their confidence and get them so that they will stand or roll over for you to scratch them. Under this kind of treatment they will soon become accustomed to their new surroundings and will do efficient work in their new home.

A Yerington (Nev.) correspondent writes the Rural Press that there is an abundance of hay and pasturage in Mason Valley, reports to the contrary notwithstanding.

More than 70 Registered

Holstein Cows

31 OF THEM WITH RECORDS FROM 20 TO 33 POUNDS BUTTER IN 7 DAYS, 30 OF THEM WITH YEARLY RECORDS UP TO OVER 24,000 POUNDS MILK AND OVER 1000 POUNDS BUTTER, BRED TO KING MEAD OF RIVERSIDE, PRINCE GELSCHE WALKER, SEGIS PONTIAC DE KOL BURKE, SIR AAGGIE DE KOL ACME, AND KING MORCO ALCARTRA, are only a part of the offering to be made at public auction by

A.W. Morris & Sons Corporation

WOODLAND, CALIFORNIA,

Thursday, November 12, 1918.

NO OTHER HERD IN THE WORLD COULD OFFER A HERD OF COWS BRED TO FIVE OF THEIR OWN HERD SIRES, EVERY ONE OF WHICH HAS SIRED A WORLD'S RECORD DAUGHTER OR HAS FOR A DAM A COW THAT MADE A WORLD'S RECORD.

There will be

THREE COWS with records from 30 to 33 pounds butter in seven days.
TWENTY-EIGHT COWS with records from 20 to 29.87 pounds butter in seven days.
THIRTY COWS with records up to over 24,000 pounds milk and over 1000 pounds butter in one year.
TWENTY-FIVE FRESH COWS, tremendous producers.
DAUGHTERS of Prince Gelsche Walker; Segis Pontiac De Kol Burke; De Kol Hengerveld Burke; Alcartra Polkadot Corrector; De Kol Burke; Ignaro De Kol; Juliana King of Riverside; Aaggie Cornucopia Johanna Lad; King Mead of Riverside; Aralia King; Buffalo Skylark Ames; Colantha Sir Pontiac Aaggie; De Kol Spofford Promise; Woodcroft Pontiac Korndyke; Tilly Alcartra Son; King Pontiac Ruby Burke; and other noted sires.

Every animal sold is positively guaranteed to be a breeder.

No animal in this sale is tuberculin tested.

Some very highly bred and high record cows in this sale are along in years, and a few have blemished udders, but they are vigorous breeding cows and great producers, besides being bred to world famous bulls. It will be a rare opportunity to secure this blood at prices far inside their real value.

CATALOG IN PREPARATION. WRITE FOR ONE.

Management

California Breeders Sales and Pedigree Company

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

Sacramento, California.

Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

MORAL-BUY HOLSTEINS NOW

A Wisconsin soldier in France wrote to Hoard's Dairyman: "Before I left home, I heard farmers say: 'Oh, I'm going to sell my herd—feed is too high and my income too small, etc.' If these same farmers could only look ahead and realize what their herd is going to be worth as soon as we knock the war ideas out of Kaiser Bill, they would change their tune and would scratch and pinch to increase the herd. There is going to be an unheard of demand for **GOOD** cows and the fellow who is far-sighted enough to raise calves now is going to reap his harvest as soon as peace is declared." There is not a question of doubt that every man who owns good dairy cows will profit by holding onto them right now, and buying more good ones up to the uttermost limit of his capacity.

And while he is buying it is a heap more satisfactory and profitable to buy registered Holsteins.

There is an extra good herd of registered Holstein heifers, 49 of them, sired by two splendidly bred bulls and out of choice cows, in the herd of W. H. Ginn & Son, which we will disperse at public auction on their farm, one and a half miles southwest of Corcoran, California, on Thursday, October 10. Besides this great heifer herd, there are many choice cows, many of them either fresh or heavy springers, and some good young bulls just right for dairy herds.

The sale will start promptly at 9:30 a. m., as there are over 90 head to sell, with Col. Ben A. Rhoades of Los Angeles on the block.

Management

California Breeders Sales and Pedigree Co.

C. L. HUGHES, Sales Manager Sacramento, Cal.

GRAPEWILD FARMS BERKSHIRES.

Awarded 31 premiums at the California State Fair this year.

Our herd of brood sows is the result of 8 years careful selection and breeding.

Our litters this year averaged from 8 to 9 strong pigs.

See our show herd at the Los Angeles Liberty Fair.

We will have 5 extra good sows in the Berkshire Sale.

A. B. HUMPHREY, Proprietor,

ESCALON, CAL.

BUY *Liberty Bonds and* HOLSTEINS

Buy the Liberty Bonds first, and then buy registered Holsteins to make more money to buy more Liberty Bonds. It's a sure, safe, business proposition.

Buy Holsteins at the Second Modesto Sale

MODESTO, CALIFORNIA Thursday, Oct. 17, 1918

The females will include high record show cows, daughters of high record cows and high record bulls, high record show bulls, cows and heifers, bred to 29, 30, and 40-pound sires.

Among them are: **POTOKI JOHANNA 2nd,** a 27.86-pound show cow; **DORA HENGERVELD OF SYLVAN IRIS,** a 23.06-pound senior four-year-old show heifer; **12 DAUGHTERS OF HERMANA IGNARO,** whose sire is by Ignaro De Kol, the only bull with nine daughters above 20,000 pounds milk in one year; **A DAUGHTER OF PRINCE GELSCHE WALKER,** with a junior two-year-old yearly record of 577.8 pounds butter; **A DAUGHTER OF THE 44-POUND $15,000 BULL,** Spring Farm Pontiac Cornucopia, due to calve November 8 to the twice Grand Champion bull, King Segis Alcartra Prilly, and her four nearest dams average 33.80 pounds butter in seven days—**BUY THIS ONE; A 25.01-POUND COW** that made 18,362.3 pounds milk and 814.23 pounds butter in one year; **A 24.38-POUND COW** heavy with calf to King Segis Alcartra Abbekerk, 30-pound son of the $50,000 bull; **A 20-POUND COW** that made 644.09 pounds butter in 320 days, heavy with calf to Prince Alcartra Korndyke, son of Tilly Alcartra; **AND MANY OTHERS** from two-months-old daughters of a 30-pound sire up to good record cows.

Exceptionally High Class Bulls

HUBBAVALE ARTIS TWISK NETHERLAND, by a 31-pound sire and out of a 30-pound dam; **SIR CHIMACUM WAYNE WOODCREST,** by a son of Chimacum Wayne Boon and out of a 29.81-pound junior three-year-old that is a first-class prospect for a 35-pound record this winter; **KING SEGIS ABBEKERK SARCASTIC,** out of the same 29.81-pound three-year-old and sired by King Segis Alcartra Abbekerk, 30-pound son of the $50,000 bull; **SEGIS PONTIAC DE KOL BURKE WALKER,** by Segis Pontiac De Kol Burke and out of a 25.05-pound three-quarter sister to Prince Gelsche Walker; **CHIEF MODESTO WALKER,** by Prince Hiske Walker and out of the show cow that topped the spring sale at Modesto; **AND OTHERS,** some from good record dams, ranging in age from calves up to service age.

CONTRIBUTORS—Bridgford Company, Knightsen; C. G. Outland, Modesto; Luther Thompson, Modesto; R. L. Holmes, Modesto; J. M. Campbell, Escalon; The J. S. Gibson Co., Williams.

EVERY ANIMAL guaranteed to be a breeder; every animal over six months tuberculin tested and sold subject to tuberculin retest by the buyer.

CATALOG IN PREPARATION. WRITE FOR ONE.

Management

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

SACRAMENTO CALIFORNIA

Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

Sale of Duroc Hogs and Pigs

Some of the greatest brood sows of the breed. Gilts and boars for herd headers. A 900-pound yearling boar, a Wonder, one of the kind rarely seen. All must go. Col. and Orion C. King breeding. Life immune from cholera.

GARDEN CITY SANITARIUM, SAN JOSE, CAL.

SIXTH SEMI-ANNUAL SALE

OF

KINGS COUNTY POLAND-CHINA BREEDERS ASS'N

Wednesday, October 9th 1918

AT

Kings County Fair Grounds, Hanford, Cal.

80—HEAD—80

Registered Poland-China Boars and Sows

To be sold without reserve. From the best herds in Kings County.

CONSIGNORS:

M. Bassett
W. Bernstein
J. M. Bernstein
J. A. Crawshaw
C. G. DeRaad
Dimmick Bros.
W. L. Haag & Son
W. S. Hubbard & Sons
H. D. McCune
E. G. Myer
F. D. Ross
Trewhitt Bros.
C. A. Vaughn

Auctioneer: Col. Ben A. Rhoades.

For information or catalog, write F. D. Ross, Secretary, Hanford, Cal.

I Can't Quit

— POLAND-CHINAS —

and that's the reason I have

10 Sows and Gilts 10

to offer in the

Kings County Poland-China Sale, October 9.

Look these over carefully!

W. BERNSTEIN, Hanford, California.

Three Yearling Sows — Two Six Month Gilts

SIRED BY

PRESIDENT

Two Yearling Boars

SIRED BY

PRINCE HADELY

TO BE SOLD AT

Kings County Poland-China Breeders Ass'n SALE

JOHN M. BERNSTEIN, Owner, Oct. 9th, 1918

HANFORD CALIFORNIA

"That Annual Outing"

Southern California Fair

at Riverside Oct. 8-12, 1918

Authorized Government Exhibits — Big Livestock and Poultry Show

Aviation, Horse Races, Sports

PLAN TO REMAIN SEVERAL DAYS

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

BLUE RIBBON TANKAGE

60 % PROTEIN

THE CUDAHY-PACKING CO. Los Angeles, California

All's Fair in War

(Continued from first page.)

rect from Washington, will occupy an entire building and will be worth traveling many miles to see. It will include the Browning machine gun, many war exhibits, a complete food exhibit, methods for food conservation, and many other things to bring the war home to us clearly and comprehensively, and to emphasize the colossal scale on which the nation has mobilized its productive forces to bring a speedy victory.

LIVESTOCK SHOW THE CHIEF FEATURE.

The Livestock Show will be broad in scope and will include a greater variety of blooded stock than has ever before been seen in the West. Cash prizes totaling $35,500 and valuable ribbon awards have brought out the best that California produces in cattle, horses, swine, sheep and goats. Nearly all classes will be larger than at the recent State Fair. The exhibits of cattle and hogs will be particularly strong, and the biggest goat show that the world has ever seen will be staged. One of the largest breeders of milch goats plans to equip a model goat dairy, milk his goats on the grounds, cool the milk and sell it as a beverage.

Fourteen new barns, each 144x32 feet, have been built for the accommodation of the blooded stock. In addition to these barns, each of which has thirty-two pens, there are five cattle pens for car lot entries, and six hog and sheep pens for the same class of entries.

In other columns mention will be made of the breeders who will show, and it will be seen that the leading herds of the State will be represented. The best judges in the United States have been secured, and Mr. Thomas, manager of the Livestock Department, has left nothing undone to make the Livestock Show the leading feature of the fair, and an event that will prove of practical value to all who attend as either exhibitors or spectators.

REASON FOR A CIRCUIT OF FAIRS.

For the first time in the history of California we have a circuit of fairs. The State Fair has already been held, and the Liberty Fair will be followed by the International Livestock Show at San Francisco. Perhaps you wonder why in these abnormal times, we should have more fairs than ever—why "all's fair in war."

Early in the year there were many who loudly advocated the abolishing of the show ring for the period of the war, as a measure for conserving livestock feeds. The motive back of these suggestions was most laudable, but the judgment which prompted them was not broad enough, in that it failed to measure the cost by the results.

The world faces a livestock famine of such magnitude that the average person cannot comprehend it. But there is a silver lining to the cloud, and it is the spirit of the American farmer himself. Once he realizes that he stands between the world and famine, he will get busy and do his part to relieve the situation.

But he will not realize this while he remains at home. He must get away from the humdrum of his daily work and into an atmosphere of inspiration and achievement. And what better place for his enthusiasm to be aroused than at the war-time fair? The true conditions across the water are impressed upon him, and he is shown the part that he must play in meeting the demands of the hour.

He goes home determined to do everything in his power to help furnish food for the allies and our boys. He starts out well, but alas, he is human. His interest begins to wane; he begins to lose his enthusiasm. But just at that time there is another fair. He attends, and receives new inspiration. So he keeps up the good work which otherwise would have been forsaken, if not forgotten.

IN A CLASS BY ITSELF.

This is only one of many good reasons for holding the Liberty Fair. It is in a different part of the State; there will be different attractions and quite a different attendance. Different crops, fruits and flowers will be shown. Many herds of livestock that were not at the State Fair will be shown, and even those that meet again will compete under different judges. The grounds, the buildings, the exhibits, the weather—everything will be so different that no one should feel justified in staying home because he attended the State Fair.

The heavy work of the season is over. You need a change and a rest. You need to get new inspiration and to learn improved methods for your work. Don't say that you can't get away just now, or that the trip will cost too much. No matter what the sacrifice of time or money, you will be repaid a hundred times over. Take the folks along. You'll all learn something. You'll all enjoy it.

SOUTHERN CALIFORNIA FAIR AT RIVERSIDE.

Elaborate preparations have been made for the Southern California Fair, to be held at Riverside, October 8 to 12, and from all sections south of the Tehachapi will come livestock and products of the soil. Even old Mexico and Lower California will be represented with large showings.

True patriotism will ring out in every nook and corner of the grounds from beginning to end, and a patriotic program of intense interest has been prepared. The U. S. Government will have a large and instructive exhibit to show the departments actively engaged in strafing the Hun.

There will be excellent amusement features, and everyone who attends will derive both pleasure and profit.

The Crawshaw HERD

will be represented at the

Kings County Poland-China Breeders Association's

Sixth SEMI-ANNUAL Sale

by 10 BRED GILTS

CALIFORNIA GERTSDALE

a son of Gertsdale Jones, the boar that sold for $6600 and is considered one of the best boars in the world.

I have just purchased

Giant Buster

See them at the sale October 9, or write

J. A. CRAWSHAW, Hanford, Cal.

Poland-China Plans for Liberty Fair

[Written for Pacific Rural Press.]

Last week we mentioned the new and novel plans originated by the Berkshire breeders, but the Poland-China people don't purpose to take a back seat for anybody, and they have put salt on the tails of some mighty clever ideas themselves.

At their annual meeting held at the State Fair they created the office of show manager and elected W. A. Young of Lodi to fill the position. His duties will be to see that all pens occupied by Poland-Chinas at the different fairs are attractively decorated. The other breeders will assist him in putting up the decorations and the cost of bunting and other materials used will be prorated among the exhibitors, according to the number of pens used.

The association decided to ask the State Fair authorities for a rotation system of assigning pens to the different breeds; for scales and the official weighing of all hogs; and for washing pens.

They voted to ask the authorities at all shows to have the judges explain, after judging each class, their reasons for placing the awards.

There promises to be a big showing of Poland-Chinas at the Liberty Fair. A few of the exhibitors at the State Fair felt that the judge cared too much for size and not enough for quality. They will show under a different judge at Los Angeles, and the results will be watched with great interest.

Modesto Holstein Sale

[Written for Pacific Rural Press.]

"I wish I had started with pure-bred Holsteins," is the lamentable expression of many dairymen who have been maintaining grade herds for years. Perhaps their cows are doing well, so far as production is concerned, but naturally the owners want to make as much money as possible, and they realize that, no matter how much they may breed up, no matter how fine the young stock may come, the surplus can never be sold at high prices. They realize that, had the same amount of care and attention been given a registered herd of half or quarter the size, the returns would be infinitely greater.

A splendid offering of 80 registered Holsteins is announced for the second annual sale to be held at Modesto, Thursday, October 17. Choice young cows, heifers and bulls will be consigned from some of the leading herds of the State, and the entire herd of C. G. Outland will be dispersed. There will be show cows, high record cows, heifers bred to great bulls, and young stock from high record ancestry. There will be several bulls of type and breeding entitling them to places at the head of the very best herds.

Every animal will be tuberculin tested and sold subject to retest, and will be guaranteed a breeder by the California Breeders Sales and Pedigree Company, which has charge of the sale. Both Col. Ben A. Rhoades of Los Angeles and Col Cy N. Clark of Modesto will be found in the box.

J. B. & J. E. Thorp of Lockeford, who have been capturing so many ribbons at the fairs this fall, will show 14 head of Jersey cattle and a good bunch of Duroc hogs.

HEAD YOUR HERD
With one of Our REGISTERED
HAMPSHIRE

Boars and Sows
You can raise
More Pork at Greater Profit with the Hampshire Breed.

We call your attention to our Exhibit at the coming
California Liberty Fair
Los Angeles, Oct. 12 to 26
LLANO VISTA RANCH
PERRIS, (Riverside County) CALIFORNIA

HAMPSHIRES

THE KIND THAT PUT "HAM" ON HAMPSHIRE.

We offer for sale, ORO 33513, First Senior Yearling, Reserve Grand Champion of Riverside Co. Fair, '17. Also AMBOY, 3rd Prize Jr. Boar Pig, Sacramento 1918.

We will show 6 head at the coming California Liberty Fair, Los Angeles.

ROY DAWSON
Route 2 GARDENA, CAL.

MAMMOTH SOWS and GIANT BOARS
POLAND-CHINAS

We are one of the oldest breeders and promoters of the BIG TYPE on the Pacific Coast, winning the highest honors at the P. P. I. E.

World Champion Boar Superba

We have the best assortment we have ever raised, combining every quality—Length, Bone, Spring of Rib, Good Feet and Mellowness. We will please you. We ship on approval. We have some bred sows, open gilts, and weanlings sired by or bred to Superba.

ROUGH'S GREENFIELDS
ARLINGTON STATION RIVERSIDE, CAL.

Bailey's Large Type Mule Foots

The ideal farmer's hog. An easy feeder, and produces the sweetest hams and bacon. Great vitality; unsurpassed for prolificacy.

Since I brought the first Mule Foots to this state two years ago, I have placed many of them with farmers. Every buyer is satisfied and wants more.

At the State Fair last year and this my hogs won all awards.

I have what you want. Write or call.

H. T. BAILEY
"The Blue Gums" Box 37, Lodi, Cal.

CRAIG'S RANCH
DUROCS
HERD SIRE,
Cherry Chief Critic

Bred sows and weanling pigs for sale. The kind that will satisfy those hardest to please. We guarantee every hog to be as represented or money refunded. Write for prices.

J. E. Craig, Owner, Owensmouth, Cal.

DUROCS at IRELAND

A limited number of Young Boars and Open Gilts sired by
Orion Cherry King 5th
Twenty head of Weanlings from
Cherry Volunteer 2nd
This stock is the real Duroc type and will please anyone who knows hogs. Write for prices.
Ireland's Orion Defender
HERD SIRE.
CREAMER & IRELAND Ranch at OWENSMOUTH
City Office 1219 Brockman Bldg., Los Angeles, Cal.

Meet these Breeders at the Liberty Fair

[Written for Pacific Rural Press.]

H. P. Slocum & Sons, Willows, who have been gathering in ribbons by the basketful this fall, will show a classy lot of Durocs.

Ireland Ranch, Owensmouth, will show a futurity litter of Durocs that is a hummer. The pigs are by Great Model and average 240 pounds at six months.

W. J. Higdon, Tulare, who has one of the finest herds of Holsteins in the State, will be there with some mighty choice ones, fitted to the queen's taste.

Roy Dawson of Gardena will be there with six Hampshire hogs that will be hard to beat. Mr. Dawson is a constructive breeder and has some great stock.

M. Bassett & Son, Hanford, will show Poland-Chinas in almost all classes. When it comes to easy-feeding qualities and finish the Bassett hogs certainly take the cake.

John M. Bernstein, Hanford, owner of the famous Poland-China boar, President, will be there with a lot of good ones, and as usual may be expected to win his share of the ribbons.

J. A. Bunting of Mission San Jose will be there with his great string of Herefords that made such a wonderful record at the State Fair. He'll show these Eastern exhibitors a thing or two.

T. T. Miller of Los Angeles, whose famous Shorthorns were missed at the State Fair, has entered them at Los Angeles and will furnish lively competition. Mr. Miller has some of the best in the West.

J. E. Wherrell, the Jersey breeder of Riverside, who did so well this year at the State Fair in the classes for young stock, will show about 10 head—mostly in the calf classes. He has some toppy youngsters.

F. L. Hall, Perris, will make a good showing of his classy Berkshires. They are noted for their bone, stretch, strong backs and good feet, and will be able to hold their own in the hottest competition.

C. J. Gilbert of the Poplar Ranch, Lancaster, has caught the Liberty Fair spirit and will send down a herd of Hampshires of real quality. Mr. Gilbert is developing a corking good herd of this popular breed.

Carruthers Farms, Live Oak, will make a showing of Shorthorns and Berkshires that will be hard to beat and will consign their entire State Fair show herd of Berkshires to the Western Berkshire Congress sale.

James Marwick of Mesa Sarita Ranch, Santa Barbara, has entered his Percheron stallion, Major, three mares, a filly yearling and a stallion colt. All of these are prize winners or from prize-winning stock.

Bridgford Company, Knightsen, will show a full string of Holsteins that promises to be the best combination they have ever taken out, and they hope to duplicate their wonderful winnings at the State Fair.

Fred Hartsook, Lankershim, will show the $4,000 aged prize herd of Poland-Chinas, recently purchased from H. I. Marsh of Modesto; also some corking good young gilts. Mr. Marsh will show a herd of young stock.

Llano Vista Ranch, Perris, are willing to bet their last dollar on the Hampshire hogs they will show. This concern certainly has some great stock that will play an important part in the Hampshire history that is being made in this State.

L. A. Denker of Saugus will show not only all of his Hampshire swine that won so many championships and other prizes at the State Fair, but also an 80-head car lot of fat barrows that will be well worth staking a good-sized wager on. They surely are pippins, as are all of his hogs.

Conejo Ranch, Newbury Park, will show the same herds of Duroc and Hampshire hogs that enabled them to win 60 ribbons with 60 animals at the State Fair, including several championships and grand championships. Also a carload of fat barrows will be entered. Watch for a big clean-up here.

University Farm will compete for prizes this time. They will show their four-horse team of Percheron mares, a full line of sheep, a steer that will make typical army beef, some typical army market barrows, and the world's record goat, California Gretel. The exhibit will occupy a section by itself.

Donald H. Graham, the Duroc breeder of Lancaster, will take along three boars, five sows, three fat barrows and a carload of fat hogs. Mr. Graham hasn't made much noise so far, but he has some of the best stock in the State, and he is going to make some of the older breeders hustle to retain their laurels.

John E. Marble of South Pasadena, the leading Dorset Horn breeder of the West, will show eight or nine head, including the champion ram at the State Fair, and a coming yearling ram that he thinks is even better; also an ewe that he believes can win over his champion ewe. Mr. Marble has grand stock and it is always in the pink of condition.

McAlister & Sons of Chino, who were missed at the State Fair this year, will try to win enough ribbons at Los Angeles for both shows. They have entered 16 head—an aged bull, six aged cows, and the balance young stuff. The latter will include several sons and daughters of their famous herd sire, "It." They have wonderful type and prove the breeding ability of this great bull.

A. B. Humphrey of Escalon will take along a big grip that he expects to fill with ribbons won by his Guernsey cattle and Berkshire hogs. The quality of the Grapewild

HEAD YOUR FARM FLOCK WITH A

Registered

DORSET RAM

Dorset rams cross well with range ewes. Many growers of early lambs prefer **Dorset** grades, from the **Merino** cross, to any other ewe, purebreds not excepted. These grade ewes are **great milkers** and hardier than purebreds, and more desirable for mutton makers. When mated to purebred Dorset rams, they produce a **very blocky, easily-fattened** lamb.

SEE OUR EXHIBIT AT THE

CALIFORNIA LIBERTY FAIR

Los Angeles, October 12 to 26

Our Dorsets Won

ALL AWARDS AT THE CALIFORNIA STATE FAIR LAST MONTH.

JOHN E. MARBLE, Owner

South Pasadena, California

JOHN BRIMS (Shepherd), Box 432 REDLANDS, CAL.

THE SHEEP THAT BRING THE BIG PRICES

Are the Kind to Buy

Rambouillets

I purchased at the Salt Lake sale 31 head of the best (Butterfield, Quealy and Bullard strains) to head my breeding ewes. I have about 100 big, smooth, heavy-wooled rams for sale.

J. BIDEGARAY, - FRESNO, CAL.

THE BULLARD TYPE

Rambouillet Sheep

Again Awarded All Prizes at the 1918 State Fair

A Bullard Yearling Ram that sold for $1000 at the Salt Lake Ram Sale.

A pen of Bullard Range Rams brought the highest price ever paid in America.

We purchased a ram for $3,000 conceded by Prof. Coffey to be the best Rambouillet in the United States, for use in our flocks.

The Bullard kind are the kind to own. They produce wool and mutton at the lowest cost.

Single Animals or Carload Lots.

BULLARD BROS. **Woodland, Cal.**

FINE WOOL HEAVY LAMBS

Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.

E. C. SPEAR, St. Helena

stock is known the country over, and represents years of careful breeding. Mr. Humphrey will make the other fellows hump at Los Angeles. Also he will consign five extra good sows to the Berkshire sale.

Lack of space prevents us from making detailed mention of all of the herds that will be shown, but it is expected that all of the following will make good exhibits:

Jersey cattle: D. F. Conant, Modesto; C. D. Hayworth, Modesto; N. H. Locke, Lockeford; Guy H. Miller, Modesto.

Guernsey cattle: Calla Grove Farm, Manteca; A. B. Humphrey, Escalon; L. D. Smith, Berkeley.

Ayrshire cattle: E. B. McFarland, San Mateo; J. Henry Meyer, Watsonville; Preston School, Waterman.

Dutch Belted cattle: U. G. Strader and Mrs. Jennie Strader, Ceres.

Shorthorn cattle: C. N. Hawkins, Hollister; Anderson & Kellogg, Suisun; Frank Brown, Carlton, Oregon; Miller-Maxwell Company, Colorado; Dibblee Estate, Santa Barbara; Roselawn Stock Farm, Woodland.

Hereford cattle: University of Nevada; Dean Duke, Likely; Cazier Bros., Wells, Nevada; Wyoming Corporation, Denver; W. H. Curtis, Calgary, Alberta; Scharueler & Holmes, Phoenix, Arizona.

Aberdeen-Angus cattle: Congdon & Battles, North Yakima, Wash.

Berkshire swine: Homer Hewins, Calistoga; Elizabeth M. Holje, Calistoga; A. B. Humphreys, Escalon; Jas. Wilson, Jr., Yerington, Nev.

Poland-China swine: W. L. Haag & Son, Hanford; J. H. Cook, Paradise; Chas. Gatewood & Son, Fresno.

Chester White swine: Highland Stock Farm, Fair Oaks; Mrs. L. M. Yore, East Auburn.

Draft horses: Ruby & Bowers, Davis; E. M. Simpson, Hood.

LIVESTOCK DIRECTORY.

SWINE

Poland-Chinas.

I AM IN CLASS 1 IN THE DRAFT, so will sell my 26 head of registered Poland-China hogs. They are of the best blood lines and breeding obtainable, such as the Giantess strain, the Big Jumbo, Big Timm, Big Bone, Young Jumbo, President and Longfellow strains. Will sell entire herd, including one herd boar, several young boars, brood sows and gilts. All are A1 animals. Prices reasonable; satisfaction guaranteed; pedigrees promptly furnished. Howard C. Peterson, Box 396, Reedley, Cal.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough Greenfields, Arlington Station, Riverside, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

ONBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

REGISTERED POLAND-CHINAS of choice breeding and careful selection. C. C. Roberts, Rt. A, Box 411, Chico, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

LAUESSEN'S BIG TYPE Poland-Chinas; weanlings for sale. Write me. William G. Lauessen, Van Nuys, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts, weaned boar pigs. C. B. Cunningham, Mills, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BOAR PIGS—Farrowed April, 1918, sired by Baron Duke 201st, National Grand Champion, and from Riverby Princess 3rd, litter mate to World's Champion Sow. Other spring boar pigs from same boar and 650-pound prize-winning sows—all at very reasonable prices. Natomaris Rancho, Office 906 K St., Sacramento.

Owners: Sandercock Land Co.,
In charge of sales of Natomas Lands

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal

SPECIAL OFFERING — Three registered Berkshire brood sows, regular producers of large litters, now bred to outstanding boars of Rival Champion blood. Write today for full description and prices. R. J. Merrill & Son, Morgan Hill, Cal

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—Sired by Star Leader the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

SOME OPEN GILTS and young boars from Taxpayer, Burks Good Enough and King Col. strains for sale. Shipped on approval. F. W. Gardner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

SELLING OUT DOS HERMANOS DUROCS. Your opportunity. My herd boar, sows and young stock priced to sell. Hans Duveneck, Ukiah.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

CHERRY CHIEF CRITIC is our herd boar. Good enough to please any one. Stock for sale. Write us. Craig's Ranch, Owensmouth, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROCS—Defender, Clinton B, and Golden Model strain; the big type. Allen Thompson, Tulare.

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

NO MORE BOARS sired by my 1917 State Champion, but can furnish a few sows. J. M. De Vilbiss, Patterson, Cal.

RANCHO DEL SUR DUROCS are the large, smooth, prolific, easy feeding kind that pay. Donald H. Graham, Lancaster, Cal.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J. H. Minto, Patterson, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

FOR SALE—40 head of Holstein cows, some are registered, the rest are choice grades; 17 milking, others coming fresh. Ranch five miles south and five miles east Hanford. Wm. Harlan Smith, Route C, Box 181, Hanford, Cal. Phone 48F2.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

REGISTERED HOLSTEINS—Bull calves Joseph Paxton, Breeder, Athlone, Cal.

Jerseys.

AM OVERSTOCKED—Will sell 12 Jersey heifers from six to nine months, granddaughters of N. H. Locke & Co.'s famous bull, King, imp., whose get is making good, and from practically purebred cows. $35 per head as a whole. H. Watson, Rt. D, Box 91, Modesto.

FOR SALE—Four-year-old registered Jersey bull, a direct descendant (25 per cent) of King's Valet, Imp. (No. 79143), and a very beautiful animal, with many records behind him. Chas. Nelson, Elk Grove, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

FOR SALE—Two registered Guernsey bulls Prices reasonable. Papers furnished on application. Also some nice Jersey-Duroc hogs; good foundation stock. Address, Shore Acres Dairy, San Leandro, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM—Offers for sale a young registered Guernsey bull and six high-grade Guernsey heifers, five of which are already bred. A. J. Welch, Prop., Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys, both sexes; prices reasonable

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D., Berkeley.

FOR SALE—Guernsey Bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

FOR SALE—Two thoroughbred registered Hereford range bulls. Offspring from these animals show exceptional qualities. Price, $250 apiece. Bryan-Bernard Cattle Co., Napa, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada Registered Hereford cattle. Breeding stock for sale.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. O. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

FOR SALE—One 18-month-old Toggenberg Billy, one 4-month Toggenberg Billy. L. Skadsheim, Winton, Cal.

FOR SALE—1000 head high grade ewes in lots of ten or more. J. A. Younggreen, Orland, Cal.

BISHOP BROS., SAN RAMON, CAL. — Breeders and importers Shropshires

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

25 CHOICE purebred Rambouillet bucks for sale. Alfred Kuhn, Henleyville, Cal.

HORSES.

FOR SALE—Seven head of well broken Norman horses weighing from 1500 to 1700 lbs., with harness complete, at reasonable prices. Apply or write to L. M. Edwards, Wheatland, Cal.

FOR SALE—Fine team bay mares, splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners

MULE FOOT HOGS, large type, booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco Cal

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Poultry for Profit

By Susan Swaysgood, Pomona.

A PATRIOTIC DUTY OF FARMER AND SUBURBANITE.

The San Francisco Livestock and Poultry Show in the north follows on the heels of our Los Angeles Liberty Fair. Every farmer and suburbanite within traveling distance of these two fairs ought to visit them and get interested in his or her special kind of livestock. It does not much matter what it is, so that you are interested in keeping up the supply of meat. Vegetarians, fruitarians and all non-meat eaters soon lose their fighting qualities, so it won't pay to lose interest in the meat business. Poultry and rabbits can be made to produce more meat in a given time than any other animal.

RABBITS A DIFFICULT PROPOSITION.

Rabbits are a rather difficult proposition in some people's hands, while others seem to have fair success with them. The demand is good and at good prices, but hay in this section is so high that those who have rabbits tell me the profits are small when the hay must be purchased.

With poultry, where hens can be turned out to rustle a part of their living, the profits are much more. There is more chance, too, of using up rough stuff with chickens. If it does not do raw, it can be cooked and utilized; whereas rabbits must have clean raw food that is about perfect, or they soon get diseased. Dusty or moldy feed is almost instant death to rabbits. It is not good for poultry, but if they are not kept hungry, as a rule they eat it carefully and do not swallow the dust. Moldy feed will, however, cause canker trouble and get into the digestive tract with the bacteria. If it is cooked, however, no danger need be feared. Mangels, raw beets of any kind, turnips or small potatoes all help to feed the poultry, and they are better fed raw than cooked.

DON'T OVERFEED COOKED POTATOES.

Too many cooked potatoes cause hens to lose the use of their legs and sag down behind. This is because the potatoes are so starchy. When this occurs, cut down on potatoes. Small, defective apples, if sweet, may be allowed, but these, too, should be raw and optional with the hens. It is not the feed that causes any particular trouble but feeding too much of one thing, thus forcing the hens to eat that or starve. If hens are allowed to run in an apple orchard, provided they have other feed, they will not eat enough to affect their laying; but if given no other feed, such as grain or mash, they will fill up on apples and exist, even make flesh, if the apples are sweet—but you won't get many eggs. The same thing occurs with grapes. Sweet grapes, with plenty of other feed, serves as a succulent green, but sour grapes will stop egg production if they eat many of them. My experience has been that when hens are properly fed they will not eat enough of anything harmful to do mischief.

INSECT PESTS.

To the Editor: Our chickens have some kind of insect on them, and there are so many of them that it simply kills them. What shall I do?—Miss V. A., Fowler, Cal.

[There are but two kinds of insects that kill chickens. Mites are little red fellows that look as big as a flea and leave the chickens at daybreak, going into cracks in the woodwork or under the perches during daytime. Sometimes they stay on chickens in the daytime. Spray the house three or four times with distillate or some strong commercial spray. The best is made with one quart crude carbolic acid to one gallon distillate. Mix and saturate wall, ceiling and perches. Three days later go over it again, and do same three days later. Then spray once a week. The other insect is the tick, and it works in a similar manner. The same treatment will apply to the house. In addition, you might touch the ticks with coal oil and turpentine very lightly. If you put much on you will kill the chickens.]

SEPTEMBER CHICKS — CANKER.

To the Editor: When will chicks hatched in September commence to lay in this latitude? Will they molt next year? A few of my hens have canker. If the head of a hen having canker is cut from the body, would there be danger of contagion in feeding the body to fowls provided the same was well boiled?—H. H., Sebastopol.

[September hatched chicks will commence to lay not later than February, if given decent care. Burnt alum powdered and rubbed in canker sores will sometimes cure, but not always; in fact, some cases do not respond to any treatment, but swabbing the places with raw creolin is a good remedy. Do it three or four days in succession. If the head is burned it makes it safer for the rest, and boiling will certainly kill all germs, so that you may feed the carcass to the rest.]

RABBITS HAVE SORE EARS.

To the Editor: Will you please tell me what I can do for rabbits which have sore ears? Are they incurable? Is it contagious?—J. A. C., Fairoaks.

[Sore ears can be cured as can other sores, but you must prevent the cause, which is lack of cleanliness. Be particular in keeping the hutches dry and clean. Mix equal parts of flour of sulphur with vaseline, wash the sores in warm water and soap, then dry on a soft cloth and apply the sulphur ointment freely. Do this several times and keep clean, and you will get rid of the sores and the cause.]

TURKEYS HAVE CHICKEN POX.

To the Editor: My turkeys have peculiar lumps all over their heads, resembling a scab. What can I do for them?—G. L. W. C., Tulare.

[This is chicken pox. Keep them away from children. Rub carbolized vaseline all over the heads and neck, rub in well, then wipe off the superfluous vaseline. Give a little castor oil in a little warm mash at night just once and they will get over it. But mind, it is contagious.]

RABBIT BOOK WANTED.

To the Editor: Would you kindly advise me as to where I could get an authentic book on raising rabbits?—D. T., Hanford.

[American Breeders' Review Company, 132 Nassau street, Department 69, New York, publishes such a book.]

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

PRIZE WINNING Rouen and colored Muscovy ducks for sale. Choice Light Brahma cockerels, $4 to $10 each. Muscovy eggs, $2 per 15. Emma Miller, Farmington, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BABY CHICKS and hatching eggs from our selected purebred S. C. White Leghorn hens. Tupman Poultry Farm, Ceres, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

CHICKENS SICK? Roup, Colds, Canker, Bowel Complaint, Limberneck, Sorehead etc., the best remedy is always GERMOZONE. At most dealers or 75c. post-paid with 5-book poultry library free.
GEO. H. LEE CO., Dept 428, Omaha, Neb.

Dollar-Making Facts For Poultry Keepers

What is Pratts Poultry Regulator?

A positive tonic and conditioner for poultry of all kinds and ages. *A health-builder and health-preserver.* Not a food.

What does it contain?

Roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain duty. The combination spells "health insurance."

What does it do?

Pratts Poultry Regulator makes and keeps poultry healthy, vigorous and productive. It shortens the molt, sharpens the appetite, improves digestion and circulation, hastens growth and increases egg-production. *It saves feed* by preventing waste due to poor digestion. *It prevents disease* by keeping the birds in condition to resist the common ailments.

Has it been fully tested?

Yes! In general use for nearly fifty years. The *original* poultry conditioner. Imitated, but unequalled

Does it give general satisfaction?

Positively! *Satisfaction guaranteed or money refunded.* Test it at our risk. Increased egg-production will prove that "Pratts makes hens lay."

How is it best used?

Daily in small quantities. For adults, a tablespoonful daily for 10 birds. Younger stock in proportion. Mix with dry or moist mash.

What does it cost?

Nothing, because *it pays big profits.* One cent a month per hen is the *investment* required.

Where can I get it?

From 60,000 Pratt dealers. There is one near you. Direct from the manufacturer, prepaid, if your dealer can't supply you.

How can I learn more about it?

Ask the Pratt Food Co., Philadelphia, for valuable FREE BOOKS on poultry keeping. Write today!

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Manufacturers of Pratts Powdered Lice Killer, Roup Remedy, Disinfectant, etc. Also Pratts Animal Regulator and Veterinary Remedies

Pratts 347

FEED IT TO YOUR CATTLE, HOGS AND CHICKENS

Copro

PRICE LIST

20 Tons	10 Tons	5 Tons	Less Quantity
Per ton $45	$45	$45.50	$46

F. O. B. Mill (or F. O. B. S. P. Cars in 20 Ton Lots)

A Pure, Palatable Food Product, Rich in Digestible Protein

Write for Free Sample and our Booklet "SUCCESSFUL FEEDING"

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PACIFIC OIL & LEAD WORKS
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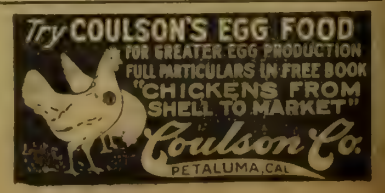
DEVIL'S DUST

ASSASSIN of Vermin
Poultry Lice, Mites —Harmless to Poultry, Stock and Plants
Proven by years of use
ECONOMICAL
Sold Everywhere

Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 88 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to anyone who will write him.



HOME CIRCLE

THE GULF STREAM.

There's a brown stream that is flowing through the blue Atlantic waters;
There's a warm stream that is crossing from the new world to the old.
And the way of it is silent in a broad, majestic passage,
And its mighty course is hidden from the eyes that would behold.

Deep the springs are that have fed it, from the centuries upwelling,
From the pioneers who labored that the nation should be free,
From the prophets and the martyrs, from the soldiers and the mothers.
And the host of them that perished for the sake of liberty.

So the brown stream cleaves the ocean to effect a transformation,
That the world shall be delivered from the icy bounds of death;
And within the stricken countries joy shall be again upspringing,
And the lands once more shall blossom in the fervor of its breadth.

—McLandburgs Wilson in New York Sun.

SEVEN REASONS FOR SAVING.

1. Save for your country's sake, because it is now spending millions a day and must find most of the money out of savings.

2. Save for your own sake, because work and wages are plentiful, and, as prices are high now, a dollar will buy more after the war.

3. Save, because when you spend you make other people work for you, and the work of everyone is needed now to win the war.

4. Save, because by saving you make things cheaper for everyone, especially for those who are poorer than you.

5. Save, because by going without you relieve the strain on ships, docks, and railways, and make transportation cheaper and quicker.

6. Save, because by saving you set an example that makes it easier for the next man to save. A saving nation is an earning nation.

7. Save, because every time you save you help twice, first when you don't spend and again when you lend to the nation.—The Commonwealth.

THE SUGAR SITUATION.

The U. S. Food Administration has sent out a bulletin on the sugar situation, including facts concerning sugar production, reserve stocks, geographical problems, prospects for the next crop and the shipping situation. The object of this is to supply definite information supporting the necessity for sugar conservation. While there is a world sugar shortage, there is no sugar famine nor likelihood of one.

Compliance with the present voluntary ration of two pounds a month per person will take care of the situation for a seemingly indefinite time, without the need for further reduction in amount.

A CAKE WHICH BREAKS NO RULES.

Nowadays we are all looking for recipes for cakes which we can make without breaking any of the conservation rules. Here is one which a good cook has worked out and found good: ¾ cup corn syrup, ¼ cup sugar, 2 eggs, 1 tablespoon substitute fat, ½ cup milk, 1 teaspoon soda dissolved in a little water and stirred into sugar and corn syrup, ½ cup raisins, well flavored, enough flour and oatmeal combined to make a thin batter (may be used half and half), spice may be added. Bake in well-floured muffin tins.

SPARKLETS.

People have curious ideas as to the treatment patients receive in asylums. A nurse on a visiting-room duty recently heard a newcomer asking as to the treatment of patients. "Oh," was one reply, "they treats poor things cruel here. They gives 'em a bath every week."

An old lady traveling for the first time in a large city saw a glaring sign on the front of a high building, which read, "The Smith Manufacturing Company." As she repeated it aloud slowly, she remarked to her nephew: "Lawsey mercy! Well, I've heard tell of smiths all my life, but I never knew before where they made 'em."

Mrs. Reginald DeKoven said of a certain piece of cruelty: "It reminds me of the action of a Chicago girl. 'Why have you thrown over Mr. Smith?' a friend said to this girl, reproachfully. 'Oh,' she replied, 'I could never marry a man with a crooked leg.' 'What made his leg crooked?' 'I ran over it with my motor car.'"

A colored Baptist was exhorting. "Now, breddern and sistern, come up to de altar an' have yo' sins washed away."

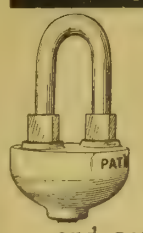
"I done had my sins washed away."

"Yo' has? Where yo' had yo' sins washed away?"

"Ober at the Methodist church."

"Ah, brudder Jones, yo' ain't been washed; yo' jes' been dry cleaned."

A traveling man, the story goes, one night found himself obliged to remain in a small town on account of a washout on the railroad. The rain was still coming down in torrents. The traveling man turned to the waitress. "This certainly looks like the Flood." "The what?" "The Flood. You've read about the Flood, and the ark landing on Mount Ararat, surely." "My, mister, I ain't seen a paper for three days."



Liberty Bonds AND Fuel Thrift Patriotism and Comfort

The thrift that is possible from the successful use of coal oil in the making of fuel gas was first demonstrated three years ago when the discovery of simplicity and perfection in the Premier Burner was offered the public.

Had it been planned as a war-time thrift measure, it could not have been introduced at a more important time, when every effort toward economy is of necessity adopted.

Full information in circular "B" mailed upon request. Ask all the questions you want to, you will receive prompt reply.

A GUARANTEED BURNER FOR ANY STOVE PREPAID ANYWHERE $5.00

Premier Burner Co., Los Angeles, Cal.

Home office and Factory, 246 So. Spring St.

Replace Your Old-fashioned Plumbing Fixtures

The added convenience of modern plumbing fixtures will more than compensate you for the slight cost involved in replacing them for your present fixtures.

The attractive designs of Pacific Plumbing Fixtures will make you proud of your bathrooms.

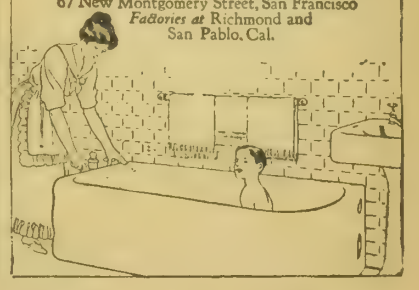
Pacific Plumbing Fixtures are guaranteed forever against any defects in workmanship or materials, and although their quality is higher, cost no more than any other reputable brand.

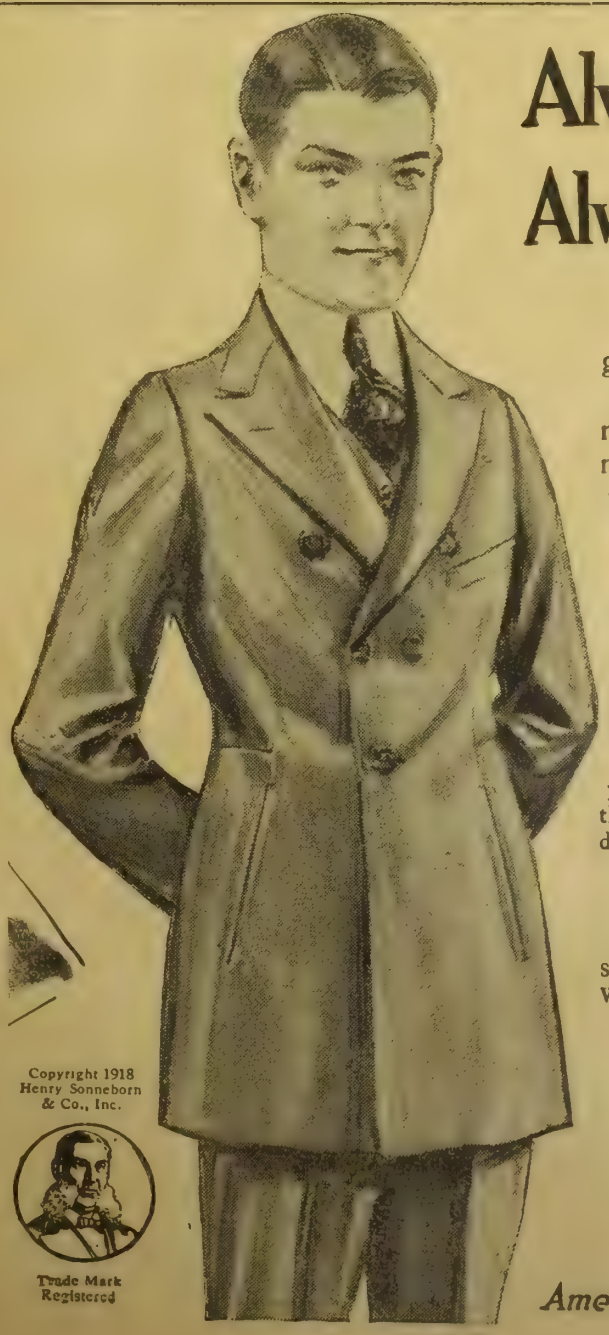
Write for a free copy of The Book of Bathrooms. It is a 56 page book, brim full of ideas.

PACIFIC PLUMBING FIXTURES

For sale by all plumbers

Main Offices and Show Room
67 New Montgomery Street, San Francisco
Factories at Richmond and San Pablo, Cal.





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Styleplus are made on a plan that insures good quality at a moderate price.

By making a few standard grades and making a big volume in each grade we cut manufacturing costs and produce exceptional style and exceptional quality at the price.

Back up Uncle Sam with your dollars as well as your patriotism. Spend wisely. Buy only the clothes you need and be sure that you are getting good honest value at a fair price.

Styleplus Clothes are moderately priced, carefully made of good materials, stylish in appearance and built to give you faithful wear.

The best way to buy clothes is to go to a store, where you can see them and try them on. Then you know the clothes will fit you and please you when they are delivered.

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Two grades in Styleplus suits: $25 and $30.

Three grades in Styleplus overcoats: $25, $30 and $35.

Sold by one leading clothing merchant in most cities and towns. Write us (Dept. AA) for Styleplus booklet and name of local dealer.

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Founded 1849 Baltimore, Md.

Styleplus Clothes $25-$30-$35

TRADE MARK REGISTERED

"Each grade one price the nation over"

America's only known-priced clothes

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, October 2, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard $2.20
No. 2 ...... 2.17
No. 3 ...... 2.13
No. 1 soft 2.18
No. 2 ...... 2.15
No. 3 ...... 2.11
Club or Sonora, No. 1 ...... 2.16
do, No. 2 ...... 2.13
do, No. 2 ...... 2.09

BARLEY.

How the surplus barley crop is to be disposed of, with the brewers out of the market, is puzzling the trade. Barley is weak, with no disposition on the part of the seller as yet to cut the price or on the part of the buyer to pay the price demanded.

Choice feed, per ctl ...... $2.15@2.20

OATS.

There has been some inquiry for seed oats, but little demand. Buyers feel that if barley becomes materially lower it will carry down the price of oats and they are waiting on a more definite barley market before buying freely of oats.

Red feed, per ctl ...... $2.50@2.55
Red seed ...... 2.90@3.10

CORN.

Corn continues nominal, with little demand and small available stocks.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked ...... $4.20@4.25
Milo maize ...... 3.95@4.05
Egyptian ...... 4.05@4.10

HAY.

Receipts of hay for the past week were 934 tons, compared to 670 the previous week. A good part of this week's receipts was damaged by the rain. Some sales of damaged hay have been reported as low as $7.50 per ton, track basis. Other hay that showed but slight damage was sold at $15 and $16 per ton. More hay was damaged by the rain than was at first anticipated.

Wheat No. 1 ...... $23.00@25.00
do, No. 2 ...... 20.00@22.00
Choice tame oat ...... 24.00@26.00
Wild oat, new ...... 19.00@23.00
Barley, new ...... 19.00@23.00
Alfalfa, first cutting ...... 16.00@20.00
do, second cutting ...... 22.00@24.00
Stock ...... 18.00@21.00
Barley straw ...... 50@80c

FEEDSTUFFS.

On account of the rain, the grinding of new alfalfa meal has come to an end for the present and the meal is consequently quoted at an advance over last week's quotations. Rolled barley is lower on account of the weak barley market.

New alfalfa meal, per ton ...... $34.00@35.00
Coconut cake or meal 45.50
Cracked corn ...... 86.00@88.00
Oilcake 78.00
Rolled barley ...... 47.00@48.00
Rolled oats ...... 57.00@58.00
Bran, carload lots in S. F. 23.75
Mixed feed, do, do 25.00
Middlings, do, do 25.75

POTATOES, ONIONS, ETC.

Both potatoes and onions are easier this week on account of the good supply coming into San Francisco. There were very few peas on the market today. Beans are still plentiful.

Peas ...... Nominal
String beans ...... 5@8c
Garden beans ...... 7@8c
Wax beans, per lb ...... 6@7c
Carrots, per sack ...... 85c@$1.00
Rhubarb, San Jose, per box ...... $1.00@1.25
Summer squash ...... 75c@$1.00
Pumpkins $1.00
Cucumbers (hothouse), per box ...... None
do Alameda, lugs ...... 60@75c
Eggplant, per box ...... 75c@$1.00
Lettuce, Sacramento, doz ...... 15@25c
Celery, bunch ...... 20@25c
Tomatoes, per crate—
Merced ...... Nominal
Bay ...... $1.25@1.50
Potatoes—
Garnet Chile, on street ...... None
Whites ...... $2.00@2.25
Sweets, per sack ...... 3.75@4.00
Onions—
River Reds ...... None
Yellows ...... $1.15@1.40
Australian Browns ...... 1.15@1.40
Garlic, new ...... 13@15c
Green corn, Alameda, per sack ...... Nominal
Okra ...... 5@7c

BEANS.

The cool, cloudy weather, with occasional showers, is keeping back the new crop of beans. If the present weather continues, a considerable quantity of the new crop will not dry out in a condition fit for the market. This possibility of loss and the fact that the new crop is late in coming into the market had a strengthening effect on the market for old beans.

Bayos, per ctl ...... $ 7.50@ 7.75
Blackeyes ...... 6.75@ 7.00
Cranberry beans ...... 10.25@10.50
Limas (south recleaned) ...... 11.70@11.90
Pinks ...... 7.40@ 7.60
Red kidneys ...... Nominal
Mexican Reds ...... 7.25@ 7.40
Tepary beans ...... 7.50@ 8.50
Garbanzos ...... 8.00@ 8.75

POULTRY.

Receipts of poultry include one carload from the East. Fryers, hens and young roosters were weaker on a falling demand.

Turkeys, live, young spring, lb ...... 36@37c
do, old ...... 32@33c
do, dressed, old ...... 34@38c
Broilers, 1½ to 2 lbs ...... 39@42c
do, 1¼ lbs 45c
do, ¾ to 1¼ lbs 47c
Fryers 35c
Hens, extra, per lb., colored 34c
do, Leghorn ...... 30@31c
Smooth young roosters, per lb. (3 lbs. and over) 35c
Old roosters, colored, per lb 24c
Geese, young, per lb ...... 27@28c
do, old, per lb 25c
Squabs, per lb ...... 50@52c
Ducks ...... 29@30c
do, old ...... 25@27c

BUTTER.

Butter is scarce in this market. On several days during the week there were not enough received to permit of any being offered on the Exchange. Considerable butter is coming out of storage and a serious shortage this winter is predicted. Compared with the prices of a year ago, butter is very high. During September of this year the high price of butter was 65c and the low 56c for extra, and 56c and 50½c for prime firsts. In September of 1917 these prices ranged 46c and 40c for extra and 44½c and 40c for prime firsts. An 8 per cent commission should be taken from this year's prices to make the comparison on last year's basis.

The new scale of commissions on butter was misplaced last week. Following is the butter scale of commissions:

Market Price—	Discount
Up to 46½	8 per cent
From 47 to 50	7½ "
50½ to 53½	7 "
54 to 57½	6½ "
58 to 62½	6 "
63 to 68	5½ "
68 to 75	5 "
75½ to 83	4½ "
83½ to 93½	4 "

This week's fluctuations are as follows:

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	61½	65	65	65	65	67
Prime 1st	56	56	56	56	56	Nom.
Firsts	56	56	56	56	56	Nom.

EGGS.

Extra eggs continue strong and higher, while extra pullets show a half cent advance for the week. During September eggs fluctuated from 58c to 65½c for extras and from 51½c to 62c for extra pullets. These figures, with 8 per cent discount, may be compared with those of September, 1917, which were respectively 45c and 49½c for extras and 41c and 46c for the pullets, or a range of from 7c to 12c higher this year than last.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed
Extras	64½	65	65½	65½	66	66
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	55	55	55½	56	55½	56

CHEESE.

Oregon triplets showed an advance of 1½c on the local market. A comparison of September prices for cheese with those of last year's September show that cheese is selling from 5c to 7c higher on the Exchange this year.

California Cheddar, flats, fancy 30½c
Fancy California flats, per lb 30c
First California flats, per lb 28c
California Y. A. fancy 31c
Oregon triplets, fancy 34c
Oregon Y. A. fancy 30½c
Monterey cheese ...... 24@27c

FRESH FRUITS.

There are still some peaches, plums and cantaloupes on the market, but they are about at the end of their season. The berry market continues in good shape.

Apples ...... $1.50@2.50
Peaches, 4-box crate ...... 75@1.25
Figs, black, per box ...... None
do, double layer ...... 75c@$1.00
do, Single Row Whites ...... 75c@$1.00
Strawberries, per chest ...... $7.00@10.00
Blackberries, per chest ...... $8.00@10.00
Raspberries, per chest ...... $8.00@10.00
Plums ...... $1.00@1.50
Cantaloupes, flats ...... None
do, ponies ...... $1.00@1.25
do, standard ...... 1.25@1.50
Watermelons, per lb ...... 1¼@1½c
Pears, Bartlett, per box ...... $1.50@2.50
Grapes, seedless ...... None
do, Malaga ...... $1.00@1.25
do, Fontainbleu ...... None
do, Tokay ...... $1.00@1.25
do, Isabella ...... 1.00@1.25
Persimmons ...... 1.00@1.50
Alligator Pears ...... 3.00@3.50

CITRUS FRUITS.

Oranges and grapefruits are strong at unchanged quotations, while lemons continue weak. Five dollars is now the top for fancy lemons.

Oranges ...... $7.50@8.50
Lemons, fancy ...... 4.00@5.00
do, choice ...... 3.50@4.00
do, standard ...... 3.00@3.50
Grapefruit ...... 5.50@7.00

DRIED FRUITS.

It was officially announced this afternoon that the Government has commandeered the entire prune crop of California on account of the serious losses arising out of the recent rains. The prunes which are thus taken over from the 30-40 to the 90-100 inclusive, and the order means there will be none for the civilian population. Rains have done great damage to the raisin crop, according to the latest information, but there is no intimation that this crop or a portion of it may be taken over. All quotations on figs have been with drawn by the buyers on account of the damage to the crop by the rains. Apples and pears are very strong and the buyers are now paying the dryers 14½ for apples and from 11 to 14 for pears.

Apples ...... 13@14c
Pears ...... 11@14c
Prunes, graded, price to growers:
gain in dip 11c
Prunes, graded, prices to growers:
20-30, inclusive, per lb 15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8½c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121 inclusive, per lb 4½c
122 and up, per lb 4c
Apricots ...... 12@18c
Figs ...... 12@17c
Raisins—
Muscats 5¾c
Thompsons 6¾c
Sultanas 6½c

RICE.

Stocks of clean rice in the hands of the trade, jobbers, wholesalers, and retailers, were never lower than at present, and eager buying is expected as soon as the new crop is ready. Harvesting of rough rice will not begin before October 5, and the first sale of paddy, scheduled for October 12, may be delayed.

Paddy rice, 1918 crop $4.32
Clear No. 1, 1918 crop at mill 7.00

HONEY.

The honey situation shows no changes this week.

LOS ANGELES

Los Angeles, Oct 1, 1918.

BUTTER.

Receipts continue light and consumption keeps up well in the face of the high prices. Arrivals for the week were 250,000 pounds against 311,900 pounds the same week last year. There was withdrawn from cold storage during the week, 70,680 pounds against 41,902 pounds the same week last year.

We quote:

California extra creamery 58c
do, prime first 56c
do, first 55c

Daily quotations:

1918—	Tu	Wed.	Thu	Fri	Sat.	Mon.
Extra	58	58	58	58	58	58
1917—						
Extra	45½	45½	45½	46	46	46

EGGS.

Receipts of fresh ranch eggs show a falling off. Arrivals by rail for the week were 525 cases against 598 cases the same week last year. Truck receipts were 2075 cases against 2600 cases the same week last year. To meet this shortage there was taken from cold storage during the week 3606 cases against 3791 cases the same week last year. Extras here sold up to 4c up to Monday, case count; pullets unchanged, though they are 8c higher than this time last year. Extras are 9c higher.

Daily quotations:

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	56	57½	58	58½	59½	60
Case count	54	54	54	54	54	54
Pullets	50	50	50	50	50	50
1917—						
Extra	50	50	50	51	51	51
Case count	47	47	46	46	46	46
Pullets	40	40	40	42	42	42

POULTRY.

Receipts were fair; also a fair demand for broilers, fryers and hens at steady prices. Turkeys were in good request. Ducks and geese dull.

The following prices were agreed upon last Friday, September 20, and hold good until the coming Friday:

Broilers, 1@1¼ lbs 35c
Broilers, 1½@1¾ lbs 35c
Fryers, 2@3 lbs 31c
Roasters (soft bone), 3 lbs. and up 31c
Stags and old roosters, lb 20c
Hens ...... 26@30c
Tom turkeys ...... 32@35c
Ducks ...... 22@28c
Geese 15c

VEGETABLES.

Under freer offerings the market weakened a little. Demand fair however. Onions declined a little. Offerings good and some poor stock coming in. String beans in better receipts and lower. Cabbage dull and lower. Sweet potatoes steady. Peppers steady. Celery in fair demand and steady.

We quote from growers:

Bell peppers, per lb ...... 2½@3c
Chile peppers, per lb ...... 2½@3c
String beans, per lb ...... 4½@5c
Lima beans ...... 4@5c
Potatoes, local, per lug ...... 75c@$1.00
do, do, per cwt ...... $2.00@2.25
do, northern, per cwt ...... 2.40@2.75
Sweet potatoes, per lb ...... 2½@3c
Garlic, per lb ...... 5@6c
Onions, Stockton Yellow Danvers, cwt ...... $1.50@1.75
Onions, White Globe, per cwt ...... 1.75@2.00
Cabbage, per 100 lbs ...... 1.75@2.25
Celery, crate ...... 3.25@3.50

FRUITS.

The market was well supplied the past week with all seasonable fruit and prices held fairly steady.

We quote from growers:

Figs, Black Spanish, 7-lb box ...... 35@50c
do, White 7-lb box ...... 30@50c
Peaches, freestone, per lug ...... $1.00@1.25
do, clings, per lug ...... 1.25@1.50
Pears, local, per lb ...... 2@3c
Pears, Mountain ...... 3½@4c
Nectarines, per lb ...... 4@5c
Grapes—
Malagas, per lb ...... 2½@3c
do, Muscat, per lb ...... 2@2½c
do, Liberty, per lb ...... 2½@3c
do, Rose Peru, per lb ...... 2½@3c
do, Tokay, per lb ...... 4@4½c
do, Cornichon ...... 4@5c
do, Black Morocco, lb ...... 4@5c
Apples, Bellefleur, 4-tier ...... $1.65@1.75
do, 3½-tier ...... 1.70@1.80
do, Gravenstein, 4-tier 2.25
do, do, 4½-tier 2.00
do, Bellefleurs, local, per lb ...... 2@2½c
Avocado pears, small, per doz ...... 50c@$2.00
do, large, per doz ...... $4.00@5.00
Quinces, lug ...... 75@85c

BERRIES.

Under lighter offerings the market was firmer. The best strawberries brought a little more money. Raspberries were scarce and higher. Blackberries unchanged but firm in sympathy with other berries.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, Sept. 30, 1918.

The demand in the East continues to be good and though the markets have fluctuated, at no time were the prices lower than the week previous. A few cars of Tokays shipped since the rain have put in their appearance and nearly all of them, though showing the effects of rain damage, have met with a good demand. The markets had previously been cleaned up and what grapes were not sold for table purposes were quickly bid in by wine grape buyers. Practically every variety of wine grape raised in California has been shipped East and to date the market on this class of stock is advancing rapidly. There seems to be no limit to what prices the trade is willing to pay for wine grapes.

Shipments of Malagas are lighter than last week and the market has advanced to a point where the stock is selling equal to and in some cases better than Tokays.

Practically all of the peaches to be shipped are now on the rails and sound stock, both clings and freestones, are selling at prices averaging higher than at any time during the season.

There are a few cars of pears yet unsold. Tehachapi fancy pears have first call.

Emperors are now moving in light supply, but the packing will be heavy this coming week. The quality is excellent and where it is possible to quote this variety packed in sawdust the demand is very active at $4 f. o. b. Lug Emperors are moving on the basis of $2.25 to $2.75 f. o. b. cars.

Averages for the week:

New York: Pears—Winter Nelis, $3.03; Bartlett, $4.33; B. Clairgeau, $3.65; B. Hardy, $3.70. Peaches—Salway, $1.52; Georges Late, $1.85; Phillip, $1.50; Levi, $1.91. Grapes—Tokay, $2.32; Zinfandel, $1.75; Malaga, $2.26; Muscat, $2; Alicante, $2.34.

Boston: Grapes—Malaga, $2.23; Tokays, $2.84; Cornichon, $2.55; Muscat, $2.01; Mission, $1.37; Grenache, $1.30. Pears—Comice, $3.75; B. Hardy, $4.17; Glout Morceau, $3.60; B. Clairgeau, $4.37; Bartlett, $5.13. Peaches—Salway, $2.02; Levi, $1.91.

Chicago: Grapes—Malaga, $2.05; Tokay, $2.29; Zinfandel, $1.40; Muscat, $1.82; Cornichon, $2.28. Pears—Bartlett, $4.70; Comice, $3.50; B. Clairgeau, $3.35. Peaches—Levi, $2.

Shipments, by cars, from September 20 to 26, inclusive: 11 peaches, 63 pears, 1030 grapes. Total shipments to date, 1918: 16,817 cars. Total shipments to date, 1917: 51,443 cars.

Special Citrus Market Report

Los Angeles, October 1, 1918.

The Valencia situation unchanged. Adverse weather in the East caused a temporary lull in the demand for oranges, but the return of better conditions brought the markets back to their normally strong position. On the better grades of fruit there were slight advances in price. The closing up of the season for fresh deciduous fruits is making for a stronger citrus market. Jamaica is beginning to ship its oranges to New York. They average about $4 a box. Florida oranges are expected soon at Northern distributing points. They are being booked at $4 f. o. b. Jacksonville. It is not thought that the Valencia market will be at all affected by these Southern shipments. Indeed, the California crop of Valencias will be practically out of the way the latter part of this month. At this writing there are not more than 500 or 600 cars awaiting shipment, the bulk of which are averaging $8 per box at Eastern points, while some very fancy brands have topped the $11 mark. Quotations f. o. b. California points still hover around the $7.50 mark. Southern California promises early navel shipments.

The lemon market, which has been dormant for some time past, shows signs of new life, and there is now a limited demand for fresh supplies. The glut of foreign lemons in the East is clearing up, which will doubtless stimulate the demand for the California product.

Total shipments of citrus fruits from Southern California for the season are: Oranges, 13,975 boxes; last season, 38,497; total shipments of lemons for the same period are 5510 boxes; last season, 7471 boxes.

Strawberries—
Fancy, per 30-basket crate.....$2.25@2.50
Poor to choice, 30-basket crate. 1.50@1.65
Blackberries, 30-basket crate.... 2.50@3.00
Raspberries, 30-basket crate..... 3.50@4.00

MELONS.

Watermelons were in good supply and sold fairly well. The cantaloupe season is drawing to a close. Casabas in good supply but slow sale. Honeydew melons a little lower.

Cantaloupes—
Tip Top, home-grown, standard crate .....$1.15@1.25
do, do, pony crate .....70@80c
do, do, jumbo crate.....$2.50@2.75
Columbia, jumbo crate ..... 2.75@3.00
Paul Rose, standard crate.....$1.25
Casabas, per lb.....1½@2c
Pineapple, standard crate.....$1.15@1.25
Watermelons, per 100 lbs..... 1.00@1.25
Honeydew melons, 16-inch crate 1.00@1.10
do, jumbo crate ..... 3.00@3.25

HAY.

Not much in and very little wanted. The dairy people bought a little alfalfa, but horse hay went begging. Prices, under light receipts, were unchanged. No one seemed to care to buy ahead.

Barley hay, per ton.....$24.00@26.00
Oat hay, per ton..... 26.00@28.00
Alfalfa, northern, per ton..... 21.00@22.00
Alfalfa, local, per ton..... 22.00@24.00
Straw, per ton ..... 9.00@10.00

BEANS.

Limas continue in fair demand and there was some little movement in pinks; other varieties neglected. Buyers holding back on account of slow Eastern markets.

We quote from growers—
Limas, per cwt.....$11.50
Large white, per cwt..... 10.00
Small white, per cwt..... 10.00
Pink, per cwt..... 7.50
Blackeye, per cwt..... 6.25
Tepary, per cwt..... 8.50

COTTON.

There was more trading and a decidedly more bullish feeling in this market the past week. The announcement that the Government would not fix prices for the present encouraged buying and by Saturday October in New York reached 33.27c and closed at 32.77c and December closed at 33.04c. On Monday the announcement that Bulgaria had signed an armistice started fresh buying and caused a further slight advance. October closed in New York at 33.60c and December 33.23c. In New Orleans October closed at 32.21½c and December 31.83c.

Special Livestock Market Report

San Francisco, Oct. 2, 1918.

CATTLE—Cattle receipts in San Francisco are coming principally from Oregon, with a few from Nevada. These, together with the California offerings, are more than enough to take care of all local demands. Quotations unchanged.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11½@12c
No. 1, weighing 1200 to 1400 lbs.11½@11¾c
Second quality .....10@10½c
Thin .....8@9c

Cows and heifers—
No. 1 .....7½@8c
Second quality .....6½@7c
Common to thin.....4@5c

Bulls and stags—
Good .....6@7c
Fair .....5@6c
Thin .....4@5c

Calves—
Lightweight 11c
Heavy 8½c
Medium 10c

HOGS—Hogs are now coming in quite freely and are of good quality. Packers have some difficulty in absorbing the supply on account of diminished killing capacity due to the shortage of suitable labor to handle the animals. Quotations have declined a quarter of a cent on all classes.

Hogs—
Hard, grain-fed, 100@140.....17¾c
do, do, 140@300 .....18¼c
do, do, 300@400 .....17¾c

SHEEP—Quite a lot of ewes are offered in this market, but not many wethers. While lambs are not plentiful, there are still enough to go around and fill all demands.

Lambs—
Yearlings .....12@12½c
Milk .....14@14½c

Sheep—
Wethers .....11½@12c
Ewes .....9@9½c

Los Angeles, October 1, 1918.

CATTLE—Few choice fat cattle were offered the past week, and they were in good demand. Plenty of thin and medium stuff was to be had, with little demand.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers..... 7.50@ 8.50
Good cows and heifers..... 7.00@ 7.50
Canners, per cwt..... 5.00@ 5.50
Calves, per cwt..... 8.50@ 9.50

HOGS—Receipts the past week were the best for some time and under the influence of freer offerings the market was slow and weaker. The offerings were of better quality.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225x275 lbs..... 16.00@17.00
Light, 175@220 lbs..... 16.50@18.00

SHEEP—Choice muttons and lambs continue scarce, firm and in demand. Poor and medium stock is weak.

Per cwt. f. o. b. Los Angeles—
Prime wethers .....$9.00@10.00
Prime ewes ..... 8.50@ 9.50
Yearlings ..... 9.50@10.50
Lambs .....15.00@16.00

PORTLAND LIVE STOCK.

Portland, Ore., Oct. 1.—Cattle, steady; receipts, 300 head. Steers, prime, $12 to $13; good to choice, $11 to $12; medium to good, $9.75 to $11; fair to medium, $8.25 to $9.25; common to fair, $5.75 to $8.25; cows and heifers, choice, $8 to $9; medium to good, $5.75 to $7.25; fair to medium, $4.75 to $5.75; canners, $3 to $4; bulls, $5 to $7; calves, $9 to $12; stockers and feeders, $6 to $8.

Hogs, steady; receipts, 510 head. Prime mixed, $19.50 to $19.75; medium mixed, $19 to $19.35; rough heavies, $18 to $18.35; pigs, $16 to $17; bulk of sales, $19.35 to $19.50.

Sheep, steady; receipts, 48. Prime lambs, $12 to $14; fair to medium, $9 to $11; yearlings, $10 to $11; wethers, $9 to $10; ewes, $6.50 to $9.

WEEKLY BUTTER AVERAGES.
Cents per pound for Extras.

Week Ending	San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan. 2	34.50	50.40	35.25	50.16
" 9	39.41	51.08	36.90	50.00
" 16	35.83	52.33	37.00	50.50
" 23	36.91	52.50	35.00	52.00
" 30	38.48	53.00	38.87	51.83
Feb. 6	40.00	50.80	41.19	49.66
" 13	39.70	52.00	39.00	48.00
" 20	36.00	51.41	37.00	48.00
" 27	37.00	51.30	36.00	49.33
March 6	35.50	50.66	34.50	50.00
" 13	33.50	51.16	33.00	49.50
" 20	33.25	47.83	33.00	47.00
" 27	36.00	46.30	33.00	43.30
April 3	37.91	43.16	36.33	42.16
" 10	39.33	39.25	37.00	39.50
" 17	39.58	39.00	38.00	36.83
" 24	35.56	40.50	36.50	38.16
May 1	33.08	40.83	33.00	39.00
" 8	34.05	40.66	33.20	39.00
" 15	35.50	40.46	34.16	39.00
" 22	36.30	44.33	35.16	41.00
" 29	36.60	42.30	37.33	39.00
June 5	36.30	43.90	37.66	41.58
" 12	36.50	44.92	38.00	40.58
" 19	36.00	46.50	37.50	41.75
" 26	35.06	47.42	37.00	43.00
July 3	35.06	48.08	37.00	46.00
" 10	36.41	48.90	37.16	47.50
" 17	37.83	50.83	38.66	48.66
" 24	40.25	52.66	42.58	45.16
" 31	42.82	52.16	44.00	51.00
August 7	43.00	52.16	43.00	50.83
" 14	41.66	51.66	42.00	49.00
" 21	41.50	52.25	42.00	49.58
" 28	41.91	53.00	42.00	50.00
Sept. 4	42.10	53.00	41.33	50.00
" 11	42.00	54.90	41.00	50.33
" 18	45.00	57.80	43.00	51.67
" 25	45.00	61.33	45.50	56.17
October 2	44.90	64.75	45.91	58.00

WEEKLY EGG AVERAGES.
Cents per dozen for Extras.

Week Ending	San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan. 2	38.10	52.80	37.00	48.16
" 9	37.91	60.91	38.16	50.66
" 16	41.83	65.66	40.83	55.00
" 23	32.50	65.66	33.12	58.00
" 30	32.08	61.25	33.02	54.00
Feb. 6	34.99	58.50	34.70	51.66
" 13	33.30	44.40	31.66	44.83
" 20	33.01	44.75	30.75	40.83
" 27	29.00	42.40	27.66	39.58
March 6	24.75	36.83	24.91	35.00
" 13	25.96	37.91	26.08	38.00
" 20	25.66	40.66	25.91	39.63
" 27	27.16	39.50	28.00	40.00
April 3	28.58	38.91	29.25	38.33
" 10	29.66	37.58	30.41	36.33
" 17	32.33	39.16	32.08	36.83
" 24	32.91	40.50	32.83	39.66
May 1	32.00	41.66	31.83	39.33
" 8	33.75	40.08	32.00	37.00
" 15	34.20	39.16	32.50	38.83
" 22	33.40	40.50	34.00	39.00
" 29	33.80	38.66	33.50	37.41
June 5	33.20	40.80	34.66	38.83
" 12	31.16	41.00	33.00	33.75
" 19	31.41	43.33	33.10	33.00
" 26	30.16	44.32	32.16	39.08
July 3	31.90	44.91	34.25	41.75
" 10	33.50	48.30	36.00	45.00
" 17	33.66	47.66	34.41	45.50
" 24	35.25	47.91	36.91	45.16
" 31	38.00	48.83	40.16	46.56
August 7	42.58	49.50	37.08	46.58
" 14	41.41	52.08	42.25	48.00
" 21	43.33	56.33	42.25	50.17
" 28	53.50	59.20	43.50	53.00
Sept. 4	43.80	62.40	43.58	56.33
" 11	45.08	63.70	44.91	58.67
" 18	47.83	61.30	47.83	59.00
" 25	47.58	60.17	49.50	55.67
October 2	47.00	65.42	50.83	59.75

Classified Advertisements

MISCELLANEOUS.

FOR SALE—Pumping plant: 8-h.p. engine, 4-in. centrifugal pump, 160 ft. 0 in. 6-inch pipe, 550 ft. 0 in. pipe, one 45 deg.-90 deg. elbows. Plant can be seen in operation any time. Inquire or write G. W. Heer, Santa Ynez, Santa Barbara county, Cal.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works, 160 Eleventh street, San Francisco.**

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. **John G. Mee, St. Helena, Cal.**

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CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

FOR SALE—Holt 30 tractor, Fire Bottom Benicia plow, 28-inch disks. Also 8-foot double disk harrow. Price $2,500. **Fair Oaks Ranch, Willits, Cal.**

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ORCHARD FOR RENT—Fifty acres apples; forty acres Bartlett pears; thirty acres bean land. Paradise irrigation district. **Dr. C. A. Oliver, Chico, Cal.**

SEEDS AND PLANTS.

WANTED—1918 sweet and bitter hard shelled almond seed, suitable for nursery planting. Seed must not be bleached. Submit quantity, sample, and price per pound. **Fancher Creek Nurseries, Fresno, Cal.**

POTATO SEED BALLS WANTED or cleaned seed. Can use any amount this year and next. Write particulars. **A. T. Cook, seed specialist, Hyde Park, N. Y.**

WANTED.

POSITION WANTED to take charge of a hog ranch by a single man, experienced in handling registered stock. **Hans Duveneck, Ukiah, Cal.**

WANTED—Single man to take charge of and break horses on large ranch; good wages to competent man. Address **Box 1039, Chico, Cal.**

WANTED—Practical farmer manager. Owners of an estate in the hills overlooking San Fernando Valley want a resident farmer—a man who can carry on development work, cultivate about 130 acres of irrigated plow land, including orchards, walnut groves and alfalfa, and can care for and build up a herd of purebred Herefords on mountain pasture adjoining. Faces on paved State highway, near good schools, high school, etc. Abundant water, domestic and irrigation, under water. Will provide good, modern farm house. This may be the chance to educate your children you have been looking for. Address, by letter only, giving full information as to your experience and qualifications, Advertising Manager Security Trust and Savings Bank, Los Angeles, California.

WANTED—Position as superintendent or foreman on fruit or general farm by married man. Splendid executive ability, practical, experienced. References furnished and required. Address X. Y. Z., General Delivery, Atwater, Merced Co., Cal.

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Percherons = Belgians Shires

My fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.

The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.

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That was their conception of our characteristic national trait—"speed."

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This demand continued to increase calling for the utilization of the most efficient time saving and production increasing methods.

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Overland cars everywhere are helping their owners speed up the work of a nation at war, dependably, thriftily, saving time and economizing man power, alike for the captains of industry, the workers in industry, and for the farmers, large and small, and the farm workers.

Everywhere lines of communication between the great agricultural sections and the great industrial centers are being kept open by time-saving, man-saving Overlands.

We want every Overland built and delivered during the war to contribute its share to the war-speed of the nation.

And speed is winning the war.

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THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — OCTOBER 12, 1918 — LOS ANGELES

What Co-operation Has Done For Raisins

[Written for Pacific Rural Press by John J. Fox.]

The fruit of United effort is progress. Progress means success and satisfaction. "Satisfaction," says Marcus Aurelius, "consists in doing the things we were made for. And how is this to be compassed? By the practice of general kindness—by distinguishing appearance from truth and by contemplating the nature of the universe and its works. The keynote of Nature is Harmony.

Harmony is the strength of all Societies and implies co-operation.

UNION IS STRENGTH. After more than twenty years of suffering under marketing conditions that made the production of raisins a slave-like undertaking, there came a time when the growers were compelled to unite in an effort to escape the thralls by deciding to market their own fruit instead of allowing it to be marketed for them. Either that or give up the game.

They said in effect: "The average returns for our raisins are so little more than the cost of production as to provide a bare existence. We cannot improve our properties; if we run behind or have a mortgage to carry, our "finish" is only a question of time. We have been exploited long enough. Let us market our own fruit.

Genesis of the Associated Raisin Company.

Repeated attempts were made to organize and much valuable work was done in these attempts, in outlining the raisin growing district, platting the farms and filing exact records of the acreage planted to vines or in bearing. Finally it was decided by the growers that no plan to market their wares would succeed without a real paid-in cash capital to provide funds for handling, marketing, and distributing their crop—a stupendous undertaking.

The California Associated Raisin Company was the outcome of their deliberations and was really a development from the "Raisin Exchange," formed two years earlier, and whose members had done so much valuable spade work. It is unnecessary to recapitulate the terms under which it was formed—it was a long, arduous fight, and with foemen worthy of their steel. But the California Associated Raisin Company came into being in 1912, with stock subscriptions from the growers totaling three-quarters of a million dollars. Contracts were signed by the growers guaranteeing the delivery of their crops to the association for five years—76 per cent of the acreage—as it was found that control of their own crop could not be secured unless at least 60 per cent of the output was assured. In this way the speculative element was discounted and the whole industry stabilized, as will be shown.

The magnificent new building now in process of erection at Fresno for the use of the California Associated Raisin Co.

The First Step—Speculation Eliminated.

The first thing the Associated Raisin Company did was to buy from the growers 25,000 tons of raisins—the holdover of the crop of 1912—for 2½ cents a pound, at a time when independent packers would offer no more than 1¾ to 2 cents a pound. They then leased packing houses from the commercial packers, having as yet no packing houses of their own. Separate contracts were entered into with fourteen packers and the association handled 85 per cent of the crop in 1913, or about 120,000,000 pounds! On the crop of 1913 it had guaranteed the growers a minimum price "on delivery" of 3¼ cents a pound for Muscats in the sweat-box. This necessitated the securing of three million dollars' capital. Through local and San Francisco bankers this was done, and many growers left money due them for raisins with the company at 7 per cent interest, which gave several hundred thousands of dollars more for its use.

In 1913 the Associated named prices to the trade and guaranteed them against declines. This they could do only because speculation in raisins had been eliminated. The close of the year gave the growers more than $400,000 in excess of the guaranteed minimum price. The Associated paid $12 a ton above what had been the prevailing price during the four preceding years.

"If You Want Business You Must Go After It."

Increased production necessitates increased consumption, and the heads of the new Associated Raisin Company, being men of affairs, decided that two things must be done to extend their markets: (1) Advertise their wares in a large way; (2) standardize and guarantee their pack under a brand that should be recognized and respected all over the world.

The individual packers had never been able to agree on co-operation to advertise, so any new market was, so to speak, a sort of "volunteer crop." Any new business came through the work of jobbers and wholesalers, and this was altogether too slow for such a rapidly growing staple industry. The Associated, through a large Eastern advertising firm, has carried on a persistent and nation-wide advertising campaign that has made the California raisin under its own "Sun-Maid" brand an article of daily use in every household; for it is probably one of the lowest-priced dried fruits on the market compared with its food value. A part of the system of advertising has been to provide the public with recipes for its use. The use of it by bakers has brought raisin bread into vogue, which has come to stay. Demonstrators have been at work all over the country showing various methods of cooking and preparing. This year the company has allotted $375,000 for advertising alone. All this has resulted in there not only being no holdover, but demand keeps pace with the increased production.

Standardization and Inspection Improves Quality.

Standardization and inspection has resulted in improved quality of the fruit and confidence in the pack. Experts have been employed to improve the handling and machinery necessary. Co-operation brings the growers in closer touch with one another and results in improved methods of cultivation, pruning, harvesting, and delivery.

It has come to this then—that the California Associated Raisin Com-

(Continued on page 390.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

A GOOD YEAR AHEAD.

THE Chronicle's special leased weather prophet, S. V. Rehart of Lakeview, Oregon, has just made another grab at the mantle of Elijah, although he did not reach even the outmost fringe thereof in the grasp he made for it last year. Mr. Rehart excuses his miss of last year by this statement:

It was my first disappointment in making forecasts since 1906. Furthermore, it is the first time during forty-six years of personal observation that a hot summer was followed by less than normal precipitation.

That is surely a very good record and we congratulate Mr. Rehart upon it. However, we do not forget that California rainy seasons are usually good: that our normal rainfalls are usually equal to good crops in places where it is expected to get them without irrigation: that, if this were not the case, the American conception of California's agricultural potentiality would be worse than the Spanish and the tillage prophet Campbell would have been thrown on the vaticinal scrap-heap long ago. In other words, California seasons are predominantly good and an optimistic prophet is therefore bound to make a good average. It is, however, very joyful to find a prophet who keeps on foretelling exactly what we have every reason to expect. It is infinitely better than to follow another prophet whose predictions, if realized, would transform our grand semi-arid valleys into dismal swamps. Therefore, we welcome Mr. Rehart's prediction for the crop year now beginning, as follows:

For the season of 1918-19 I expect more than normal precipitation, with the precipitation extended over a longer period of time than the past two seasons, with several alternating periods of wet and dry spells in the valleys and heavy snows and cold spells in the mountains.

THE EXPECTED WILL HAPPEN!

THIS is surely rational. As we began with September rains which were in most places the heaviest ever received since the American occupation, it is of course to be expected that the precipitation will extend over a longer period this year than usual. It is also to be expected that we shall have "alternating wet and dry spells in the valleys, with heavy snows and cold spells in the mountains." That is the way our rainy seasons always conduct themselves, when they perform normally at all, and it is of course comforting to be reminded that it is to that we have every reason to look forward. Therefore, we accept the apology which the Chronicle makes for its protege that "he claims no scientific aid in his observations." We prefer a prophet who works with a good trustworthy "hunch" to one who claims to work by solar science, which cannot be connected up with earthly affairs by demonstration either of causation or coincidence.

We must, however, remind the reader that there is a very close analogy between weather prophecy and peace prophecy, and just at the moment it is very important not to put too much trust in definite allegations of either. We want plenty of rain and plenty of peace this winter and we fully believe we shall get both if we do not slacken but go ahead vigorously toward attainment of both. We shall have had the rainfall when we get to the springtime and we shall have the peace when our boys get across the Rhine!

THE BACKWARD LOOK OF PROPHECY!

THE more we think of weather prophets and peace prophets the more we are impressed with the value of hindsight. Take the case of the crumbling Huns, for instance. They have great difficulty in discerning the fact that the world has its heels on their ears and their peace antics would be funny if they were not so tragic. They are now bombarding the forces of humanity with pleas for peace in order that human lives may be saved! Either way you look at it, it is a demonstration of stupidity. The Huns may think that the allies prefer peace to a death struggle for the right; or that they have made such a score as super-men that mankind is scared of them and their policy of frightfulness, or that the allied nations are so permeated with passivism that their bluff at mercy will make limburger of the milk of human kindness. And so there came to President Wilson the other day a special plea from the German rulers with this allegement:

The German Government requests the President of the United States to take in hand the restoration of peace, acquaint all the belligerent states of this request and invite them to send plenipotentiaries for the purpose of opening negotiations. It accepts the program set forth by the President of the United States in his message to Congress on January 8 and in his later pronouncements, especially his speech of September 27, as a basis for peace negotiations. With a view to avoiding further bloodshed, the German Government requests the immediate conclusion of an armistice on land and water and in the air.

We are at a loss to know along which of the lines of stupidity cited above this argument travels, but it clearly manifests impotence in foresight proceeding from a total absence of hindsight. It is effrontery which can come alone from stupidity and conceit. It is a proposition to talk about "avoiding further bloodshed" with no admission of guilt or grief for the streams of blood which have been flowing for four years and a half from its declarations of ultimata; its mobilization of murdering armies to pursue hell-born purposes; its invasion of peaceful countries and subjection of peaceable people to death, outrage, robbery and enslavement; its barbarous crimsoning of the seas with the blood of babes and its continuous desolation of invaded countries, deporting their populations to slavery even while it is being driven backward by the armies of righteousness which its own abominations have rallied to the defense of the world.

The Huns are willing to accept the declarations of this country "as a basis for peace negotiations"! There can be no negotiations for peace except upon the basis of unconditional surrender! President Wilson may not tell them that in so many words, but that will be the tenor of his answer. It is the only thing which this country will stand for and if the Huns had any insight and hindsight they would welcome the after-treatment as more merciful than anything they ever planned for the people they essayed to subjugate! And, fortunately for all mankind, it will soon come to that! Buy some more Liberty Bonds: let the kaiser see in them "a basis for peace negotiations."!

WAR GARDENS AND PEACE GARDENS.

WITH reference to the distinguished contribution which Secretary Lane makes to our production-promotive effort, upon another page of this issue, we desire to remark that all that he so forcibly urges as relations of home-gardening and school-gardening to the current war emergency are also relations of these gentle arts to the permanent and prosperous development of the country during the reconstruction period which will follow the war. The earnest thinking which this country has been called upon to do concerning food-producing and food-saving for war purposes will have incalculable influence in strengthening the foundations of thrift upon which will rest the new attainment of prosperity for generations to come. Let us regard Secretary Lane's notable contribution, therefore, not at all as a temporary expedient, but as an enduring force—a force to win now, a force to wear hereafter. We have been drifting into national disregard of the fundamental facts of individual sustenance and of national maintenance and naturally we have been losing sight of the fundamental importance of food production and of the industrial rights and privileges of those who make it their life work. We have been glorifying the functions and increasing the rewards of all who have provided capital, supplies, transportation, hired labor and trade-facilities for food products to such an extent that we have been nationally negligent of the justice and fairness to the owners and operators of farms by whom alone food production can be maintained. We believe the time has come for farmers to secure justice and fairness by organization and affiliation of their industries, because all people have been taught by the war to recognize their dependence upon farming and they are therefore ready to assume a new attitude toward farming which shall express their recognition of such dependence. Farmers should push organization to give that attitude, toward which all people are now disposed, practical embodiment and permanence in individual and national behavior and policy. If it is not now done quickly, there is great danger that the old state of the public mind, which was one of negligence and inappreciation of the need of making food production secure through the recognition of the proper place of the producers thereof in national affairs, may reassert itself. If farmers will organize strongly now to secure proper, definite recognition of their rights and relations, the future will be made secure through the work which is now entering so forcibly into the curricula of the schools. It will be through the work of the schools that Secretary Lane's declarations, upon another page of this issue, will lay hold upon the future and have potentiality in making the prosperity of the country permanent and progressive.

The announcement by Secretary Lane that he has given local leadership in this branch of the work of his department to Prof. C. A. Stebbins, formerly of the State University and more recently of the Chico Normal School, will give satisfaction. Prof. Stebbins is known to our readers not only for his excellent school work in elementary agriculture but for his good work upon his own farm, of which a suggestive account was given in the Pacific Rural Press of February 16 last. The whole thing looks mighty good to us!

SHALL A FARMER BECOME A "JINER"?

WE HAVE received a very pertinent question which we desire to answer as prominently as possible. It is mooted in this note:

To the Editor: I believe in organized farming both for buying and selling purposes, but how much or how little of it I should undertake I cannot figure out. I own twenty acres, or shall when I get it paid for. I joined the Dairymen's Association about six months ago, as dairying is going to be my main business, but I will probably be selling about twenty fat hogs a year. My wife keeps about a hundred hens and for the sake of rotation I raise some beans. These crops are represented by four different associations. Would it be practicable for me to join them all or in just one line where I will be able to count for something?—N. S., Turlock.

You have made a good start by joining the association which will handle your main line co-operatively. Hogs and hens will probably be permanently associated with your main line and therefore their products will be continuous. It is just as important that you get all that you are fairly entitled to from your pork and poultry products as from your cream, though the receipts are relatively less, and you should therefore be represented in wise co-operative efforts to get full returns from by-products as from your principal product—for it is often the case that the by-product carries the profit on the whole season's work.

It is not a question in righteous co-operation

that you should individually "count for something." The true principle of co-operation is "one for all and all for one." Therefore your strength and influence are essential, not that you should individually count but that the principle should prevail. The reward for the prevalence of the principle is that you and every other co-operator shall get what he is fairly entitled to for his labor and investment. If your production entitles you to act with several groups of producers, you and they are all entitled to your and their participation in the mutual efforts which are the only protective and promotive recourses we know of for you and for them.

The burdens of membership in associations which cover and protect your special products should not be great. The preliminaries of organization may seem large, but in subsequent operation the product should bear the cost of its handling, which should be less than current commission charges, and membership cost should be nominal. This is the experience of all our special product co-operations which have come through to success, for the pecuniary advantages of membership have made the cost thereof look like thirty cents.

WHY SPECIAL PRODUCT ASSOCIATIONS?

WE HAVE two reasons for advocating special associations of all groups of producers: first, it is the only way that an association can master full knowledge of its material and expert handling of it, like that which old-line dealers have so long commanded for their own advantage; second, we know of no association which has undertaken to handle all kinds of products for all groups of producers which has ever commanded wide influence and success. It is an age of specialization and the ideal attainment is for each special product to be practically concentrated in the hands of producers' representatives who know exactly what can be done with it and how to do it. If, therefore, in your case you are represented in all the associations handling your products, you place yourself in position to get all there justly is in each of them and you "count for something" in all of them because you are carrying your share of the co-operative effort.

As these special-product co-operative associations attain a workable share of the products, they should unify their general effort for things which affect them all, by affiliation in representative organization and assembly action. This is the only direction in which we can foresee broadly influential force toward the attainment of things that ought to be. Every farm should take active part in the promotion and protection of all commercial products it puts forth. Of course it is not necessary that you should personally take out all the memberships. As a California citizen your wife should do her full duty as a "jiner" for all the products in which she is particularly concerned—whether it be a mothers' club or a chicken association.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Fruit Trees on "Gravelly Loam."

To the Editor: Last year I bought 18 acres of land. I presume that years ago this land was planted to grain, as there is a granary on the place, and after the land was worn out for grain it was planted to prunes; afterwards, olive trees were planted between the prune trees, and finally the place was neglected altogether. It was then put on the market for what I thought was a reasonable price and I bought it with a view of taking all of the old trees out and planting a new orchard to prunes. All of the old trees are now out. The neighbors have been knocking this place and have been telling me that the land is too poor and that I would be foolish to improve it. The land is a gravelly loam, with plenty of boulders in it to a depth of about 60 feet. Do you think that it would be advisable to plant this land to prunes and try to enrich it by fertilizing. I am told that putting fertilizer in the holes for the trees kills them.—Investor, San Francisco.

Of course one can only guess at the character of a piece of land which he has never seen. An intelligent opinion must be based on sight—not only of the surface but considerably below it. It is necessary, for instance, to know how much gravel and how much fine dirt there is in a "gravelly loam." And if there is a good proportion of fine dirt, it is then necessary to know how much water there will be available by irrigation, for too gravelly a soil cannot hold enough moisture from rainfall to grow good trees and fruit crops—no matter how heavy the rainfall may be. And if the trees do not get moisture enough it does matter how much fertilizer you give them, for they cannot use it. If you have plenty of water, use fertilizers on the top of the ground after planting and not in the hole, and plant prunes on almond root, which has maximum penetration and drouth-resistance. In this way you may get your money back by re-selling to a bigger sucker just before the trees get to bearing age. We do not know what they will do after that. Of course if you have bought a gravel bed under the name of "gravelly loam," about all you can get from it will be what will grow while the rain is falling. Your neighbors know the place better than we do. They may be good knockers, but you must remember that there are some things that have to be knocked, and one of these is an acreage of creative rubbish as a site for fruit planting.

The Fruiting of the Quince.

To the Editor: I have a fine, thrifty quince tree, which has been bearing about five years, but persistently drops its fruit, sometimes entirely, sometimes a half dozen will mature, sometimes a few more. I have been advised to put common salt at the root, but it appears so unnatural and against common sense that I have not done it. Is the advice good?—Amateur, Marin county.

Probably the only way common salt can promote fruiting of the quince is by killing some of the roots and thus reducing the vegetative vigor of the tree. The chief reason of the non-fruiting of the quince is the continuous growth of whip-like shoots and the lack of development of strong buds which make short new shoots from the previous growth on which blooms and fruits appear. This preparation for bearing is promoted by summer pruning—thinning out or reducing the number of shoots and stopping the extension of those which you retain by pinching the tips and causing them to send out laterals. This should be done in June, when the new growth has run out a foot or two. When the foliage is reduced by opening the center, removing a great many shoots entirely and shortening the others, the overgrowth of wood is discouraged and the remaining force of the plant is exerted upon strengthening the fewer shoots which remain to be acted upon. Of course winter pruning will not do this, for its effect is to cause more and not less wood growth. There is probably nothing you can do as late as this for next year's crop.

Corn Smut.

To the Editor: I have a very good tonnage of Indian silage corn. The ears are very smutty. What would you advise doing? Would it pay to pull off the bad ears?—R. C., Hollister.

In growing corn for a grain crop smutty ears should be removed and burned because the disease lives over easily in the stalks or in the manure and attacks a following crop. Smutty ears should be watched for and removed whenever seen while the crop is growing; if not already done, they should be removed when harvesting the crop and not fed with the stalks, but burned. In growing corn for silage we are not aware whether the effect of the fermentation upon the life of the spores has been determined or not. Presumably they are not killed, for they go through more vigorous attacks in the animal digestion and retain their activity, as is shown by outcropping of smut especially on manured corn fields. So far as the effect of corn smut on the animals is concerned, it is negligible and not dangerous, as some other grain fungi are. We doubt if it would pay to pay much attention to it in silage cutting.

Wheat After Barley.

To the Editor: I would like to know if, after taking off a barley crop, it could be followed by wheat. I had 80 acres of barley cut with a binder. I had the land plowed and harrowed about 8 inches before this last rain, as I thought it would act as a partial summer fallow, with the idea of taking off a volunteer crop of hay, as there was enough grain left by the binders to produce one. Do you think I could now sow the place to wheat, and if I do I suppose it would be necessary to plow or disk again to destroy the sprouting barley? When would be the best time to do it—now or in the spring?—P. A. R., Dinuba

Disk out all the barley that starts now and repeat the operation once or twice if conditions start new growth that often. This will clean the land pretty well so wheat can go on in December. Do not try it in the spring or you will get no wheat. California wheat has to make a start early in the winter and get all the growth it can to head well in the spring.

We Need You

to represent us in the field in place of those who have been called to the colors. The work of securing new subscriptions and collecting on renewals is pleasant, dignified and healthful, and the salary is ample.

Experience is neither essential nor objectionable. If you have an automobile and are not afraid of hard work, we can use you.

No objection if you are along in years, provided you haven't lost your pep. If you really like the paper and think you can convince others of its merits, your first step toward Greater Success will be to write us a little about yourself and give us an opportunity to tell you what we have to offer.

Only a few positions open. Better write today.

Do Legumes Currently Help Grain?

To the Editor: Does the seeding of inoculated vetch or field peas with grain produce better yields than straight seeding with grain? Also, how about the harvesting of such a mixture with a binder or combined harvester?—F. C., Marysville.

There is some reason to think that legumes may contribute some plant food to grain growing with them, but whether, under ordinary conditions, they will help the grain in this way more than they will reduce the product of it by using up moisture the grain should have, is a serious question. Probably from the point of view of a grain crop such legumes simply act as weeds: while when growing grain for winter pasture the legumes may be a very great advantage. Grain grown with legumes can be harvested in usual ways, but the seed must be separated by a cleaner.

Why Grain the Silo?

To the Editor: How would it do to put barley with corn that is shy of ears, when filling the silo?—C. F. W., Tancred.

If you mean threshed barley, we would rather put it in the cow than in the silo because you can feed it or not, or feed it in varying amounts, according to what you expect the animal to do for you. If you mean to cut unthreshed barley into the silo, there may be the same reason that there is for cutting in the ears in siloing a corn crop—you save the cost of getting the grain out separately, make a richer silage and get the value of the grain that way at less expense. But in cutting in a lot of dry, unthreshed barley with the corn you will have to be sure that water enough goes in with it.

A Dose for Johnson Grass.

To the Editor: Is there any spray that will kill Johnson grass and not harm cattle? I want to use it along fences and ditches and in corners where I cannot get at it with a plow.—L. A. W., Merced.

You can kill it with a good dose of common salt or of alkali, which you might scrape up from alkali spots if you have not had rain enough to dissolve the inflorescence of the dry season. This would also kill the soil for some time, but as it is for corners which you were not cropping anyway, such infertility of the corners would not matter. On ditch banks the salt would probably be too much diluted to render the water injurious to plants.

Inoculation for Legume Land.

To the Editor: Would one benefit by using bacteria culture on seed to be used on land that has grown successfully good crops of alfalfa and beans for the past seven years?—L. C., Live Oak.

No.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 8, 1918.

Stations	Rainfall Data: Past Week	Season's To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.34	2.17	2.00	64	48
Red Bluff	.46	7.85	1.16	82	52
Sacramento	.30	3.88	.57	78	50
San Francisco	.09	2.66	.47	75	54
San Jose	.10	6.44	.54	80	46
Fresno	.01	.59	.47	84	56
San Luis Obispo	.00	1.47	.65	78	52
Los Angeles	T.	.66	.14	78	62
San Diego	.35	.54	.14	74	64

United States School Garden Army

Written expressly for Pacific Rural Press by Hon. Franklin K. Lane, U. S. Secretary of the Interior

ORIGIN.

The United States School Garden Army was organized in March of 1918.

President Wilson set aside $50,000 from his National Security and Defense Appropriation to promote the work for the first six months. He has since appropriated $200,000 more to carry the work through another ten months.

PURPOSES.

Two main purposes prompted the planning of the United States School Garden Army: (a) Increased food production, and (b) training of school children in thrift, industry, service, patriotism, and responsibility.

The necessity for man power was being felt. This was especially true in agricultural pursuits. Not alone were the drafted young men going from the farm, but great numbers of farm employees were being attracted to the cities by higher wages offered in other industries. If the millions of city boys and girls could be induced to give their leisure time to cultivating the thousands of acres of untilled land in front and back yards and vacant lots of our cities, towns and villages, it would result in a substantial increase in food production and an improvement in the quality of our coming citizenship.

The Bureau of Education undertook to accomplish this through the organization of the United States School Garden Army. It is an educational problem and can be solved with economy and efficiency only by the schools.

PLAN.

The plan of organization involves: (a) a general director, who is responsible for organization, propaganda, and administration. (b) Regional directors, who are charged with the responsibility of writing instructions upon gardening that will enable supervisors and teachers to take a garden company successfully through a season, even though not expert gardeners. These instructions have been put out in leaflet form and sent from the central offices to all who applied for them. (c) Assistant regional directors, who work under the regional director and whose duties are similar to those of the regional director excepting that of writing garden leaflets. (d) Co-operation with State Council of Defense through a State representative appointed by them. (e) The Army plan of organizing school boys and girls into companies of 150 or less under the direction of a garden teacher, a captain, first lieutenant and second lieutenant. (f) An insignia for each enlisted soldier. A double bronze bar for the captain, single bronze bar with two stars in the border for the first lieutenant, and one star for the second lieutenant, and a combination bronze and black enameled bar for privates.

SECRETARY OF THE INTERIOR
WASHINGTON

September 26, 1918.

My dear Mr. Wickson:

We are preparing for next year's campaign for the School Garden Army. This year we had, as you know, approximately a million and a half children in this Army. Next year we are aiming to multiply this at least by two, and we hope by three, and in this work we must ask your aid. I have appointed Mr. C. A. Stebbins of San Francisco, Cal., Regional Director, to have charge of the work in your territory, and have asked him to see you on his first visit to your city. If you can by the methods so well known to newspaper men induce the children to vie with one another as to making these gardens, the work will be a success. Could you announce, for instance, that you would publish, say every week, the three best 100-word letters from children telling of their pride in their gardens or the difficulties with which they meet? No doubt you can find methods by which you could produce rivalry between your city and other cities and between the different schools in your city. I am enclosing a brief statement of the organization of the United States School Garden Army.

Cordially yours,

FRANKLIN K. LANE.

Mr. E. J. Wickson,
Editor, Pacific Rural Press, San Francisco, Cal.

WHAT HAS BEEN ACCOMPLISHED IN SIX MONTHS.

1. One million five hundred thousand boys and girls have responded to the call of the President and enlisted in the United States School Garden Army.
2. Twenty thousand acres of unproductive home and vacant lots have been converted into productive land. This will release an equal acreage now used in truck gardening for the production of other foodstuffs more important for war purposes. It will also relieve transportation congestion through home consumption of home produced foodstuffs.
3. Fifty thousand teachers have received valuable instruction in gardening through the garden leaflets written by experts in this office and distributed from here.
4. Boards of Education and other civic organizations have been influenced to give financial and moral support to the school and home garden movement and to pay extra salaries for supervision and teaching.
5. Hundreds of thousands of parents have become interested in the garden movement and are working with their children in home gardens. In Salt Lake City alone 5200 mothers, representing sixty-two parental associations, are actively supporting food production in the schools.
6. Thousands of civic, commercial and patriotic organizations have become interested in the movement and are giving it hearty support.
7. One and one-half million children have been given something to do this summer—something that will help carry the burden of their country in this struggle for freedom, something that will help them to build character and something that will appeal to and develop their patriotism.
8. Home and vacant lot gardening in cities, towns and villages have been dignified and made popular to a degree that practically insures them a prominent place in the school system of our country. It would be difficult to estimate the educational and material value of such results.

Humboldt Co. for Winter Apples

Written for Pacific Rural Press by John J. Fox

NOW that Humboldt county is so accessible to the markets, there is no reason why she should not become one of the leading winter apple producing sections of the State. The State highway now being completed will link her up directly with San Francisco, and it is probable that in the near future as much or more traffic will pass over that highway than now passes over the railway—barring lumber. A system of good roads that is gradually being built up will do more for the development of Humboldt than any other one thing.

The above view is typical of the beautiful Humboldt County scenery.

Of all the fruits the apple seems better adapted to Humboldt county than any other tree fruit. There is almost unlimited scope for its production. The apples produced here are of firm, crisp texture, with good carrying and keeping qualities, and have always the beautiful color that more northern latitudes and mountain sections impart.

THE VARIETIES BEST ADAPTED.

The varieties produced are the Wagener, Esopus Spitzenberg, Yellow Bellflower, Rhode Island Greening and Tompkins King among the leaders. Others that should do well here in the mountains are the Rome Beauty—one of the best keepers and a late bloomer; Jonathan, of striking color and keeps well till Christmas, and Baldwin. Color always sells, and Humboldt county can grow late apples that, under proper conditions, should keep over till the following April—some varieties. Well-built packing houses are needed. In course of time Humboldt apple growers will cut their commercial pack down to the varie-

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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FOR CALIFORNIA SOILS

ties best suited to them, centralize the handling and marketing and provide better storage. There are too many small orchards with a number of different varieties of apples in them and the trade cannot be served to advantage under such a diffusion of effort. As for the local market, it is soon swamped. The commercial grower can only prosper when carload lots can be accumulated, as at Watsonville, where Bellflowers and Newtown Pippins predominate, and at Sebastopol, where the chief variety is the Gravenstein.

BOUNDLESS OPPORTUNITIES FOR THE APPLE GROWER.

Humboldt county at present claims to be free from codling moth, but scab is not entirely absent. There are some sections where good apples could doubtless be produced with a permanent clover pasture for hogs or sheep beneath the trees after they are eight or nine years old. Some redwood sections along the coast hills would be suitable for this. To take care of the culls, evaporating plants should pay in a section where fuel is so cheap and easy to obtain. The writer has been over every section of Humboldt county in the last year and sees endless opportunities for the farmer and apple grower as the land is reclaimed. J. F. Benton, the enterprising Horticultural Commissioner of this county, is an apple grower himself and should be a good man to consult by prospective planters.

HOW TO GET INFORMATION. MARKETS.

A treatise on "Apple Growing in California" was written by George P. Weldon, chief deputy of the State Commission of California, which is the most practical and comprehensive booklet that has yet been published. It could be had by writing to the State Commission of Horticulture and the entire edition was quickly exhausted. We hear that another edition is to be issued as soon as possible by the State Commissioner. Any intending grower can ascertain from Mr. Benton whether his land and location are suitable for apples. If not, whether it can be made suitable by drainage; what are the best varieties; those most largely grown, and which can be most profitably marketed. Also ask particulars of the possibility of evaporating apples and the cost of a large or small equipment. Humboldt can certainly compete with other sections in this particular, for, cheap as fuel oil is to purchase, the waste wood in this county should be cheaper still.

What Stable Manure May Be Worth

To the Editor: Are there any available statistics that would give me a line on the value of cattle manure? I contemplate using some on a prune orchard the soil of which needs humus and find the cost of same, freight, hauling, and spreading on the land, runs high. Up to what figure per ton would you say I am safe in spending? At what cost does it cease to be profitable?—B. F. J., Alvarado.

[Answer by Prof. P. L. Hibbard, University of California.]

The value of manure may be determined most certainly by measurement of the increased crop produced after addition of manure. This takes too much time and trouble, in most cases, hence the need for some laboratory method of evaluating manure. No such method has yet been devised, so that it is still necessary to use some indirect means of estimating the value of such material.

By some investigators, as Director Thorne of Ohio, it is claimed that the value of manure lies simply in its content of plant food, which may be accurately determined in the laboratory, thus putting it on a sound basis of pounds and cents value. But most students of the question believe that manure has great value as a source of organic matter, especially on worn-out soils. Conceding this, it is evident that the same manure will be more valuable in one case than in another, in proportion as the soil on which it is applied is more or less depleted. The same is true of fertilizers in general. The more impoverished is the soil, the greater is the benefit from a given amount of fertilizer.

The value of manure, then, depends on its content of plant food and organic matter, and these vary according to the animal, its feed, and the manner of preservation of the manure. Old rotted manure is more desirable in some respects because the plant food contained in it is more readily available to crops and because of its better physical condition. But it must be remembered that often one-half or more of both plant food and organic matter in fresh manure are lost in the process of rotting. Hence it is desirable to apply the fresh manure and incorporate it into the soil with least possible delay in order to save all its value. It takes two or three tons of fresh to make one of rotted manure, and the percentage composition of the two may be nearly the same.

One ton of manure will contain plant food worth two to four dollars, besides its humus value. Applied in a rotation of corn, oats, wheat, clover, it may give increased yields worth three to five dollars per ton used. On a depleted soil lacking humus, used for fruit growing, the value of the increase in crop might be much greater.

Most of the valuable effects of manure are obtained by the use of cover-crops. Manure applied at the time of plowing in a cover-crop hastens its decomposition and effect. It is very commonly necessary to use lime in order to get the best results from either manure or cover-crops. One or two tons of lime, with as much or more manure, is likely to be very beneficial. Sugar factory waste lime is very suitable for agricultural use.

At what price the cost of manure becomes prohibitive must be determined by the conditions in each particular case. A starving man might be justified in paying a dollar for a loaf of bread, for which a well-fed person would not give more than ten cents. Two tons of manure per acre on a run-down prune orchard might produce increased crop worth $20, while on a well-kept-up place the same application would produce hardly any noticeable effect.

A recent experiment has demonstrated that sugar cane thrives in the Palo Verde Valley. There is greater profit in cotton growing, however, at present prices.

G. C. Hansman, pomologist in charge of the viticultural investigations of the United States Department of Agriculture, recommends that the wine-grape growers of California graft their vines to currant grapes. He says the currant grape is the earliest to ripen; that they may be dried and put away before the earliest rains in sections where other varieties of raisin grapes ripen too late, and that in the raisin growing sections of this State the currant grapes can be grown as an advance crop and can be cured and stored by the time the other grapes ripen.

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Effective Treatment of Wood Rot

[Written for Pacific Rural Press.]

SOME YEARS AGO, when asphaltum was first recommended for use where large cuts were made on trees, the writer was repeatedly asked how to apply it, because of the difficulty in keeping it warm and because it was so destructive to brushes. The best method of carrying it around in the orchard is to use a tin can with holes punched in the side, as a heater. Charcoal can be used as fuel and a little sand or ashes placed at the bottom of the heater to prevent it from burning through. The operator can carry a little extra charcoal with him to replenish the fire. This is better than using a lamp, as it is safer. The pot of asphaltum, which sets inside, will, of course, need a separate handle like a glue pot. If you only want a small quantity of asphaltum, the hardware dealer will probably ask you to help yourself, as it has to be chopped out of the barrel in chunks, and, being so cheap, it is unprofitable to sell in small quantities.

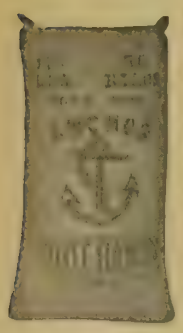
A Unique and Convenient Applicator.

A farmer suggested the following method to get over the brush difficulty and it is now being widely used: Cut up a lot of baling rope into 14-inch lengths. Then tie them up in a bundle to the thickness of one and a half inches. This bundle of ropes should be wound with string tightly, at intervals of one inch, from top to bottom, only one end being frayed out to form a brush. As fast as this end burns off, one of the strings can be cut to give renewed length to the frayed end. This beats paying out 40 cents a day for a new brush and is not so exasperating. The grower who originated this simple little contrivance is too modest to allow his name to appear, but it is worth passing on.

Reason for Protection.

Asphaltum, though difficult to apply, is the most satisfactory because it lasts indefinitely, warms up in summer and becomes hard and glazed in the cold weather, but it never checks. Paint does check and it is in those tiny checks that the fungus spores enter. Once they get in and well down the limb or trunk, it is practically impossible to do anything to check their destructive work. The tree or limb looks sound enough from the outside, but becomes, in course of time, a shell with a spongy center. It is only through a cut or wound of any kind that this fungus can enter a living tree, and that is the reason such pains are taken to make clean cuts and to seal them against infection. A wound made by plow or cultivator or from sunburn should equally be cleaned and treated. More and more care is being taken each year by growers in their treatment of these things, for it means more years of profit on a large investment and it is an important part of the business. An unprotected orchard may be old at fifteen years. One whose cuts have been well cared for may be young and vigorous at thirty.

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDEW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH.

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until after you have read a pamphlet we shall soon issue regarding Pear Blight. Contains facts about Blight Resistant Stock that may make a difference of thousands of dollars to YOU if you intend to plant an orchard to this most profitable of fruits. Sent free as soon as received from the printer to those who state the number of trees they will plant.

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SPECIAL NOTICE: If you have not enough money to buy our pear trees and also Liberty Bonds, buy the Bonds. We'll get by without your money—but our money won't. If it makes it any easier for you, we'll take bonds of any issue for our pear trees, and take them at par value.

What Co-operation Has Done for Raisins

(Continued from first page.)

pany constitutes the life of the industry and should have the unswerving and loyal support of every man that raises raisins.

SPECULATIVE ELEMENT ELIMINATED.

Do we have to ask anyone's permission to be allowed to market the products we raise? Our prices are regulated by supply and demand. If they are placed too high, we throttle the industry by inducing over-production and reducing consumption. If prices are too low, the industry is beggared. We have created new markets and extended old ones by the expenditure of our good money and efforts. It is only by loyalty to the association that these assets can be kept in our own hands. To hand all this back to the independent packers is to return to old conditions—to hand over the crops to be exploited by shrewd men whose interest is obviously to make money for themselves. Under present conditions, jobbers, wholesalers and retailers know where they stand. They can do a legitimate business. Do they or the growers want the gambling element back? The board of directors of the Associated Raisin Company is in the nature of a board of trustees handling the affairs of its members.

WHAT IS A TRUST?

A trust is an undertaking on the part of an individual or corporation to administer an estate or negotiate business to the best advantage of the trustors. It is understood that the trustee or trustees pledge his or their honor to consummate any business they undertake to the best advantage of those whom they serve, regardless of their own interests. In a word, it implies confidence of a high order. Is it not true that this word has been debased in the meaning it has conveyed to the American mind these many years? The word "trust" means this to the man in the street: Either by deed or understanding, the unification of large interests in order to exploit the producer or the consumer or both, and not to protect or to assist him; to make more money for the few by handling the business of the many; to squeeze down to the last penny the amount paid to the producer and to mulct the consumer in all the traffic will bear, and then apply the difference to their own private bank accounts. That is the meaning the word "trust" had and still has to the majority of Americans in spite of the cleaning up effected by the Sherman anti-trust law—a trust with a very small "t."

RELATION OF GROWERS TO THE ASSOCIATION.

If we are going to market our own wares, it is very clear that we can only do it by co-operation—one brand, one administrative and office force, one packing standard and department. It is only in this manner that advertising, standardization and inspection can be carried out. By the loyalty of the growers themselves in allowing their money to remain in the association treasury when the establishment was just starting, the association became an entity. Since then it has got firmly on its feet and owns and controls about thirty-eight packing plants in the State. To relieve the congestion incident to increased production, at their local plants the Associated has erected a central manufacturing plant at Fresno at a cost of some $300,-

(Concluded on page 403.)

They're in to Win

Fair targets, every one of these men, for the German riflemen and machine gunners hidden behind the parapet.

But they are not thinking of the bullets whizzing past them; of the shells bursting over their heads.

They are intent on one thing—to scale that bank, take the bridge head and ***win the day.***

And these men are made of the same stuff as all true Americans who read these words.

If we are the same stuff, let us prove it. Let us get into the fight as they do—to the limit—for Victory!

This Space Contributed to Winning the War by

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Fruit First to Suffer from Drouth.

Dr. J. C. Whitten of the University of California gives the following interesting facts that it is important every orchardist should know: "It has been found that in a dry time the fruit is the first part of the tree to suffer from lack of water. This is because when water supply is inadequate the leaves have the power of drawing water out of the adjacent fruits. The sap in the leaves is more concentrated than that in green fruit, so the sap of the leaves draws water from the apples. This point can be tested by cutting off two branches from an apple tree, each containing a similar number of fruit and leaves. Hang them up in a dry place, pick all the apples off one of the limbs. The leaves on the branch having no apples to supply water will turn brown, dry and brittle within 24 hours. The leaves on the branch containing apples will keep green for days until the water is drawn from the apples and the latter are dried and shriveled. In a similar way cucumber or melon vines, containing large watery fruits, have their leaves remain green until the cucumber or melon is entirely shriveled, while a similar vine containing no fruit will have the leaves begin to wilt as soon as the vine is cut off."

Fruit Growers' Convention to Be Held.

At Riverside this time, from November 13 to 15, inclusive. It is expected that the attendance will be large, not only because of conditions due to the war but also because many problems have arisen owing to recent dry seasons and peculiar weather conditions. These various problems will be discussed at the meeting. Plans for the coming year will be one of the main features of horticultural week. To the business growers this convention is one of the "events" of the year, because its purpose is to promote and further the horticultural and viticultural industries in all their phases. The open discussions generally have enough "dynamite" in them to hold everyone's interest and provide new viewpoints.

Table and Raisin Grapes on Zinfandel.

F. H. Wilson, president of the California Peach Growers' Association, has a vineyard that has been worked over and is a great success. It was formerly Zinfandel, and we saw ten acres that had been grafted to Emperors bearing an estimated crop of seven tons to the acre. Ten acres that were grafted over to Sultanas bore two tons of dried fruit to the acre. There were also 20 acres grafted to Almeria, which gave a return last year of $700 an acre gross. The grafts are three to four years old. Like the seedless, this grape needs long pruning, and the fact that they ripen late and are good shippers and keepers probably accounts for the high price obtained.

Prunes on Almond.

Prunes on almond roots are said by John Vallance to be rather larger than on any other stock. Mr. Vallance, who has a 20-acre orchard of fine young prunes and almonds on the Almaden Road, near San Jose, also says that the skin of these prunes seems thinner, so that it is necessary to use less lye in dipping. The objections to this root on heavy or poorly drained soil are that the feeding roots not only do not thrive but decay and the larger roots are inclined to grow. On almond soil the almond is a good stock for prunes.

Apple Inspection.

Inspection under the Standard Apple Act of 1917 is gradually being extended as funds for the work accumulate. Eventually it is contemplated that, in addition to work in the larger cities, efforts will be made to carry on a "clean up" campaign for the smaller markets. The results of inspection so far have been far-reaching and the work is gradually becoming so systematized that uniform practices and results will be attained.

New Assistant Secretary.

B. A. Reynolds, who was for many years assistant editor, Bureau of Entomology, U. S. Department of Agriculture, has just been appointed to the position of assistant secretary in the State Commission of Horticulture. A valuable addition to the staff.

Rain Benefit to Olives at Palermo.

The wet weather, up to the present, proved of benefit to olives and oranges, as reported by A. E. Richardson of Palermo. The setting of both these fruits was very light this year, but the fruit now appears to be gaining in size.

Don't Neglect the Vaseline.

A little vaseline or any grease or oil smeared onto the cultivator points and plow shares will save lots of time next spring.

Treatment for Crown Gall and Root Knot

[Written for Pacific Rural Press.]

Where trees have been in poor, unthrifty condition in spite of good culture, it is always well to dig down and try to find the cause. If it is a deep-working gopher, he may be caught before the tree has been circled, and bridge grafting may help repair the injury. If a peach-root borer, his ravages may be checked. It may be oak-root fungus and the bi-sulphide isolation can be tried, though no treatment yet used is guaranteed.

TREATMENT OF CROWN GALL.

Poor drainage, stiff clay and alkali may either of them be responsible, included under the generic term of "poor soil conditions," behind which the busy man takes cover. But it is very commonly a root knot or crown gall. This woody tumor, if left to itself, will, in course of time, encircle the tree or root and, shutting off circulation, the tree sickens and dies. This is often cured by carefully cutting out all the morbid growth, right back to clean, sound bark, and then giving the wound a good sousing of Bordeaux mixture, afterwards covering it with Bordeaux paste. Later the wound can be covered with asphaltum and should heal over. D. L. Reed of Reedley told the writer that some of his crown galls were being reduced on peach trees by being thoroughly sprayed under high pressure with lime-sulphur solution, but the best way to get rid of it is the cutting and disinfecting process. All chips and cuttings have to be carefully gathered up and burned, as it is a mass of bacteria which continues infection of the ground and the tumor is likely to recur.

SCRUTINIZE TREES AT PLANTING.

It is most important that everyone planting trees should examine the roots and union of each tree as it is planted. It is practically impossible to detect each one of these in inspection, but the man who is handling them one by one at planting time can give each tree a very close scrutiny. He has to in trimming up the roots anyway. To plant a tree with a root knot on means not only disappointment in the loss of the tree, sooner or later, but also the ground may become infected sufficiently to knot the newly planted clean tree.

The Winchester pattern. 320 pellets out of a possible 431, or 74% of the shot charge, evenly distributed, no birds get through

A quick eye and a good shot pattern

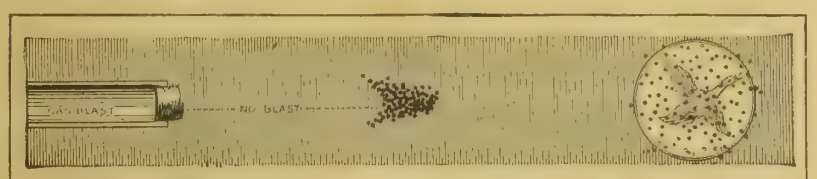
A QUICK eye and a good shot pattern, that's the game-getting combination. Given an old-timer with a reliable gun in his hand and the rest of the story is up to the shot pattern.

Now the secret of good patterns is in the control of the gas blast from the exploding powder. This in turn depends upon the *wadding* in the shell.

The wadding, like the piston head of a gas engine, must give the explosion something solid to work against so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance to the explosion so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.



The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where it is checked by the "choke" or constriction. The shot cluster travels on ahead unbroken. Actual test target 320 pellets out of 431, or 74% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-inch circle at 40 yds.

The Winchester System

Winchester Wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the *Base Wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work. Though the explosion is almost instantaneous, it is none the less *progressive*, the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle* where it is most needed.

Meanwhile, under the heat and pressure of combustion, the tough, springy *Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* the shot evenly.

At the muzzle, the shot pellets slip out without jamming, while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard-hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash. All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

The Crimp. The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Waterproofing and Lubrication. In the cold, damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester waterproofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and splitting in dry weather.

Uniform Shells. From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. $100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

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WINCHESTER

World Standard Guns and Ammunition

Overcoming Smut Ravage in Wheat Fields

Written for Pacific Rural Press by W. W. Mackie

STINKING smut of wheat still takes a heavy toll from the California harvest. Dry years do not reduce the ravages of smut. Control rests in the hands of the farmers. Careful estimates based upon actual counts of heads of smutted wheat in the field show losses varying from 0 to 90 per cent with a general average close to 10 per cent. Little more than 5 per cent of the wheat certificates passing through the U. S. Food Administration Grain Corporation standardization office at San Francisco show no dockage for smut. These dockages, varying from ⅛ to 10 per cent, represent only a small portion of the actual loss, because the quantity of smut found in a threshed sample of grain represents but a small fraction of the actual amount found in the standing grain. During the process of harvesting and placing the grain in the sack, the greater portion of the smut balls are reduced to powder and blown into the air to be showered upon the surrounding lands. There they lie awaiting the planting of the seed wheat.

HOW SMUT GROWS.

Generally the planted wheat seed and the smut spores find the climatic conditions favorable for simultaneous germination. On germination the smut spore at once sends out a thread which pierces the wheat seedling at the growing point of the sprout, or plumule, before it emerges from the soil. After the point of the seedling has passed out of the soil, the smut thread can no longer gain entrance to the plant. When the spores are held in large numbers on the brush end of the kernel, the distance from the growing point of the sprouting seed is so short that the thread from the sprouting smut spore almost immediately comes in contact with the sprouting seedling, thus gaining entrance to the wheat plant. Having once entered the plant, the smut fungus continues to grow and develop with it. When the kernels of wheat in the maturing head begin to fill with starch, the fungus fruits or goes to seed, forming a mass of black spores while consuming the entire starch contents of the kernel. Usually every head on the plant is smutted.

As every smut-filled kernel, or gall, contains over five million smut spores, it is readily seen how easy it is to infect wheat when the smut galls are ground to powder in the thresher and large numbers of them become firmly entangled in the brush at the end of each kernel.

BLUESTONE BEST FOR CALIFORNIA.

As the spores of stinking smut of wheat are never found inside the seed coat, but are always attached to the outside of the kernel, the destruction of these spores by the use of proper fungicides is a simple matter. Two well-known fungicides have long been used—bluestone, or copper sulphate, and formaldehyde. Bluestone, or blue vitriol, as it is frequently called, has been in use for smut eradication for a much longer period than formaldehyde, which first came into use through the researches of Dr. H. L. Bolley of the North Dakota Experiment Station. On account of the cheapness and ease of applying formaldehyde, it rapidly supplanted the use of bluestone in the States east of the Rocky Mountains. The results from the use of formaldehyde for smut eradication were not so pronounced and satisfactory on the Pacific Coast. East of the Rocky Mountains summer rains continually moisten the spores when the summer temperatures are too high to cause the smut spores to germinate. Stinking smut spores will not germinate at a temperature of 65 degrees Fahrenheit or greater. Being unable to germinate, smut spores fall a prey to moulds and ferments which entirely destroy all spores left in the fields. On the Pacific Coast this is not the case, for here our long dry summers do not favor fungous growths. When the fall rains begin the temperature favors the growth of the spores of stinking smut and does not favor its enemies.

Soil retaining live spores of stinking smut is said to be infected. Because of the effectiveness of bluestone against soil infection, it has been retained by the majority of wheat farmers on the Pacific Coast. The reason why bluestone is effective against soil infection while formaldehyde is not, is seen in the different behavior of the two chemicals. Formaldehyde is a concentration of gas which is held by water to approximately 37 per cent. As soon as the wheat seed is dried after being dipped in a formaldehyde solution diluted to a strength of one pint to forty gallons of water, the formaldehyde gas evaporates, leaving no residue to destroy the threads of the smut fungus which germinate in the soil. Bluestone, on the contrary, leaves a coating of bluestone crystals over the dried surface of the seed. When seed treated with bluestone is sown in moist soil, or when it is moistened by rain, the bluestone goes into solution. The action of the bluestone solution is destructive and repellant to the smut threads growing in the soil.

LIME NEEDED AFTER BLUESTONE.

Recent experiments conducted at Berkeley with treated wheat seed to demonstrate the effect of bluestone in preventing soil infection gave a percentage of 4 per cent of smutted plants for bluestone and slightly less for the bluestone-lime-treated seed as against 50 per cent for the untreated seed. Formaldehyde has no residual effect against soil infection. Where there was no soil infection, no smutted wheat occurred for either formaldehyde or bluestone. Both are completely effective in killing smut spores when used according to the proper strengths.

Both bluestone and formaldehydo have a destructive action on the germ of seed wheat when not properly handled. It has been found that formaldehyde-treattd wheat seed not well dried when stored for a week or more before planting will give very low germination and sometimes no germination at all. When formaldehyde-treated seed is sown within 48 hours after dipping, the germination is excellent. If the seed to be stored is very thoroughly dried, little or no damage results. It should be dried to the normal water content it had before dipping, and this is frequently impossible during the wet, rainy season. Bluestone may also be very destructive to seed. When used at the rate of 1 pound to 4 or 5 gallons of water, bluestone has been found by hundreds of germination tests to kill an average of 60 per cent of the seed wheat, and dilute solutions do not kill all the smut spores. Bluestoned wheat, if dipped in a solution of quicklime (1 pound to 8 gallons of water), within fifteen minutes shows almost no loss in seed germination. A much more rapid and normal root and plumule development is secured.

Formaldehyde may be successfully and cheaply used where there is no infection.

BLUESTONE-LIME SOLUTION.

Copper sulphate, 1 pound, dissolved in 4 gallons of water; quicklime, 1 pound, slaked in 8 gallons of water; dip seed in bluestone solution 3 to 5 minutes, shaking out air; drain 15 minutes, then dip in lime solution 5 minutes; if the lime solution becomes blue, replenish with new solution. Dry thoroughly before storing.

FORMALDEHYDE SOLUTION.

Formaldehyde (U. S. P. 37 per cent), 1 pint to 40 gallons of water; dip sacks or butts of seeds 10 minutes, shaking out air; cover with sacks or canvas 2 to 8 hours, ventilate thoroughly and dry. Sow within 48 hours.

Reduction in Iron for Tractors and Implements Ordered

[Written for Pacific Rural Press.]

A 25% reduction in iron and steel to be supplied to manufacturers of tractors and farm implements during the year October 1, 1918, to October 1, 1919, has been ordered by Priorities Commissioner E. B. Parker at Washington. This means that if you want a new tractor or implements, you will have to order early. Estimates of the Government requirements for the current six months have been gradually increasing from 20,000,000 tons to 25,000,000 tons, largely due to the increased vigor with which the campaign is being pushed. To get the extra 5,000,000 tons, the War Industries Board is trying to check other steel consumption as much as possible. The reduction on agricultural implements is expected to release 500,000 tons of iron and steel for war purposes. The Board urges that a full stock of repair parts be supplied to farmers, thereby aiding in keeping machines now on the farms in continuous use and preventing, if possible, an actual shortage of implements. The situation may be eased by use of whatever stocks of steel the manufacturers now have on hand. However, about 40,000 questionnaires asking how much steel is in stock have recently been sent out to as many manufacturers of all kinds by the Census Bureau, with the understanding that any attempt to conceal stocks would be drastically punished. While it was said there is no intention of commandeering any stocks at present, that necessity may develop. The first American field army used 40,000 motor trucks, and further purchases of motor trucks alone, as contemplated by the Government, will require between 300,000 and 400,000 tons of iron and steel. At this, motor trucks are but a small incident in the total demand for iron and steel, which is mostly used for ships, guns, and shells. Prices on iron ore for the last quarter of 1918 were advanced 25 cents per ton October 1, and prices on basic and foundry pig iron were advanced $1 per ton. Now, if you want tractors or implements, order early!

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Since 1888 it has been used by farmers as well as city people on buildings of every kind, size and description.

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SOUTHERN CALIFORNIA SHIPPING VEGETABLES.

[Written for Pacific Rural Press.]

Accurate data on vegetable shipments for the season closing September 1 are not available, but the following comments on various crops, based on information supplied by H. S. Hazeltine of the California Vegetable Union and H. H. Warner of the Los Angeles office of the U. S. Bureau of Markets, will be interesting.

Cauliflower planting, which starts in mid-July, is just being finished, and the acreage will be lighter in Southern California than last year. Orientals and foreigners will probably have the same acreage as last year and one American cauliflower specialist near Los Angeles will have the same. But in a district around Compton a group of rather inexperienced white growers formed an association last season and planted extensively. Due to various reasons, including slow freight and poor growing conditions, they had a disastrous marketing season, which wound up with an assessment, and they will not grow cauliflower this year.

The cabbage market started high last season and ended low, but average returns were good, and about the usual amount of seed was bought this year. Transplanting season is at hand.

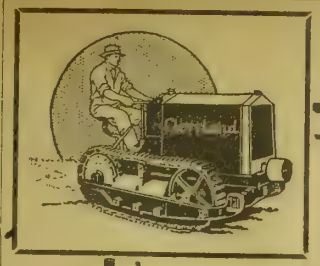
About 2500 acres of celery are maturing in California as against 4000 acres last year. Only about 643 acres are growing in Southern California. The specialized district around Smeltzer, in Orange county, where formerly 700 to 800 acres were grown, has turned to other crops on account of a few seasons of loss by fungus disease, which lives over in the soil and can only be killed out by rotation of crops. The shortage of help and poor transportation of last winter's crop are held responsible for the short total acreage. The crop is in fine condition and shipments will commence about October 20.

Spring-crop potatoes in Southern California found very satisfactory markets despite some disappointment in quality. There was considerable tuber moth infestation and the disease, "net necrosis," appeared for the first time seriously in the Nuevo district of Riverside county. The acreage was large, but the total yield light, largely on account of climatic conditions. It is expected that United States potato grades will be enforced on the fall crop, as they are in most potato growing districts of the United States, but as they were not on the spring crop in Southern California. These grades provide for two sizes and a minimum percentage of various defects. Planting in late July and August for the fall crop was unusually heavy.

The past lettuce season was not very satisfactory because much of it was too long on the road and arrived in bad condition. A blockade came while the Imperial Valley crop was being shipped. Los Angeles is one of the principal districts. Here the planting and harvest go on the year around and the acreage is about as usual. In Imperial Valley planting commences about October 1.

NO LUCK IN POISONING JACK RABBITS.

To the Editor: Early in July I planted four acres to casabas and as soon as the plants got fairly started the jack rabbits commenced a systematic harvest. I used a strong solution of blackleaf 40 and whale-oil soap and sprayed one acre of the four, with the result that the jack rabbits entirely cleaned up the one acre sprayed, also consuming a quarter of a pound of arsenic of lead and copper that I put out in sweetened bran. They are still chewing at my other three acres of casabas, but not with the relish they displayed in disposing of the acre I had sprayed with fish-oil and tobacco juice. Now are jack rabbits consumers of fish and tobacco? I am contemplating the use of wine and beer for my guests. I found no dead rabbits from the sweetened bran poison.—M. M., Turlock.



Are Farms Going to Pay this Year—

HELP IS GETTING SCARCE—THERE ARE NOT ENOUGH MEN OR WOMEN TO GO AROUND AND HUNDREDS OF ACRES WILL NOT BE WORKED THIS YEAR.

THE CLEVELAND TRACTOR WILL HELP OUT, DOING THE WORK OF THREE 3-HORSE TEAMS, WITH ONE MAN TAKING THE PLACE OF FOUR.

BUT THE BUILDING OF TRACTORS HAS BEEN REDUCED 25 PER CENT BY THE WAR INDUSTRIES BOARD.

Take Warning

Read the message from the Government in the opposite column. Read every word. Let it sink in.

It means just this—that there will be a shortage of tractors for the next twelve months at a time when the demand will exceed all previous records; when labor and horses are almost impossible to secure.

It means that the man who "puts off" will not secure a tractor.

It means that the man who will not heed the storm signals will be shipwrecked.

It means the line is to be drawn between those who think and those who don't.

Tomorrow never comes nor can you turn back to yesterday; you have but today to decide.

This is a personal message for your personal good. It is to men, real men, men who can grasp the truth; men who, when they hear the truth, ACT.

F. H. STOW.

Here is what the Message says concerning Tractors:—

After a very full and lengthy discussion of the needs of the Government in steel and pig iron, also the necessity of maintaining an adequate supply of farm operating equipment, including tractors, for food production, E. B. Parker, Priorities Commissioner, says that the very least they could ask this industry to contribute to help meet the Government war program was a reduction of 25 per cent in the amount of pig iron and steel to be received from the suppliers for the coming year, from October 1, 1918, as compared with the quantities received during the previous year, October 1, 1917, to October 1, 1918. No amount of argument could change this decision and it therefore becomes the obligation of each manufacturer to adjust himself in the way that will serve his trade and the farmer best out of the materials allotted him as above.

FARM IMPLEMENTS COMMITTEE.
C. S. Brantingham, Chairman.

Are you going to sit by and see your land laying idle growing weeds when it could have been growing golden dollars.

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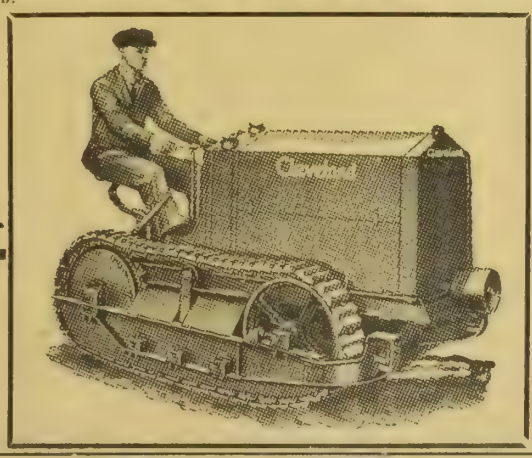
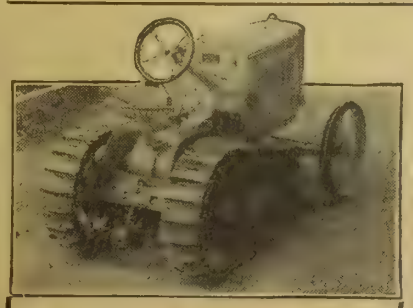
Don't forget the Gas Tractor short course at the Davis Farm. It will pay all to attend. For owners and operators—three days, November 20-21-22. For beginners—November 11-19.





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TERRITORY OPEN FOR AGENTS

Wine shipments from Roseville during the month of September reached 114 cars, more than double the amount sent last year. One-third of the grapes went to wineries in this State, the balance going to Washington, Oregon, Nevada and States to the eastward of the Rocky Mountains. Prices paid by buyers range from $25 to $40 per ton f. o. b.

Motor trucks are aiding the farmer to get his produce into the best market, for if the nearest one is stocked he can drive on to another and dispose of his perishable stuff at a greater profit. In such a way the farmer is able to choose his market according to price and demand.

FOR SALE

Avery 8-16 H. P. Tractor; has only plowed 80 acres. First-class condition. Owner could not meet payments on account of loss of bean crop.

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Did A "Business" Dentist Fill Your Teeth?

If a *low-priced*(?) "Business" dentist filled your teeth, you will appreciate why the Dental measure **should not pass.**

Amendment No. 21 would permit "operators" with little experience, from other States to practise in California **without an examination.**

The California Dental laws are **very strict** now, and the **high standard** must be maintained.

The present law admits all competent dentists.

Low-priced, **incompetent** dentistry is always the **dearest** in the end. Keep out the **riff-raff** from other States.

Vote NO
ON AMENDMENT
No. 21
Joint Committee, Cal. Dental Associations

Seasonal Review of Sugar Beet Situation

[Written for Pacific Rural Press by R. E. Hodges.]

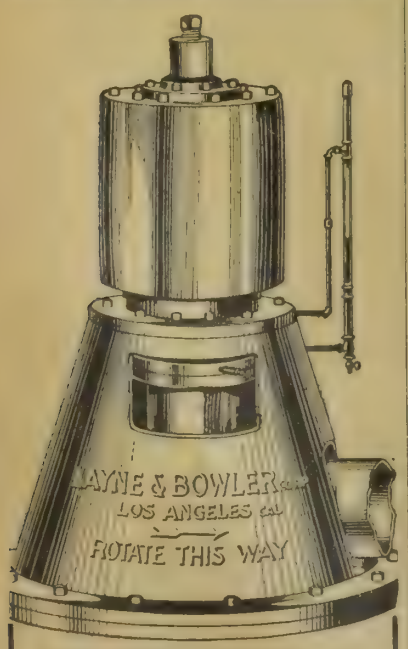
The sugar beet crop of the United States for 1918 is estimated by the Federal Food Board at 6,359,000 tons, an increase of 6.3 per cent over last year, but a decrease from the ten-year average just when a notable increase is badly needed. The estimate for Colorado is 1,490,000 tons, as against 1,857,649 in 1917. California, which produced 27 per cent of the American supply last year, shows a decrease from 1,331,548 tons in 1917 to an estimated 1,041,000 tons in 1918. Michigan, Utah, and Ohio have increased to 992,000 tons, 1,035,000 tons, and 320,000 tons respectively. However badly sugar is needed, the Food Administration is not urging growers to plant beets under contracts that will not bring reasonable profit while manufacturers are making big profits. The Government has no power to guarantee the refiners a price for next year's sugar and no authority over sugar beet contracts. The Administration believes, however, that next year's sugar prices will be such as to justify better contracts than most of them offered last season. Some factories this year operated at a low margin or actual loss on account of factors mentioned below, but some made high profits, part of which are taken in the excess profits tax.

There was such difficulty last spring for California growers and manufacturers to arrange contracts that the acreage was slim in almost every district this year; and due to one cause or another, most districts have had a light yield per acre. At Spreckels, near Salinas, the season's run for 70 to 75 per cent of the usual output would have started September 16 had not the rain prevented. Some few beets were already dug in the Salinas Valley and some tests had shown 17 and 18 per cent sugar. A few that were not ripe benefited from the rain, but most of them were mature and a considerable loss of sugar is being experienced due to second growth. In Arroyo Grande Valley, in San Luis Obispo county, a pretty fair crop of beets was being pulled in mid-September for the Betteravia factory operated by the Union Sugar Co. They were just starting the factory for an expected run of about 80,000 tons of beets from 6500 acres of the Santa Maria Valley and some from nearby districts. Beans had stolen a chunk of the beet acreage and the seasonal conditions had reduced the crop below normal. Lompoc Valley produced about 1000 acres planted by the Betteravia people.

The American Beet Sugar Co. at Oxnard had not been hurt by the rain. According to Agricultural Superintendent G. E. Bensel, the Oxnard district had 8000 acres averaging 8½ tons per acre and testing about 20 per cent sugar. This is about a 20 per cent reduction in acreage, worse than that in yield per acre, and about 1 per cent lower than the average sugar percentage. Some of the beets went considerably higher in sugar. The factory began operating late in August. Labor proved scarce and only 1700 to 1800 tons per day could be brought in, whereas their capacity is over 3000 tons per day. They expected to be operating until mid-October. Mexican labor had been imported and neat dwellings provided, but still they worked slow. Of six other factories in Southern California, all except the one at Chino had a run, but it was short, the acreage was short, the yield per acre under normal, and the sugar content low. The labor situation was worse than last year and it was impossible to get the laborers to chop leaves off without wasting a great chunk of the crowns. The season was bad for any soil and especially for the considerable acreage on which, with ordinary rains, alkali can usually be held down until the plants have a good start. With a good start they can usually stand considerable alkali, but the rains were such last winter that the seedlings could not get ahead of the alkali.

The San Joaquin Valley Sugar Co., drawing beets from Bakersfield, Corcoran, Alpaugh, and Visalia, had a good acreage and a good total yield of sugar, finishing their run in September as usual. Acreage in the Visalia district was light and growers aimed to contract not a great deal more than they could handle themselves with a little outside help. The company planted about 700 acres near Visalia.

In the Manteca district, according to S. E. Miller, manager for the Manteca plant of the Spreckels Sugar Co., the acreage was about 4700, as against 5000 the previous year. The crop was nearly a failure due to the late start and sudden stop of rain last winter and the dry year previous, which lowered the water-table on which most growers depend for sub-irrigation. Insects, including beet leaf hoppers and garden nema-



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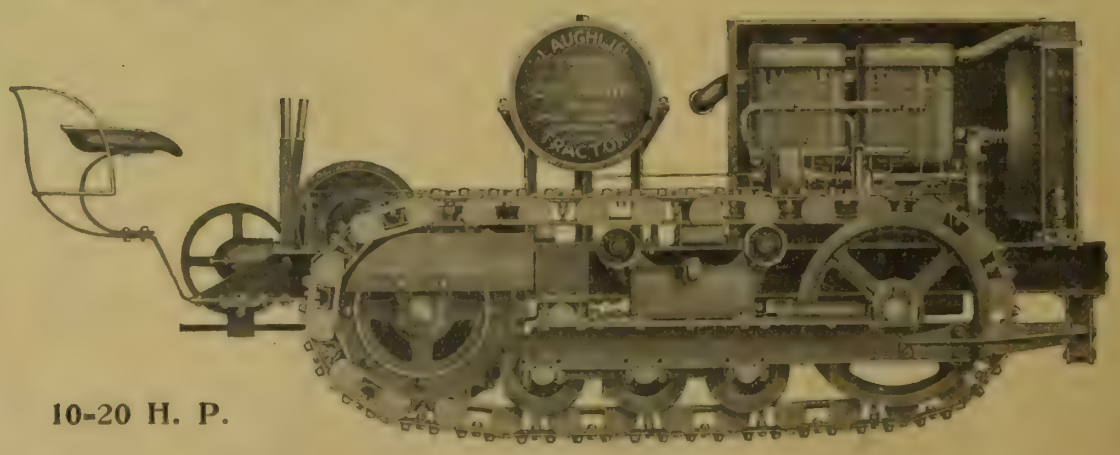

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todes, destroyed the crop in some fields and reduced the crop seriously in others. Mr. Miller estimates the average yield for all plantings in this district at only three or four tons per acre. The sugar content was good, about 17 per cent. One tract near Stockton, very well adapted to beets, averaged 19 or 20 per cent before the rain, but the beets took a second growth and lost several percents of sweetness. In the Tracy district the Pacific Sugar Corporation grew its own beet crop on somewhat over 5000 acres, and while the yield was not up to normal there is every reason to expect a larger acreage, grown under contracts with local farmers in the coming season, since an efficient irrigation system has been installed this summer and the water supply will be dependable.

The Sacramento Valley Sugar Co. plant at Hamilton City had considerably increased acreage in the territory as far south as Grimes, Colusa county, and as far north as Vina, Tehama county, the acreage having been estimated at 6000, of which the company itself grew about one-third.

SOUTHERN COAST GRAIN SURVEY.

[Written for Pacific Rural Press.]

While the region about Salinas was formerly a great wheat country, almost none of this grain is now grown here, largely, as farmers tell us, because of a blight that lets the kernels get almost to the dough stage, when in three or four days it travels from the tips downward an inch or two, turning the heads light yellow, shriveling the grain, and soon taking the entire heads if the grain is not cut for hay. The wheat grows rank and tall, with heavy heads, on the lower lands. Chevalier barley is popular, having made 3000 sacks on 100 acres for one man this season and was in the warehouse before the rain. A great deal of grain on the lowlands, however, was lying on the ground in bundles during the rain, with the fields too miry to get it out. Practically no market movement is yet noted. The Salinas Land Co., near King City, made over 30 sacks of barley per acre on one piece, but both wheat and barley averaged about eight sacks on about 3000 acres last season. In northern San Luis Obispo county E. J. Wickstrom of the San Miguel Milling Co. surveys the situation thus: The wheat crop averaged not over three sacks as against seven or eight sacks normal yield. Wheat is more common than barley, as rust seldom afflicts it and prices are stable. But this year a lot of it never got out of the boot on account of drouth. Early Baart, Bluestem, and Propo are the hard wheats here, but Sonora is the favorite because it stands drouth best. Barley averages 12 to 20 sacks per acre. Martin & Cousins of Paso Robles estimate that the grain acreage was about three-fifths wheat and two-fifths barley, with about 55 per cent of a normal yield. Much of the wheat, badly mixed with black oats, was cut for hay because it wouldn't make grain anyway. Wheat has proved somewhat difficult to sell, as the mills were not allowed to buy more than a 60-day supply and growers shipping to the Grain Corporation had to wait three or four weeks for their money. There seems to be a shortage of good barley here, as much of the crop was of poor shoepeg quality. In the hills surrounding Arroyo Grande Valley grain was practically all cut for hay. In the Santa Maria Valley of Santa Barbara county not over 15,000 bags of barley and 4000 bags of wheat were threshed this season. Lompoc Valley had no grain or hay except on the mesas and that was not enough for their own use.

The Maxwell Rice Company started rice binding on their 2800-acre tract between Colusa and Maxwell. They will use five tractors and 200 men and with favorable weather will complete the harvest in fifty days. They expect to average 45 sacks to the acre.

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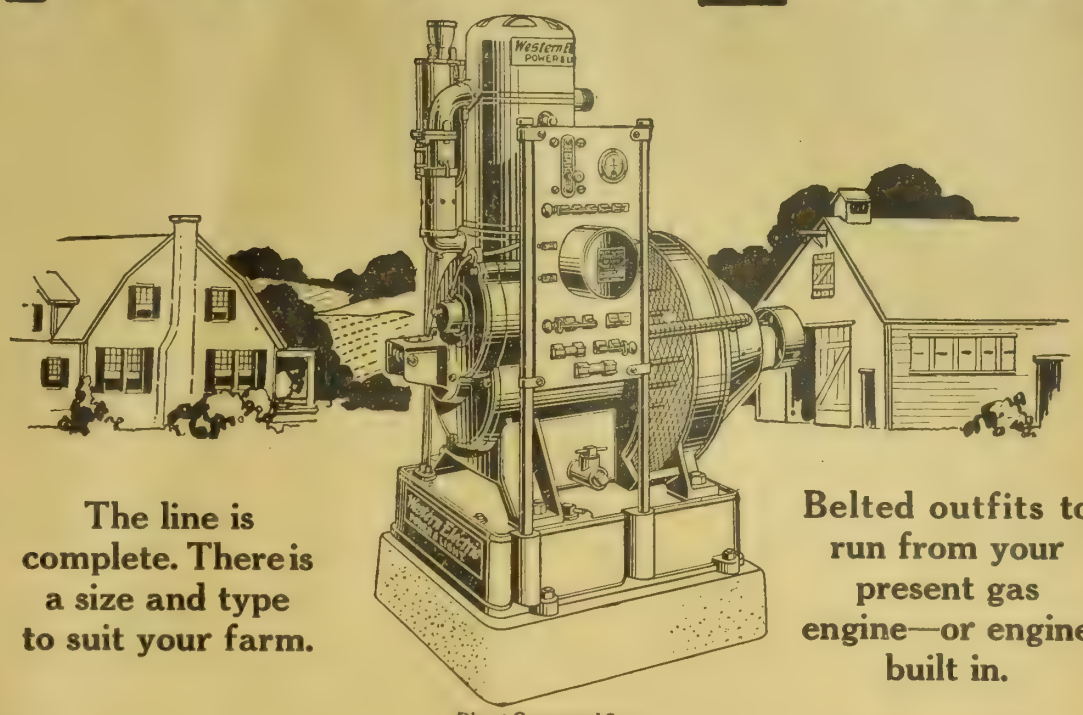

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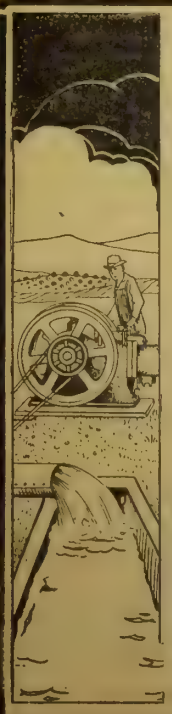


Dependable Pumping Plants

When you install a pumping plant you want water—plenty of water—full rated production and more if possible. And that's what you get when you install

American Centrifugal Pumps

These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

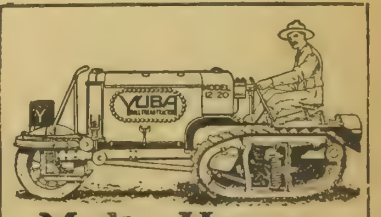
Write for Catalog

—which illustrates and describes the entire line of American Pumps and proves their advantages beyond a question. The American Catalog points the way to irrigation efficiency.

—Horizontal Pumps
—Vertical Pumps
—Deep Well Heads
—Deep Well Cylinders
—Direct-connected Motor and Pump
—Motors
—Gas Engines
—Oil Engines

California Hydraulic Engineering & Supply Co.

68 FREMONT STREET, SAN FRANCISCO.
424 E. THIRD STREET, LOS ANGELES.

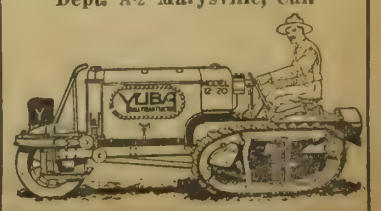


Make Hours Count for Days

Plow more acres
better quicker cheaper
Make more money out of
your land
your labor
your time

Write for the YUBA Catalogue.

Yuba Manufacturing Co.
Dept. A-2 Marysville, Cal.



Field and Garden Suggestions

[Written for Pacific Rural Press.]

Vetch Seed Scarce.

While vetch seed is showing up in unexpected quarters, the supplies are short in total. A few lots of Oregon seed, shipped to New York last season and held over, are offered for shipment back to our Coast. Oregon, which usually supplies most of the seed, is exporting very little and importing more this season. Seed in California are selling at about 12c to the users. Canadian field peas are being recommended by Morse & Co. to replace vetch, but the price of these is about 8½c, and more should be sown per acre. A mixture might cheapen the cost somewhat. Melilotus indica sells at 10c and is far cheaper per acre than either vetch or peas, but it needs more time for growth in the spring than can be allowed before plowing except where irrigation can keep the soil moisture right until March or April, when the melilotus is about at its greatest growth and profitableness.

Farm Bureau Market Association.

The marketing department for auctioning of hogs and miscellaneous goods is now definitely organized and officered under the Kern County Farm Bureau, according to Farm Adviser Myron A. Rice. H. G. Hull is chairman of the marketing department and D. H. Bitner is its business manager. Local managers help at Wasco and McFarland, where stock scales are maintained. Scales and regular auctions are also planned for Bakersfield. Poisoned barley is sold and field crop seeds are bought wholesale through this department for members. Marketing committees from Tulare and Kings counties are uniting with Kern county in organization of the "California Farm Bureau Marketing Association."

Madera County Grain.

Grain is being sown now on summer fallow in Madera county. Yield of wheat last season on summer fallow was six to eight sacks around Chowchilla, according to Manager E. S. Cardwell of the Chowchilla elevator and warehouses. Barley on fallow yielded around eight sacks, though some crops went up to fifteen. Where grain land was irrigated, the yield varied from 12 to 40 sacks of barley, and one man made 30 sacks of wheat. With irrigation the crops are larger and they are grown every year. Nearly all barley is the common variety and nearly all wheat is Club. The Madera crop was of uniform quality and color.

Are You Planting Weeds?

A sample of alfalfa seed offered to a commercial seed house and tested at their request by the University contained 2430 curled dock seed per pound, 900 goosefoot, 270 canary grass, 90 Napa thistle, 90 small yellow-flowered melilotus, and 90 Hordeum sp., totaling 3870 weed seed per pound. The sample showed 97.61 per cent pure alfalfa seed, 1.34 per cent inert matter, and 1.05 per cent weed seed. In sowing this alfalfa seed at the rate of 20 pounds per acre, 483 weed seeds would be sown on each square rod, as figured out by Prof. J. W. Gilmore.

Sacramento Valley Beans.

Loss of pink beans from San Joaquin county north is indicated as over 50 per sent, many having been killed outright. Those that survived have taken on a second growth, which will delay harvest and increase danger from frost and rain. Large whites have suffered less in yield, and the quality of those harvested is not injured unless they shall be stored containing too much moisture.

Prevent Wheat Smut.

"Prevent smut in wheat by treating seed. Immerse four minutes in bluestone solution made by dissolving one pound bluestone in four gallons of water. Then dip seed in milk of lime made by slacking one pound of quicklime in ten gallons of water." Such is the inscription over a pile of wheat in the Farm Adviser's window at Merced.

Merced Crop Average.

Merced county acreage sown to field crops, as compiled for 1918 by County Assessor A. G. Clough, is given below: Wheat 12,000, oats 15,000, barley 135,000, corn 8000, for hay 13,000, rye 13,000, rice 400, sweet potatoes 4000; onions 100; beans 14,000, tomatoes 250, cantaloupes 600, acres standing alfalfa 100,000.

MEETING OF CALIFORNIA STATE GRANGE.

Ukiah, of Mendocino county, has the honor of entertaining the grangers of California in annual convention this year. The sessions begin Tuesday, October 15, at 11 o'clock a. m., with Frank L. Hunt of Napa in the chair as master of the deliberations of the members, and continue four days.

The officers of the California State Grange come from the six principal "grange counties" of the State and are as follows: Master, F. L. Hunt, Napa; overseer, Roy I. Church, Petaluma; lecturer, Dr. E. C. Abbott, San Jose; steward, Lee Dudgeon, Soledad; assistant steward, A. C. Williams, Visalia; chaplain, Rev. Robt. G. Harbutt, Kenwood; treasurer, Michael Farrell, Mountain View; secretary, Martha L. Gamble, Santa Rosa; gatekeeper, Robert Scholz, Campbell; Ceres, Mrs. Lulu C. Eipperm, Aromas; Pomona, Mrs. Mary L. Church, Saratoga; Flora, Mrs. Ella Brangler, Sacramento; lady assistant steward, Miss Mamie Sanford, Sacramento; pianist, Mrs. Alice Winans, San Jose.

Executive committee: Thomas Jacob, Visalia; Geo. R. Harrison, Sebastopol; A. Van Maren, Fair Oaks.

PRELIMINARY PROGRAM OF SPECIAL FEATURES.

Tuesday, October 15—Formal opening of State Grange at 11 o'clock a. m.; reception to visiting Patrons at 7:30 p. m.

Wednesday, October 16—Address by F. N. Bigelow, secretary State Market Commission, 1:30 p. m.; lecturer's conference at 3 o'clock p. m.; annual meeting of stockholders of Grange Fraternal Fire; Insurance Association at 4 o'clock p. m.

Wednesday evening — Lecturer's hour; memorial exercises and deputies' conference.

Thursday afternoon — Excursion tendered visiting Patrons by local Patrons and citizens of Mendocino county.

Thursday evening—Conferring fifth and sixth degrees, followed by Feast of Pomona.

Friday evening—Closing session.

Other interesting speakers will address the convention.

NO ONE ALFALFA IS BEST

for all moisture and soil conditions

There is only one certain way of securing the kind of alfalfa best adapted to your conditions.

That is by planting one of the

Seven Kinds of

GREEN AND GOLD

Alfalfa Seed

In this way you not only insure yourself a good stand but a long and heavy producing yield.

Let us send you an illustrated booklet describing each kind and its particular adaptations. Also price list on new seed

BOMBERGER SEED CO.,
725 Tenth St., Modesto

A Good Piano Is Not Necessarily An Expensive One

Of course we feel that the finest piano is the STEINWAY, but the prices for Steinways, while thoroughly consistent with their high quality, are generally beyond the means of many homes.
For this very reason we have devoted much attention to a group of medium grade pianos—really famous makes—products of old established firms—pianos for which we have been the selling agents for years. In offering such pianos as A. B. Chase, Krakauer, Estey, Krutzmann, Emerson, and Stroud, we can heartily recommend them as ideal for the home or school. The prices of these pianos are within the reach of nearly everybody.
Then we carry the Aldrich at a lower price—a good dependable piano which will give excellent service.
Then again we have on our floors at all times many "used" Pianos (good reliable makes) which we have taken in part payment for Steinways and Pianolas. These have gone through our shops and have been put in first-class condition—and carry our guarantee. We advise a customer to buy a good "used" piano rather than the cheap new ones offered by some dealers—the prices are the same but not the quality.
What ever your purpose or your need, we will serve you to our best ability so that the transaction will be to our mutual and lasting satisfaction. We gladly arrange convenient payment terms.

We invite you to call at any of our stores — or write us asking for illustrated catalogues and prices.

We are dealers in Steinway and other Pianos, Pianola Pianos, Aeolian Player Pianos, Player Music, etc.

Sherman, Clay & Co.

Kearny and Sutter Streets, San Francisco
Fourteenth and Clay Streets, Oakland
Ninth and J Streets, Sacramento
325 E. Main Street, Stockton
J and Merced Streets, Fresno
190-192 S. First Street, San Jose
Stores also at Vallejo, Portland, Seattle, Tacoma, Spokane.

Woman's Work ON THE FARM

By George! Wife, They're Right!

Fuller & Johnson Says

"The time has come when farmer's wives are demanding power to help them in their daily tasks — and it is right.

"Their work is important and the farmer himself realizes that it is to his advantage to supply her with some small engine to help her out.

"A Fuller & Johnson FARM PUMP ENGINE has proven itself to be the best adapted for her needs."

CAN BE made much easier and at the same time much more profitable if she has at her command, a reliable, small power pumping plant.

Not only can she relieve you of all the pumping and other round-the-house jobs, but she can do more work with less effort than she uses in doing her present work.

What farmer's wife wouldn't welcome a simple, safe, economical and reliable engine to help her in her daily farm work. It is assistance that is really due her. Get a

FULLER & JOHNSON Farm Pump Engine

for her and you will be surprised at the change it makes all around.

The engine costs but little and takes very little fuel in running. It comes all complete in one crate, ready to run—no extras, belts, braces or special platforms needed. It is very simple, easily understood and perfectly safe to operate. Will not freeze up or overheat. It's an ideal engine for a farmer's wife to have at her command on the farm.

Bring your wife with you and let us show you all about the Fuller & Johnson Farm Pump Engine

Power Engines

1½ to 25 Horse Power
Gasoline, Distillate or Kerosene

Pacific Pump & Supply Co.

Distributors

853 Folsom St., San Francisco, Calif.

Wants Improved Alfalfa Machinery

[Written for Pacific Rural Press.]

To the Editor: I have about 30 acres of alfalfa. It mats so that the mower divider as manufactured now pulls down all along the end of the cut a great deal of alfalfa. To be able to cut that, the horse must be kept off a little way so as not to walk on it, thereby losing part of the sickle cut each time and not doing a good job either. I believe it is possible to put an attachment on the divider high enough to throw back the uncut alfalfa so that on the next round the horse can walk up close to the standing crop.

On the rake the alfalfa gets into the ratchet wheels and prevents dumping quickly, so that by the time the teeth drop you miss a little each time after dumping. To obviate this the driver has to get off constantly to clean the ratchet wheels. My neighbors have the same troubles. I have written the International Harvester Co. at Chicago, but in both cases they say that they have not had enough demand for the simple contrivances that would avoid the difficulties to interest them in the expense of making such improvements. According to this, the company must be approached through an association, numbers being the only thing that will count. I leave it to you.—W. R. Maxwell, Glenn.

[Now then, alfalfa growers! If you want such contrivances to be regularly manufactured for sale, just drop a card to the Pacific Rural Press, stating that you are in the market for anything of that nature that will work to your own satisfaction, and we will present your case as strongly as you respond to this. Meanwhile, alfalfa growers who have overcome these difficulties may help your fellowmen by sending us descriptions of your contrivances.]

Suggestions for Fall Berry Pruning

[Written for Pacific Rural Press.]

It is not often that old canes are cut out as soon as they have finished bearing, as there is generally so much else to do. But now raspberry and blackberry growers are busy at this work so as to get everything burned up and out of the way as early as possible. When suckers have become too abundant, and therefore small, to profitably employ the bushes further they are being taken out.

RASPBERRIES.

With the raspberries, after fruited canes have been removed in winter, canes which have not been pinched back are shortened to the desired length and laterals taken back to 8 inches or more, according to the grower's ideals or the position of the fruit buds on the laterals. The number of canes, four, five or more, must be determined by the vigor of the growth.

BLACKBERRIES.

With blackberries which have been properly pinched back the same treatment of thinning out and shortening of laterals will apply and the sooner this work is done the less likelihood is there of disease or insect pests being perpetuated on the new wood. Not more than four new canes will be left for next season, all others are removed with the old wood.

BERRY PRUNING.

The Mammoth, loganberry, evergreen and Himalaya are all trained on trellis—preferably two wires, so they can be replaced. Cut back to desired length. When laterals get too long, pinch back and repeat.

U. S. TOMATO ACREAGE.

Only two States in America contracted greater acreage of tomatoes to canners for the season of 1918 than California, as shown by a report from the U. S. Bureau of Crop Estimates. Indiana growers contracted 48,339 acres, as reported by 156 factories. Maryland figures are 39,991 acres contracted to 326 factories. California contracted 30,459 acres to 99 factories. Other acreage figures above 10,000 are: Virginia, 20,512; New Jersey, 17,813; and Missouri, 12,239. Total acreage in U. S. reported by 1517 factories equals 232,062 acres in 1918, as against 214,125 reported for 1917 by 1437 factories. Eighty-nine factories were reported idle in 1918.

One hundred and thirty acres of barley averaged 30 sacks per acre for W. H. Rough of Riverside county. The barley averaged 120 pounds per sack. Fifty acres of white and yellow dent corn are expected to yield 70 bushels per acre.

Plant Cover Crops

What a wonderful chance for the planting of early crops—now that the early rains have paved the way. Growers of deciduous fruits simply can't afford to overlook this opportunity.

Don't wait—prepare your seedbeds and get your cover crops in *at once*. It stands to reason that the sooner you start—the heavier your cover crop will be. And—the heavier the cover crop the more nitrogen you will put into your soil—the more fertile it will become—the larger your crop returns will be.

Morse's Melilotus Indica

(Bitter Clover)

is a tested, dependable, *scarified* seed. You can count on it—to a greater extent than many of the other legumes. It has far out-yielded common vetch—and stands the frost better. Again—it is far cheaper than vetch this year.

There's a big supply of Morse's Melilotus Indica waiting for you. Write for prices. Today!

C. C. MORSE & CO.
Seedsmen
731 Front Street San Francisco

Ever use Morse's Pasture Grasses? They thrive well on little moisture—and make good hay and forage. Heavy yielders, too. Ask for prices.

-and Plant NOW!

The Genuine Germain's Hairy Peruvian Alfalfa Seed is Sealed and Stenciled!

Ranchers, dairymen and others who fail to place their orders for Germain's Hairy Peruvian Alfalfa seed at once, will be doomed to disappointment. The supply is extremely limited and the overwhelming demand will soon exhaust our stock.

It is the duty of every rancher to make his acreage produce to the utmost. Why be content with the old types of alfalfa when Germain's Hairy Peruvian will produce twenty percent more tonnage to the acre?

W. E. Alexander of Anaheim, Cal., writes: "Germain's Hairy Peruvian has produced nearly double the yield of the old variety. It has more leaves and less stem."

To obtain the best results buy only Germain's Hairy Peruvian—sold in sealed and stenciled sacks.

When you write mention this magazine

Inoculate seed with FARMOGERM before planting, and obtain a larger, better and earlier yield.

Germain Established 1871
Seed & Plant Co.
N. E. Corner
Sixth & Main Sts.
Opp. P. E. Depot
Los Angeles, Cal.

FUNDS FOR FARMERS!

Our country is asking the farmer to produce many times his normal quota of food this year.

HOW CAN HE DO IT?

The country is stripped of its manpower.
Power Machinery is the solution.

HE MUST HAVE IT

It is the Implement Dealer's Patriotic Duty to help him get it—to sell to him On Time.

Ask us about our plan for enabling you to sell Tractors and Power Farming Machinery to farmers "part cash—part time."

ADDRESS WESTERN FARM CREDIT COMPANY Department A-2

FIRST NATIONAL BANK BLDG. San Francisco
TITLE INSURANCE BLDG. Los Angeles
NORTHWESTERN BANK BLDG. Portland, Ore.
FORSYTH BLDG. Fresno, Cal.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

TRACTOR PUSHES RICE BINDER.

[Written for Pacific Rural Press.]

One of the most unique exhibits at the State Fair and at the same time important from a food saving standpoint was the rice binder to be pushed by an Avery tractor. In rice culture, by far the cheapest system of checking for irrigation is on contours which make the borders of utmost irregularity, curving hither and thither and often two sides of a check running close together. As the borders must be abrupt sided and about two feet high to hold the water through summer time, it is impracticable at harvest to run over them. The first swath in each check necessarily involves the rolling down of all the rice for the width of the bull wheel of the binder, which is about a foot. It is generally conceded that the three horses pulling a binder tramp and thresh out the equivalent of another foot wide. As the rice land is generally muddy at harvest, about two feet of the first swath is often lost beyond recovery. Rice growers generally consider that the first swath includes about one-seventh of the rice in an average check. As the swath is six feet wide, one-third of one-seventh of all the rice in each check is lost by common methods of harvesting. It is here that Walter W. Brown of Chico makes a startling proposition, which is more startling when you figure out what it means. He offers to cut the first swath of every check, furnishing the binder twine and deliver to the owner just as much rice as he would get anyway, with the advantage of having it cut and bound free of charge, with the twine furnished. Mr. Brown gets all the rice he saves —one-third of the first swath in each check. It is a proposition to be jumped at; but when you stop to figure that Mr. Brown would thus get one-twenty-first of the entire crop, you begin to see what a bonanza it would be for him.

He is enabled to make such a proposition by reason of his system of attaching a common rice binder to an Avery 8-16 tractor so as to push it ahead of the tractor and not roll down or trample out any of the rice. Beaumont lugs on the wheels enable the tractor to negotiate the soft adobe with entire satisfaction, according to Mr. Brown. The binder is relieved of its ground wheels, being set on an angle-iron frame projecting backward from an extra long main axle, which has to be substituted in the tractor. The angle-irons and sickle bar are held off the ground and the sickle bar raised or lowered by cables passing through a channel iron frame over the seat of the tractor and resting on the ends of the axle. The channel frame is held upright by rods hooked to the front end of the tractor. A balance-beam over the frame holds the weight of the draper end of the binder. A drive rod for the draper is bolted to the flywheel and elbowed to the draper by a bevel gear. The binder has its own clutch, so it may be stopped while the engine is running. The tractor is run on reverse at 1¾ miles per hour, which is the speed most desirable for rice harvesting. Driving on the reverse soon becomes as easy as driving forward. Nothing is added to the binder except its drive. Nothing is added to the tractor except the extra-long axle and the frame work to hold the binder. The outfit may be taken off in half an hour so the tractor may be used as any other tractor. Several of the machines have been bought by the Dodge Land Co. and the one on exhibit was bought during the fair by President W. D. Egilbert of the California Rice Growers' Association.

Spokane is planning a tractor demonstration to be held about May 1.

PLENTY OF IRRIGATION WATER.

[Written for Pacific Rural Press.]

An abundance of water piped to every ten-acre piece of the thousand acres planted to orchards in the Carmichael colonies of Sacramento county has been made possible by pumping from the American river and has enabled the orchardists to keep their trees thrifty in spite of a general lack of enough cultivation because help has gone to war.

The district, including 3100 acres, was organized two years ago last spring, according to Treasurer G. E. Fetters, and was bonded for $90,000. The first bond sale was of $57,600, which sold at 98c on the the dollar. Of this money $22,000 bought the two pipe systems which had already been laid and through which water had been delivered. About five miles of new mains four to twenty inches in diameter were laid, a concrete pump house was built on the river, and an eight-inch pump installed. About a year ago $25,200 of bonds were sold, this time at a premium above par after interest coupons were detached, a six-inch pump was installed, three miles more of mains were built, and valves placed in all laterals. The pumps are run by electric motors, which may be used on either pump in case one motor fails; they pump against a head of 160 feet, giving 20 pounds pressure at the highest point in the colonies. A 12-inch pump is planned for the future, when the rest of the district shall have been put under irrigation.

COSTS OF OPERATION.

Previous to installation of the first pump, the district bought 100 inches of water from an irrigation company and distributed the water itself at a cost over $4 per acre. Conditions before organization had been, as we remember, highly unsatisfactory and loss to settlers had followed undependable delivery of water. A land tax of $2.15 per acre this year against all the property in the district and a water tax of $2.82 per acre to users of water pays interest on bonds, electricity, and maintenance. The district still buys 25 inches through the winter for domestic use to avoid running the pumps. The higher cost this year is due to increased cost of labor and electricity and the tax on the latter.

REDWOOD PIPE USED.

Steel and redwood pipe have been used, but redwood is replacing all the steel mains. The district had an experience which shows the need of keeping the pipe full of water in order to preserve it. On a high corner, where the water was little used, it was shut off one winter. Next spring, when water was turned in, it leaked like a sieve and had to be entirely replaced. The first redwood pipe, however, was a 14-inch main laid in 1910, and it is still in first-class shape, as are all the redwood pipe which have been kept full of water.

THRESHES ONION SEED.

"We are threshing ten sacks of white onion seed per hour with our Advance-Rumley thresher, operated by an Oil-Pull tractor, and saving 99 per cent of the seed, which is much better than we could do by the hand labor method," writes President W. L. Hoyt of the West Coast Seed Growers at Thornton. At this rate it is reported that it will require several weeks to finish the Seed Growers' crop, but it is a great advance in a time when seed is scarce and through lack of man power much of it might be lost.

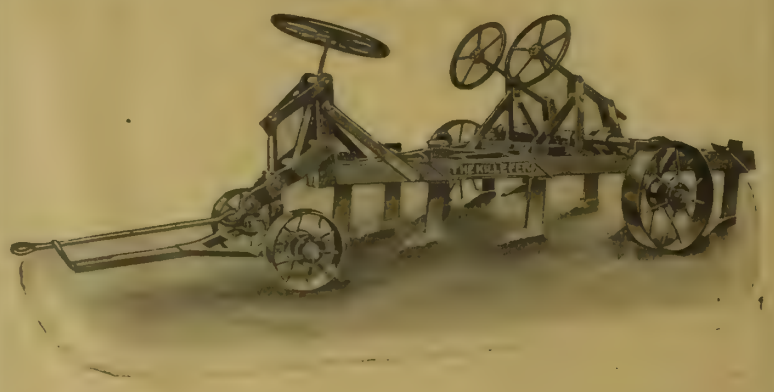
While automobile manufacture is being reduced greatly to make way for tractors, trucks, and munitions, it is still well to remember that the farmer's automobile and truck remove the necessity of driving horses on the roads where work horses should not be, and reduce the acreage that would be taken from production of human food to grow horse feed.

KILLEFER QUALITY

Tractor Chisel

KILLEFER EFFICIENCY

Catalog No. 60.



Our Heavy Tractor Chisel is made to use with the larger Tractors for extreme deep chiseling and is an excellent tool for preparing the ground for Beans, Beets or other crops. If used before the winter rains it will open up the ground to a depth of ten to fourteen inches, aerating the soil and allowing the moisture to penetrate below the usual plow pan, which is to be found in almost all of our land.

The chisel is the "A" frame type. The depth is regulated by turning the hand wheels; one hand wheel for the foretruck and one each for the rear wheels. This gives a three-point suspension, making the tool follow the contour of the land perfectly.

Made in 6 and 8-ft. widths.

The Killefer Manufacturing Co.

2209-21 Santa Fe Ave. Box 156 Arcade P. O. Los Angeles, Cal.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

of the "Giant" Type

WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

Schmeiser Manufacturing Co.

12 Mechanic Street DAVIS, CAL.

Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

MOTOR TRUCK FREIGHT LINES.

Use of motor trucks to save small amounts of food products now wasted on every farm where there are not enough to pay for a special trip, use of motor trucks to aid and supplement railways, especially in distribution of perishables, and use of motor trucks to permit more intensive farming of districts far from present railway lines—these uses are so favored by the Food Administration and the Government, according to A. Owen, statistician at Sacramento for the War Trade Board, that the Priorities Division grants priority in transportation and in the obtaining of raw materials for trucks to be used in marketing or harvesting farm and garden crops while refusing transportation or raw materials for trucks to be used in building work, etc. The question before the Priorities Board is always, "How far will it go toward winning the war?"

In the United States on a recent date, according to Mr. Owen, there were 432 rural truck lines delivering farm produce and returning with supplies for farmers. On file at the office of this Highways Transport Committee in Washington are thousands of letters from farmers in all parts of the country saying that their produce is hauled more cheaply, that quick delivery enables the to get better prices, that the time of man and horse on the road is saved, and they can put four times as much food on the market as formerly.

In many instances farmers have combined to purchase trucks for mutual use. In many other cases a farmer has bought the truck and arranged to market his neighbors' produce.

CALIFORNIA MOTOR LINES.

In California, motor truck lines are under supervision of the State Railway Commission, to whom they must apply for permits to operate. Applicants must show a need of motor transportation on the route proposed and file a schedule of trips and rates. From a list of all freight motor truck routes in California, made out in full to August 1, 1918, by W. J. Handford of the Railway Commission, we have learned the following facts: There were on that date 136 motor truck routes for handling freight in the State. There were 687 freight and passenger motor truck lines. On the 136 freight routes, totaling 6000 miles of regular travel, 196 trucks of 36 different makes and a total of 334 tons capacity were used. The longest two routes are 118 and 119 miles each way. Most of them are in mountain districts, acting as feeders to the railways or as distributors for farm produce and supplies. Ford trucks numbered 18, Federal 17, Packard 15, Reo 11, Moreland 11, Buick 9, White 8, Studebaker 7, Kissell 7, Republic 7, Auto Car 6, Denby 5, Mack 5, Jeffery 5, G M C 4, Garford, 4, Kleiber 3, Moore 3, Little Giant 3, Indiana 2, Menominee 2, Vim 2, Wichita 2, Stewart 2, Maxwell 2, Universal 2, and several others one each. Several trailers are also on duty as traffic demands.

As a relief to freight car shortage, no complaints of such shortage have been received, according to Mr. Handford. Whereas during the previous three years complaints of car shortage were burdensome and the Commission kept men constantly facilitating the movement of empties, getting cars loaded and unloaded quickly, etc., practically no such complaints are now heard. Whether this is due to better distribution of cars, more flexible handling of railways by the Government, or a more philosophical attitude on the part of those who cannot get cars promptly, the fact remains that complaints of car shortage in California have been minimized and the California Railroad Commission does not encourage new motor truck routes to compete with the railroads. They do, however, encourage truck lines to pick up produce, milk, etc., throughout the rural districts in order that the skill and energy of farmers may be saved for production rather than for road travel, and to develop the agricultural possibilities of districts remote from railways.

The Farm Labor Army *de*creases as the National Army *in*creases

In spite of the labor shortage *more* food must be produced—*more* acreage must be put under cultivation. *More* work must be done by *fewer* men.

There is just one solution,—machinery must fill the gaps in the ranks of farm labor.

Tractors must be used—thousands of them—tractors that will actually *do* the things you *want* a tractor to do—tractors that will work on practically *any* kind of ground—in *any* part of the country.

These are exacting demands but Cleveland tractors by the thousands are meeting them effectively.

They are producing food—in larger quantities than ever before—*and are consuming none of it.*

They are plowing 3½ miles an hour, eight to ten acres a day and under medium soil conditions are pulling two fourteen inch bottoms. This is equal to the work of three men and three good three-horse teams.

And the work is not only done faster but *better* with the Cleveland.

The Cleveland is an all-purpose tractor that does a wider range of work than is possible with other types. It is the tractor that works successfully on the side hill.

It plows, harrows, sows and reaps. It hauls, does grading and road work, cuts ensilage and does the hundred and one odd jobs which are always to be done about the farm.

It is tractor and stationary engine in one.

The Cleveland is built on the same principle as the giant battle "tanks." It crawls on its own tracks, laying them down and picking them up as it goes along. It will work practically anywhere—over rough ground, ditches and hummocks, close up to fence corners, and under small trees.

With 600 square inches of traction surface, it goes through sand, gravel, gumbo, mud and even wet clay. It travels over the newly plowed ground without packing the soil.

The Cleveland is only 96 inches long, 52 inches high and 50 inches wide. It can easily be operated by one man and can be housed in less space than is required for a single horse. It weighs less than 3200 pounds.

Yet in spite of its small size the Cleveland develops twelve horsepower at the drawbar and twenty at the pulley.

The Cleveland Tractor was designed by Rollin H. White, the well-known automotive engineer, and is built under his personal supervision. Only the best materials are used throughout. Tracks and gears are protected from dirt and dust, and the track sections are joined by hardened steel pins which have their bearings in hardened steel bushings.

Every farmer can fill up the gaps in the ranks of his farm labor *profitably*—can help the nation meet the food crisis *profitably*—by installing one or more Cleveland Tractors *now.*

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General Agricultural Review

Field Crops.

The California Products Company intends to construct a three-stand cotton gin for the cotton producers of Kern county.

The Pomona Valley Packing Co. has commenced packing the second crop of tomatoes. The tonnage is expected to be heavy.

According to a report just given out by V. G. Stevens, quarantine inspector in Los Angeles, the alfalfa weevil has not yet found its way into California fields.

Orange county tomato acreage this year is probably lighter than last, though around Buena Park it is heavier on account of the association which was formed this year.

The 1918 grain crop for the Corcoran district, Kings county, totaled approximately 500,000 sacks, according to estimates made by experienced growers and shippers. A little more than half this amount was wheat, the balance barley.

The Ocean Shore Railroad has been granted permission to increase its charge for hauling manure from Daly City, near San Francisco, to Thornton to 70 cents per ton and to Tunitas to 90 cents per ton, with intermediate rates for intermediate points.

Fresno county wheat growers held a meeting in Fresno, October 2, to consider the wheat smut menace. George R. McLeod of the Sperry Flour Company said he had found in fields not apparently affected that smut had attacked nearly half the heads and dwarfed or ruined them altogether.

This year's cotton crop has been estimated at 11,818,000 equivalent 500-pound bales by the U. S. Department of Agriculture, basing its estimate on the condition of the crop on September 25, which was 54.4 per cent of normal and which forecasts a yield of 154.1 pounds to the acre. The final estimate of the year's production will be made in December. Prior to September 25, Arizona had ginned 1204 bales of cotton, California 4571.

Deciduous Fruits and Nuts.

The fifty-first State convention of the California Fruit Growers will be held in Riverside, November 13 to 15, inclusive.

A record price of $3,144 was recently paid in New York for a carload of fancy peaches sent from Placer county.

A carload of Yellow Newtown Pippins from the Watsonville district were the first apples to go into cold storage this season.

Southern California growers are harvesting a crop of 32,000,000 pounds of walnuts, estimated to be worth $6,000,000.

The University Farm short course in horticulture will be given from October 17 to November 2, during which time diseases and insects, spraying and pruning will be studied.

Due to conditions brought about by the early rains, many of the deciduous trees are liable to start new growth. In the case of pear trees there is danger of the development of pear blight.

Indications at present are that the output of first-class nuts from the Oakdale district will be limited, due to the recent storm, a condition which affects the industry over the State of California.

An interesting bit of grafting is being done on O. R. Wanns place near Calistoga, where a large black walnut, four feet in diameter four feet from the ground, is being grafted over 80 feet from the ground. The grafts are doing well.

Shipments of California fresh fruit this year have broken all records, the Railroad Administration reports. Up to the first of October there had been shipped approximately 15,000 carloads this year, against about 12,000 last year.

Practically all California prunes of all sizes from 30 to 90 choice grade will be taken for Government use. No shipments for civilian use of these sizes will be made until Government needs are provided for, which means that prunes will be scarce in the markets this winter.

Word comes from Pomona that the packing and shipping by the Walnut Growers' Association started last Monday and the growers are expecting the largest returns for their product in the history of the industry. The walnuts are all shipped out as ordered, and none of the crop is shipped to the open market.

Citrus and Semi-Tropical.

It is reported that the loss due to premature and heavy rainfall to fig growers in Western Yolo county was about $60,000.

First commercial shipments of avocados and the earliest record in California were made last week from Porterville packing houses, the fruit being consigned to New York buyers.

The work of picking and packing ripe olives in the Oroville district began last week. The olives are about two weeks early and are running to large sizes and of superexcellent quality.

Approximately thirty carloads of pomegranates will be packed and shipped from the Porterville district this season. There is a good demand for the high quality goods on the basis of $1.50 per half box. The value to the growers will be somewhere about $35,000.

Seventy-five per cent of the citrus associations of Tulare county have joined the new manufacturing company, a subsidiary of the California Fruit Growers' Exchange, which has been formed to manufacture culled oranges into marmalade and other by products. Fruit is to be shipped to Southern California, where two factories are to be located.

Word from the citrus output of the Mountain View Fruit Association for the season just closed was but 33 1-3 per cent of that of the previous year. The returns to the growers, however, were 61 per cent of last year's total. The outlook for the coming year is good. It is expected that the navel crop will be handled mostly by women, instead of Japs, Hindus and Mexicans, as heretofore.

Grapes.

Two shipments of Lodi Tokays sold in Chicago last week for $2,220.75 and $2,315.25 per car each.

Many of the grape growers of Napa county complain that their grapes have not yet enough sugar to justify the picking.

Emperor grapes of the foothill regions of Fresno and Tulare were not damaged by the recent rains, according to growers and shippers. A few frosts are needed to put color into the grapes.

The Critical situation which faced the raisin industry as a result of the last rains resulted in a hurry up demand for labor to save the crop. Some town stores closed up and sent their clerical forces into the fields to help.

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WHAT CO-OPERATION HAS DONE FOR RAISINS.

(Continued from page 390.)

000, where other buildings are projected and will be erected as they become necessary.

It is estimated that 90 per cent of the capital stock of this association is held by the growers. It is different from any other corporation in this essential, that its stockholders produce the staple that it markets. About 10 per cent of the stock is held by merchants and others whose interests are closely allied with those of the growers. The company was organized to assure living prices to the growers. Corporation profits are a side issue.

The effect of co-operative handling and marketing of raisins (and other fruits) has been magical.

A BUOYANT SPIRIT PERMEATES THE MEMBERSHIP.

The listless and forlorn habit of mind of the grower has been replaced by a buoyant, hopeful condition that energizes the whole of society. It has led to a broader community spirit that takes pride in working to the improvement of the community. There is always something doing. The schools, the homes, public parks and roads all testify to the rejuvenated civic pride that attends success and languishes under failure. In Fresno as the center and its tributary towns in the San Joaquin Valley there is a feeling of movement and the joy of doing something worth while both in the country and the town. It is reflected in every business where there is a live man in charge—and there generally is. Compare this condition with what it was before the growers "got together"—when so many men wondered if they were going to be "closed out" each year, whether they could afford a new cultivator or could let a son or daughter go to high school. And then consider the California Associated Raisin Company and its relation to the industry.

NO HAY SHORTAGE ON TRUCKEE-CARSON PROJECT.

A story has been circulated broadcast over the Pacific Coast that all the hay on the Truckee-Carson Irrigation Project has been bought up.

R. L. Douglass of Fallon, Nev., who was on the first board of directors of the Federal Loan Bank, of this district, writes us that the story is absolutely without foundation. He says:

"The story could only originate from one source, viz., those trying to buy both hay and cattle below market value. These same parties even went so far as to quote the State Food Administrator as stating that he was going to take a hand in the hay situation, fixing the price on hay in this State. On investigation it was found that the Food Administrator flatly denied any such intention.

"The facts as they exist are that 50 per cent of the hay has been sold at from $12 to $20 per ton in the stack, for first-class alfalfa hay, measured sixty days after stacking. A large number of the biggest producers of alfalfa hay, who have ample facilities for feeding, have not sold their hay and are holding it for $20 a ton in the stack, measured by the one-fourth rule.

"The season has been an exceptionally favorable one for alfalfa hay on this project, with plenty of water for irrigation, and a big third crop is now being harvested."

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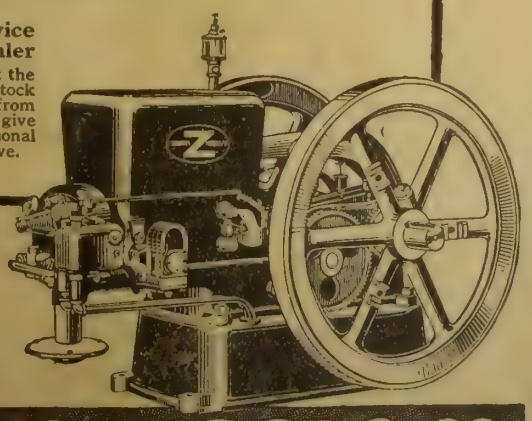

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Making the Right Start with Beef Cattle

Written for Pacific Rural Press by R. H. Whitten

A YOUNG LAD was very anxious to own a dog, and pleaded with his rich uncle to buy him one.

"Well, Eddie," asked the uncle, "suppose I gave you two hundred dollars for a dog. Would you spend the whole sum on one dog or buy several?"

The youngster thought for a moment and replied, "Well, uncle, if you left it to me I would buy two hundred one-dollar dogs."

Too many beginners with livestock start out as the boy wanted to. They try to buy as many animals as possible with the money at their command and make quantity instead of quality their chief consideration. They seem to think that in order to make big profits they must have a big herd, but actual experiences prove that more money can be made with a dozen or two high-class animals than with a hundred of mediocre breeding and type.

Eight years ago, when registered stock was not bringing the prices that it is today, a farmer back in Michigan bought a Shorthorn heifer at a public sale, paying $300 for her. A few weeks ago he sold this female and eleven of the descendants from her and her heifers for $9,600, an average of $800 per head. Three other heifer calves and all of the bull calves had been sold from year to year—the total amount received being $16,000. In other words, from this modest investment of $300 the farmer received an income equal to $2,000 per year for eight years.

So much for the financial side. Now, take the show ring end and we find that it is not necessary to have an immense herd in order to pick a few animals good enough to win. Let's take a case right at home—that of John A. Bunting of the Mission Hereford Farm, Mission San Jose. Mr. Bunting started with just a few registered Herefords three or four years ago. He didn't have much money to invest, but what he did have he put into just a handful of top-notch animals.

Last year he went to the State Fair as a novice and showed against the old-time breeders. He had only three head that he could take along, but just the same this beginner won five prizes—junior championship, reserve grand championship and three firsts. And to show that it was not due to luck or chance, Mr. Bunting came back this year with eight head and won fifteen prizes, including the two grand championships, one reserve grand championship, one senior championship, and five firsts.

Look at the picture of his grand champion bull which is used to illustrate this article. And then think how well it has paid Mr. Bunting to buy this great sire to head his herd. We don't know how much it set him back to make the purchase, but suppose he had put the amount into two animals instead of one. How far up the ladder of fame would he be today?

NO BEST BREED.

What is the best breed of beef cattle? I wonder if we can't find the mate to that question. It certainly has a mate, for you know Noah took a pair of everything into the ark, and I am sure this question dates back to Noah's time. It has been asked from time immemorial, and people will continue to ask it is long as livestock is raised.

But there is no one best breed of stock. However, there are essential differences which make some breeds less valuable for a given location than one which has a particular adaptation for the conditions in it. Consequently it is advisable to study your local conditions and select the breed best suited to them.

It is well to favor a breed that is popular in the section where you reside, as you will thus find a better home demand for your surplus stock.

And above all things, be sure that you are in love with the breed you decide upon. In your estimation it should have every other breed beaten to a frazzle. The mere mention of it should make your eyes sparkle, your cheeks glow, and your tongue sing its praises. When you get to this stage, and the breed you are so crazy about seems to be a good one for your locality, you are ready to make your start. Decide upon the breed and also decide that you will stick to it until you succeed with it, no matter whether it requires a hundred days or a hundred years.

California Prime Donald, grand champion bull at the State Fair, 1918. Owned by J. A. Bunting, Mission San Jose, whose spectacular rise in the Hereford world proves that you can get to the top quickly if you start with the right kind of stock.

BETTER VALUE IN HOME MARKETS.

In buying foundation stock don't send your hard-earned cash back to the Middle West, thinking that you will get higher quality or better value. Perhaps it may be necessary for the big breeders to occasionally send back for new herd headers in order to avoid inbreeding, but for your purpose there are just as good strains and types of all the different breeds out here; the breeders are just as reliable; the animals are acclimated; the shipping charges are less. Distance may lend enchantment, but that's about all it has to offer. There are some young breeders who point with pride to certain animals and tell that they came from back East, but remember, "Pride goeth before destruction." It is real value that you are after, and your money will get you more in our home market than from any Eastern breeder.

HOW MUCH FOR THE HERD SIRE?

Don't be afraid to invest heavily when it comes to selecting your herd header. Fashionable blood lines, showyard records and fancy points are desirable, but keep utility qualities in mind also, and look for vigor, prepotency, capacity and longevity. Study animals carefully so as to be able to differentiate between the finish that is the result of feeder's and showman's art and the appearance that indicates the natural tendencies and capacities of the animal.

What should you pay for your herd header? Well, at the State Fair we heard Mr. Bunting price at $1,500 a bull calf that would be ready for service in a few months. Let's see if he was worth it to the man who had registered females, for it is common for young bulls to sell at this figure.

If the bull increased the price of each one of his calves only $50 over the price at which the owner had been selling calves, he would only have to sire thirty calves to pay for himself in a year. We don't hear of many investments doubling in a year, but here is one that will. And it will continue to yield bigger returns each succeeding year.

Perhaps you simply want a bull to use on grade cows. If so, you can well afford to pay $500, for a bull at this price will add 250 pounds to the weight of each calf in a grade herd when a year old, and at present prices this means better than $25 worth of extra beef, or $750 in a herd of thirty yearlings. So the bull pays for himself the first year and hands you the neat little sum of $250 for good measure.

BE SURE HE IS REGISTERED.

Even if you never intend to have any registered females; even if you only want a bull for range use, don't accept one without a pedigree. Even though animals "just as good as registered" or "purebred but not registered" may actually be as represented, they will not breed as well as registered stock, for prepotency has not been established in their blood lines.

Remember always that outstanding sires have been, without exception, great by inheritance. A registration paper is not of itself a guarantee that the animal will prove a good breeder, but the lack of one is almost positive assurance that the bull will not be a good breeder. A poor farmer cannot afford not to use a registered bull. A rich one should have judgment enough to buy one without being told.

WHEN TO START BREEDING.

Young bulls may be used lightly when from twelve to fifteen months old, serving not more than two or three cows a week, and not more than twenty or thirty the first season. It is bad policy to change bulls every two or three years. A sire should be kept as long as he gets good calves, unless this causes too close inbreeding.

Heifers are bred at from 16 to 22 months of age—generally at from 18 to 20 months. Some breeders say that if they are bred young they make better mothers and more dependable breeders. Others claim that they need to be developed well first, and that early calving stunts them.

Also there is a difference of opinion as to how soon a heifer should be bred again for her second calf, but a safe rule is to give her a reasonable rest if she was bred young the first time; otherwise breed her after three months, so that she will average a calf a year.

In some cases cows are bred the first time they come in heat after calving, but as a rule it is best to plan on a calf a year, and to have the cows calve a little while after green feed comes on. This means along about February in the San Joaquin and southern coast sections; March in the north central part of the State, and April in the extreme northern part where the winters are severe.

DEVELOPING THE CALVES.

Generally calves are allowed to run with their mothers until the bull calves begin to pay attention to the cows. In the Middle West creeps are provided for the young calves so that they can be fed grain by themselves. This, of course, is not applicable to our range conditions, yet it should be remembered that the younger a calf or steer is the more cheaply gains can be made, and that lack of nourishing feed will

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everlastingly handicap the future growth of a young animal.

It is practically impossible to make a bunch of broad-backed, thick-fleshed cattle from calves that have been starved and mistreated during the first year of their lives. As someone has aptly put it, "Nature resents such treatment, and the tight, lifeless hide, stunted body, and the cocked horns pointing in mute appeal to heaven for food, all bear daily testimony against the shiftless and impoverished owner who, in robbing his calves, defrauds himself."

With purebreds it is absolutely essential to feed them liberally and push them to early maturity. They should never be allowed to want for good bone- and muscle-building feeds Nothing will pay a higher premium for the grain consumed than the calves in a purebred herd, and if with proper feeding is coupled plenty of exercise, pure water and constant attention to details, a crop of calves will be raised that will bring fame and profit to the owner, and will establish him as a breeder of quality stock. And this is the foundation of success in the purebred business.

Humboldt County + Cows = Prosperity

[Written for Pacific Rural Press.]

Geography class forward! Now, Tillie Alcartra Smith, tell me what section of the world is the most thickly populated with cows? Holland? No. Isle of Guernsey? Wrong again. Doesn't anybody in the class know? Why, you don't have to go outside of your own State to find the answer, for it is the Eel River Valley in Humboldt county.

The county as a whole is not the largest producer of dairy products in the State. Stanislaus county led in 1917 with 8,935,964 pounds of butter. Imperial county was second with 6,245,487 pounds, and Humboldt county came third with 5,729,882 pounds. But it must be remembered that Stanislaus and Imperial counties consist almost entirely of tillable land, while in Humboldt county we find a great deal of range and forest land. The greater part of the dairying industry of the county is confined to the Eel River Valley, and in this miniature kingdom there are more dairy cows to the square mile than in any other section of the world.

Miniature kingdom is right. It is hard to say whether dairy cows have made Humboldt county farmers prosperous, or whether the county has made dairy cows pay well. But anyway the combination is an ideal one. Livestock raising is the backbone of agriculture, and dairying is the most profitable branch of livestock raising. The valleys of Humboldt county provide ideal conditions for dairying, so furnish suitable cows and you have a prosperous little kingdom.

Again, suitable cows is right. One reason for the success of Humboldt county dairymen is that they have not been satisfied with any old four-legged animals that would pass as cows. They have had active testing associations for years, and the boarder cows have been weeded out. So far they have not gone much to registered stock, but for having well-bred, high-producing, profit-making grade cows we take off our hats to these farmers.

Even though this little kingdom is almost isolated from the rest of the State, it is one of the most progressive spots on the map. For instance, in the close-in sections the milk is picked up by the creameries twice a day. Not on account of hot weather, but in order to turn out superior products.

Very few separators are found on the farms. Instead of selling only the cream and feeding the skim-milk to hogs, as is generally done in other parts of the State, most of the dairymen sell whole milk to the creameries. It is skimmed by the latter and the skim-milk is reduced to a powdered form and sold. A very little skim-milk is sold back to the farmers, the price charged being about 40 cents per 100 pounds for the best grade.

In some of the outlying sections there are skimming stations where the cream is separated from the milk and only the cream is shipped in to the creameries.

Green fields the year around provide ideal pasturage. These fields generally are in red or white clover, or alfalfa. Beets, carrots, field peas and corn are fed in addition to pasturage, but very little grain is used. Silos are just being introduced. They are winning favor everywhere, and soon nearly every dairy will have its "lighthouse."

Little or no irrigation is practiced. With about six feet of rainfall per season and frequent fogs, vegetation is usually kept luxuriant without artificial means. This year, however, the shortage of rain was felt a little, but conditions were not so serious as in other parts of the State.

Mother Nature has been wonderfully generous to the good people of Humboldt county and they, in turn, have made the most of every blessing she has bestowed upon them.

Shorthorn Sale at San Francisco Show

[Written for Pacific Rural Press.]

In a recent issue of the Rural Press we advised buyers of foundation animals of the beef breeds to purchase at home, instead of sending their hard-earned cash back East. We stated that just as good quality and better value for the money could be obtained here at home.

We did not know at the time that very soon a wonderful opportunity would be offered, but since then we have been informed of the Shorthorn sale which will be held at San Francisco, Thursday, November 7, in connection with the International Livestock Show.

The leading breeders of the State have selected some of their best animals in order to place the right kind of foundation stock in the hands of beginners, and a wonderful opportunity is offered buyers to get choice breeding stock at their own prices.

The consignors will include Pacheco Cattle Co., Hollister; Paicines Ranch Co., Paicines; Thornton S. Glide (Hillcrest Stock Farm), Davis; Jack London Ranch, Glen Ellen; W. M. Carruthers, Live Oak; Roselawn Stock Farm, Woodland; T. T. Miller, Los Angeles; Chas. A. Trosi, Vinton; University Farm, Davis; Ormondale Farm, Redwood City, and the Hopland Stock Farm, Hopland.

Earl Gartin of Greensburg, Ind., will cry the sale. Mr. Gartin is a prominent breeder, showman and auctioneer.

GOVERNMENT WILL NOT TAKE OVER PACKING HOUSES.

In seeking a way to relieve the American people from the high cost of living, Congress has practically abandoned the idea of putting the meat packing business under Government control while the war lasts.

Many Congressmen who have been studying living costs state that to add the enterprise to the multitude of huge tasks Uncle Sam has undertaken might defeat the very purpose they have in mind. While they have reluctantly accepted this view, they have not relinquished their adherence to the plan of Government control of packing houses and stockyards as a necessary part of the permanent solution of the high cost of living.

W. J. Higdon, Tulare, has sold a registered Holstein cow and a young bull for a herd header to Joseph Darling, Fresno.

High Record Show Cows
High Record Show Bulls
Richly Bred Heifers and Cows
Bred to 29, 30 and 40 Pound Sires
SECOND MODESTO SALE
65 Registered 65
Holsteins
MODESTO, CALIFORNIA
Thursday, Oct. 17, 1918

CONTRIBUTORS:

BRIDGFORD COMPANY, Knightsen
LUTHER THOMPSON, Modesto
J. S. GIBSON CO., Williams
C. G. OUTLAND, Modesto
R. L. HOLMES, Modesto
J. M. CAMPBELL, Escalon

Including the complete dispersal of the C. G. Outland herd, and the sale of all of Luther Thompson's cattle of milking age, with high-class consignments from the other four well-known breeders. Among the females are:
12 DAUGHTERS OF HERMANA IGNARO, who is by a son of Ignaro De Kol, the only sire that has nine daughters above 20,000 lbs. milk in one year.
A DAUGHTER OF THE 44-POUND $15,000 BULL, Spring Farm Pontiac Cornucopia, due to calve November 8 to King Segis Alcartra Prilly, twice grand champion bull at California State Fair. The four nearest dams of this heifer average 33.80 lbs. butter in seven days.
POTOKI JOHANNA 2nd, 27.86 lbs. butter in seven days, a real show cow bred to a 29-lb. son of Prince Gelsche Walker.
A DAUGHTER OF PRINCE GELSCHE WALKER, that made 577.8 lbs. butter in one year as a junior two-year-old.
DORA HENGERVELD OF SYLVAN IRIS, 23.06 lbs. butter in seven days as a senior four-year-old, bred to a 29-lb. bull.
A 25.01-POUND COW that made 18,362.3 lbs. milk and 814.23 lbs. butter in one year, now fresh.
A 24.36-POUND COW heavy with calf to King Segis Alcartra Abbekerk, 30-pound son of the $50,000 bull.
A 20-POUND COW that made 644.09 lbs. butter in 320 days, heavy with calf to Prince Alcartra Korndyke, son of Tilly Alcartra.
A 21.90-POUND THREE-YEAR-OLD daughter of Spring Farm King Pontiac, heavy with calf to the twice grand champion bull, King Segis Alcartra Prilly.
AND MANY OTHERS of splendid type and breeding, bred to 29, 30, and 40-lb. bulls.

BULLS

A 30-POUND BULL, two 29-pound bulls, a 25-pound bull, and others of rich breeding, including several nice calves, make up a high-class bull offering.

CATALOG IN PREPARATION. WRITE FOR ONE.

Management
California Breeders Sales and Pedigree Company
J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager
SACRAMENTO, CALIFORNIA.
Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

NOW Is The Time To Buy Holsteins
before the great demand after the war
AT THE
2nd MODESTO SALE, OCTOBER 17, 1918

OUR CONSIGNMENT INCLUDES:

A three-year-old heifer by the $15,000 bull, Spring Farm Pontiac Cornucopia, who is a son of the 44-lb. cow, K. P. Pontiac Lass, the highest record daughter of King of the Pontiacs. The first five dams of this heifer average over 34 lbs. butter in 7 days. Due to freshen November 8-18—to the service of King Segis Alcartra Prilly, the Grand Champion Bull of California, 1917-18.

A four-year-old daughter of Spring Farm King Pontiac, who is a 37-lb. son of King of the Pontiacs, bred to King Segis Alcartra Prilly. This heifer has a 22-lb. three-year-old record and is capable of making a much larger record.

Two high-class cows with 25-lb. 7-day records, one with over an 800-lb. yearly record.

A ten-months-old bull, beautifully marked, light in color and a great individual, sired by King Segis Alcartra Abbekerk, our senior herd sire, who is a 30-lb. son of the $50,000 bull.

Dam of this young bull made 29.80 lbs. butter in 7 days last winter and we look for her to make a very much larger record this winter as a four-year-old. Her dam has a yearly record of 980 lbs. butter from 24,000 lbs. milk. This bull is good enough to head a high-class purebred herd.

Our herd won at the California State Fair this year:

Grand Champion Bull
Grand and Senior Champion Cow
Reserve Grand and Senior Champion Cow
Junior Champion Heifer
First Get of Sire
First Calf Herd
First Three-Year-Old Cow
First Yearling Heifer
First Senior Heifer Calf
First and Second Junior Heifer Calf
Five other awards in classes

Also produced this year eight 30-lb. cows, with records from 30.41 lbs. to 37.60 lbs. butter in 7 days. Also nine two-year-olds making records above 20 lbs.; from 21 lbs. to 26.50 lbs. in 7 days as junior two-year-olds. No other herd in the West has made such a showing in one season.

BRIDGFORD CO., Knightsen, Contra Costa, Cal.

RIVERVIEW FARM
Offers the 17-month-old Holstein-Friesian bull
'SEQUOIA ZOZO PIETERTJE'
This bull's dam, who is also the sire's dam, is a cow of outstanding size and type with a semi-official record of 20252.4 lbs. of milk containing 735.69 lbs. fat, or 919.6 lbs. of 80% butter. Record at age of nine years. Price $250.00.
For photos and pedigree apply,
R. F. FISHER, Carlotta, California.

Consider for your next Herd Sire
a Son of
Colantha Sir Pontiac Aaggie
a Son of
Colantha Johanna Lad
who has two daughters with records above 32 pounds; 20 other daughters that all have outstanding records as heifers.
Our offering this fall in young sires you will find particularly attractive.
GOTSHALL & MAGRUDER
RIPON, CALFORNIA

Stars at San Francisco Show

[Written for Pacific Rural Press.]

Stars of international magnitude will shine in the livestock firmament at the California International Livestock Show, which will be held in San Francisco from November 2 to 10 by a group of prominent men and under the auspices of the San Francisco Chamber of Commerce. These men consider it a patriotic duty to stimulate the raising of livestock in this State, not only to aid the Food Administration during the war but to make California the livestock center in times of peace. This honor has been accorded Holland in the past, but the bluebloods of Holland, both cattle and horses have been sacrificed to feed the people.

"The mongrel stock," said William T. Sesnon, chairman of the executive committe of the association, which is a non-profit-making corporation. "has no place in California. It takes as much feed for this class as it does the high-bred stock, while the latter is ready for market two years before the mongrels. From the economic viewpoint, California has only place for the best."

E. H. Brown, who was general manager of the California Land Show, which was held in San Francisco a year ago under the auspices of the San Francisco Real Estate Board, has been appointed assistant to the president. Owners of many noted Eastern and California stables are making arrangements to enter their horses in the Horse Show, which will be one of the entertaining features of the Livestock Show. John Rosseter will exhibit his $60,000 Arabian horse, Friar Rock, and Tom Bass of the noted Missouri stables bearing his name will send the famous Belle Beach. Tandem driving, saddle and harness combinations and five-gaited exhibitions will be among the features.

One of the fastest two-year-olds in the world will be at the exposition. This horse is one of four Arabian horses entered in the breeding class by S. C. Thomson of Concord, Cal. The four will be seen in the parades at the Horse Show. They boast the desert strain which marks the high-bred Arabian. The two-year-old, as well as the other three horses, are remarkable for their swiftness and endurance. Thirty thousand dollars in prizes are to be given by the association for the best exhibits of livestock and ten thousand dollars will be awarded in the Horse Show.

Officers and advisory board of the show include Edgar J. De Pue, president; William H. Crocker, Milton H. Esberg, James J. Fagan, A. W. Foster, R. B. Hale, Maurice A. Hall, Frank Honeywell, Fred W. Kiesel, C. K. McIntosh, John D. McKee, L. A. Nares, William Mayo Newhall, Fred M. Pickering, Warren R. Porter, T. H. Ramsey, B. F. Schlessinger, William T. Sesnon, Vanderlynn Stow, Gordon H. True, F. L. Washburn, Ralph P. Merritt, Food Administrator; Dean Thomas F. Hunt, University of California; Fred J. Koster, president of San Francisco Chamber of Commerce; C. C. Moore, chairman State Council of Defense, and Dr. Ray Lyman Wilbur, president of Stanford University.

REWARD—BULL STOLEN

Taken from my pasture October 5, a five-year-old Holstein bull, weighing 1650 lbs. About half black, nicely marked and fairly good looking individual. Said to be from registered stock, but papers lost.

Been used in my herd four years. Gets fine looking calves, but 30 daughters averaged 86 lbs. per year less butterfat than mothers during first-calf periods. Ought to have exceeded mothers by 86 lbs. each. So bull has been robbing me of 5160 lbs. butterfat per year, worth $2580.

Dangerous To Be At Large

Bull is bigger thief than man who stole him. Watch out! Don't let him get into your herd and rob you.

I don't want to use him again, for now have real registered bull with papers, bought from responsible breeder. But will gladly pay $50 reward for his return, so can send him to butchers, where every unregistered bull should go.

E. Z. MARK, Simpletown.

Fine Stock for the Modesto Sale

[Written for Pacific Rural Press.]

The highest record cows, daughters of the highest record cows, bred to the highest record sires, ever offered at public sale in the San Joaquin Valley will be found at the Second Modesto Sale, to be held at Modesto, Thursday, October 17.

The consignment of Bridgford Company includes a three-year-old heifer by the $15,000 bull, Spring Farm Pontiac Cornucopia; a four-year-old daughter of Spring Farm King Pontiac, bred to King Segis Alcartra Prilly; two cows with 25-pound records, and a ten-months-old bull by King Segis Alcartra Abbekerk, out of a 29.86-pound cow.

R. L. Holmes has consigned Buena Alta Queen Broulet, a typey heifer due to calve about the time of the sale by Domino Glista; also a yearling bull.

Luther Thompson has consigned four head, including his herd sire, Sir Chimacum Wayne Woodcrest.

C. G. Outland has consigned his entire herd of 18 cows, 8 heifers, 2 bulls and 9 or 10 calves.

Other consignments will be equally as good. Better attend and buy. It's a sure, safe business proposition.

Let's Go to the Liberty Fair

[Written for Pacific Rural Press.]

We've been told all about it. We know that we ought to go—that we will have a dandy good time and will derive a great deal of practical benefit.

Really, there is no good reason why we should not go. The heavy work of the season is over, and we need a rest and change. Sticking right to our work day after day gets us into a rut, but a few days at the fair will put new life and ambition into us. The prosperous farmer should have enough sense to attend without being urged. The poor, struggling farmer cannot afford to stay away, for in no other way can he get ahead more quickly than by learning new methods of doing things, such as will be demonstrated at the fair.

Remember the dates. The fair proper will be held at Exposition Park, Los Angeles, October 12 to 26, but the Livestock Show does not begin until the 20th. Take the wife and the kiddies along. There will be attractions for all.

THINK
—and Profit Thereby

FACT NO. 1—A. W. Morris & Sons Corporation, Woodland, Cal., have developed a herd of registered Holsteins that by sheer merit both in production records and showring records has become known throughout the whole world as one of the greatest herds of the breed, and in some respects as the greatest herd of dairy cattle of any breed ever owned and developed by one firm on one farm.

FACT NO. 2—Of the five herd bulls in service in the Morris herd, every one of them has sired a world's record daughter or has for a dam a cow that made one or more world's records. No other herd in the world, using five herd bulls, can equal this.

FACT NO. 3—In this sale A. W. Morris & Sons Corporation will sell many of the tremendous producers that have helped to make their fame world wide, and these great females are in calf to one or the other of the five master herd bulls.

FACT NO. 4—The Morrises are retaining in their herd the daughters of these splendid cows, and they will be developed to their fullest capacity. Remember, then, that the calves these cows are carrying are brothers and sisters to the heifers upon which the Morris company are centering their whole breeding effort and skill.

FACT NO. 5—Every animal in this sale is positively guaranteed to be a breeder. We who have had an opportunity to observe the Morris methods at close range know what a Morris guarantee means, and know well their firmly rooted policy of giving those who buy from them an absolutely square deal, even to the benefit of a doubt.

FACT NO. 6—In spite of the fact that world famous cows, daughters of world famous sires and dams, bred to the greatest combination of herd bulls on earth, will be sold in this sale, the sellers expect only modest prices to prevail. They instruct us to be perfectly frank in our announcements of this sale, emphasizing the fact that some of the most noted cows are along in years, that some have lost quarters, and that no animal in this sale will be tuberculin tested, but that regardless of what you bid on any animal in this sale every single one will be sold to the highest bidder absolutely without reserve or limit.

THE SALE WILL CONTAIN

90 Registered Holstein Cows
15 Registered Holsteins Bulls

and will be held on the farm of

A. W. MORRIS & SONS, CORPORATION

Woodland, California

TUESDAY, NOVEMBER 12th, 1918

Management

California Breeders Sales and Pedigree Company

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

Sacramento, California

Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

N. B.—The Morris herd at present contains a total of approximately 450 head of registered Holsteins.

OFFICIAL FEED DISTRIBUTORS
AT THE
California Liberty Fair

See our complete line of stock, swine, dairy and poultry feeds in the Big Tent right in the center of the Stock Barns. Visit our special display of poultry feeds and supplies in the Poultry Show under the Grandstand.

Globe Grain & Milling Co.

COLTON LOS ANGELES, CALIFORNIA SAN DIEGO

THIS BULL Will Increase Your Butterfat

He is out of a daughter of Prince Riverside Walker and is a typey son of Model Francis Glista. Both of the above bulls are out of great producing families. Write or come and see him and other Holstein stock we have for sale.

C. C. SLATER, Pacheco, Contra Costa County.

Fresno Fair Proves to Be a Hummer

[Written for Pacific Rural Press.]

Considering the inclement weather and the war conditions, the Fresno District Fair, held October 1-5, was very well attended. The livestock show was not quite as large in numbers as in previous years, but ranked high in quality and brought out some very fine herds and individual animals.

In the dairy classes the Holsteins were represented by W. J. Higdon, Tulare, with 15 head; H. E. Vogel, Fresno, 11 head; Frank Helm, Fresno, 8 head. Higdon won nearly all championships and blue ribbons, while Vogel took second honors.

The Jerseys were represented by Guy H. Miller, Modesto, and J. E. Thorpe, Lockeford. The honors were about evenly divided. Thorpe won the $100 purse for the best complete herd.

The Ayrshires were represented by E. B. McFarland, San Mateo, who was awarded all prizes.

Miller-Maxwell Co., Steamboat Springs, Colo., were delayed while en route and did not arrive until Wednesday morning. They had 12 head of Shorthorns and made an exceptionally good showing under difficulties. All prizes were awarded to them.

J. Bidegary, Fresno, made a fine showing of sheep and was awarded all prizes.

The keenest competition was in the swine classes. H. I. Marsh, Modesto, was there with his fine show herd of Poland-Chinas and, although he won most of the blue ribbons, he did not have a walkaway, as Fred Gatewood, A. Buckland & Son, and Chas. Gatewood & Son, all of Fresno, showed some real hogs and made the judges do some careful figuring. Chas. Gatewood & Son received the award for grand champion boar, on King's Big Bone Leader, the grand champion at Sacramento.

Durocs were shown by J. E. Thorp, Lockford; H. Cummings, Visalia; W. J. Fulgham & Son, Visalia; Allen Thompson, Tulare; Chas. E. Ellis, Tulare. The awards were well scattered.

J. E. Thorp, Lockeford, showed two Berkshires and, there being no other entries, he won on both.

Very few horses were shown, but the poultry display was good.

BERKSHIRE SALE CALLED OFF.

W. M. Carruthers, president of the Western Berkshire Congress, informs us that, on account of the labor shortage, breeders have found it impossible to get their hogs in shape for the sale which was announced to be held at the Liberty Fair, Los Angeles, and consequently the sale has been called off.

Over two and one-half million dollars' worth of lambs will be shipped from Alturas, Modoc county, this year. A nice little wad of money!

Innisfail Dairy Shorthorns

Exhibited 16 head at the State Fair, including a group of five cows in milk, among them

BELLEVUE DAISY—Record: 8480 lbs. milk, 322 lbs. butterfat.

PRINCESS CLAY.
Record: 10,249 lbs. milk, 382.2 lbs. butterfat.

HERD BULLS—Glenside Royal, Grand Champion, State Fair, 1916; Kelmscott Viscount 19th, Imported.

FOR SALE—A limited number of young bulls.

See our herd at the Los Angeles and San Francisco Fairs

ALEXANDER & KELLOGG

SUISUN, CAL.

FARM ON GRIZZLY ISLAND

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

CALIFORNIA LIBERTY FAIR

EXPOSITION PARK

LOS ANGELES Oct. 12 to 26, 1918

OUR ANNUAL FALL FAIR

WITH

$60,000 In Premiums $60,000

Largest Live Stock Show Ever Held

Fireworks Athletic Events Horse Racing

SOCIETY'S BIG EVENT
The Famous Horse Show

50,000 Blossoms 50,000

For Our Flower Show

Agriculture Horticulture Manufactures

Poultry Pigeons Pet Stock

CALIFORNIA LIBERTY FAIR

OCTOBER 12 to 26, 1918

Prince Riverside Walker

Sire of Producers and Prize Winners

His sons and daughters won at the State Fair:
First Junior Bull Calf
Reserve Junior Champion Bull
Second Senior Heifer Calf
Reserve Junior Champion Heifer
First Prize Breeders' Young Herd
First Prize Produce of Dam
Second Young Calf Herd
and others.

Prospective buyers who have come to look at our stock seem to agree with the judge, for we have sold right down to calves.
Better consider one of his young sons to head your herd.

OUR ENTIRE HERD IS TUBERCULIN TESTED.

Tulare Holstein Farm

W. J. HIGDON, Owner TULARE, CAL. H. L. REDD, Herdsman

Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES

WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.
Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON,
Contra Costa County, California.

Buy the Best Bred
DUROC-JERSEYS

UNEEDA QUEEN MODEL
Grand Champion State Fair, 1918.

Won at Sacramento:

Grand Champion Sow
Senior Champion Sow
Junior Champion Boar
Seven Firsts, Including
First young herd and first produce of dam
23 other prizes

Model Lady, in our herd, Champion last year, has produced more champions than any other sow in California.

We can sell you pigs, gilts, and young boars sired by the world's greatest sires. They are from **High Orion, Great Wonder, Giant Invincible, King Orion Cherry,** King of Orions, Model Crimson Wonder, and Russel's Model.

Their blood in your herd will make you money.

H. P. Slocum & Son
WILLOWS, CALIFORNIA

Glenn County headquarters for Durocs.
Had largest exhibit at State Fair and won most money.

Calco Troughs

THE use of sanitary metal Hog Watering and Feeding Troughs is evidence of a progressive and prospering farmer.

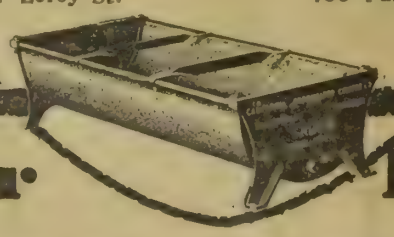
Calco Hog Troughs — made of Armco and Cast Iron — are easily cleanable and sanitary — yet they cost less than wooden disease traps. Ten sizes — all prices.

Diameter	Depth	Length	Price
10¼ in.	5 5-16 in.	40 in.	$3.70
10¼ "	5 5-16 "	60 "	4.50
14 "	7 3-16 "	24 "	4.55
14 "	7 3-16 "	120 "	9.60

Other sizes from 24 to 120 inches priced from $2.95 up.

Attach your check to this advertisement — mail it to us with your name and address—and we will ship one or more troughs to you immediately.

California Corrugated Culvert Company
LOS ANGELES — 417 Leroy St.
BERKELEY — 406 Parker St.



for Hogs

Sale of Duroc Hogs and Pigs

Some of the greatest brood sows of the breed. Gilts and boars for herd headers. A 900-pound yearling boar, a Wonder, one of the kind rarely seen. All must go. Col. and Orion C. King breeding. Life immune from cholera.

GARDEN CITY SANITARIUM, SAN JOSE, CAL.

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO. LOS ANGELES

Marking the Fall Litters

[Written for Pacific Rural Press.]

Have you ear-notched the pigs that have been farrowed this fall? If not, you should mark at once all that have been farrowed so far, and hereafter ear-notch each litter at birth, except pigs to be raised for market.

Aside from the trouble a breeder has in identifying his pigs if they are not marked, there is no more certain way to cause a lack of confidence in prospective customers than failure to have litters marked, with a complete record of such markings. Laxity in this respect immediately brings a doubt into the visitors' minds regarding the sincerity of the breeder, or the correctness of such information as he may give. Also, the lack of ear-marks puts a man in the show ring in a bad light in exhibiting litters or other groups of same sires and dams.

It is a very simple matter to mark litters according to the method here described and illustrated.

Every notch in the lower edge of the right ear means a count of one. Consequently, if there is one notch it means the first litter farrowed; if two notches, the second litter.

One notch in the lower left ear always means three counts. Consequently, when there is one notch it is the third litter; when two notches the sixth; when three the ninth.

Thus, after using two notches in the lower right ear for the second litter, you use one in the lower left for the third, instead of three in the lower right. In other words, you change to the lower left at every count of three.

Then, after you have numbered through nine, instead of making more notches in the lower parts of the ears, you change and make one notch in the upper right ear, which always means a count of ten. Two in the upper right ear mean 20.

But here also, instead of making three notches for thirty, you change to the left ear, and one notch in the upper left always means thirty. Two notches mean sixty, three ninety.

This is as far as is illustrated, but if you want to go higher a notch in the pointed end of the right ear means a count of one hundred, and one in the end of the left ear means two hundred.

A hole punched in the right ear, mid-way between the point and the spot that will be punched later for an ear tag, means a count of four hundred, and a similar punch in the left ear means eight hundred.

Thus it is possible to number over sixteen hundred different litters without badly disfiguring the ears.

The notching should be done right after the pigs are born, as the ears will not bleed at that time. A harness punch may be used, so placed as to take out a half circle from the edge of the ear, or a regular punch for the purpose may be procured from a store carrying supplies for livestock men.

A simple method of ear-marking pigs so that the litter one belongs to can be told at a glance.

Keep a record giving in each case the number or name of the sow, date of farrow, number of pigs of each sex farrowed, and number that died at birth, if any.

IMPACTION OF STOMACH.

To the Editor: Several of my cows have had what my veterinarian said was impaction of the stomach. In several cases this resulted in death, but when the veterinarian could get there soon enough he injected something into the neck which caused a passage in about ten minutes and the trouble was overcome. I would like to know what this was, so that I can keep a supply on hand and be able to administer it quickly.—J. V. P., Livingston.

[Answered by Dr. E. J. Creely.]

The impaction was of the rumen—first stomach. The veterinarian probably used ½ grain arecoline hydrobromide and ¼ grain strychnine, mixed and dissolved in distilled water. It would be well to give in conjunction 2 pounds Glauber and 2 pounds Epsom salts as a purgative.

Conejo Ranch to the Front

[Written for Pacific Rural Press.]

At Newbury Park, on the Ventura highway, about forty miles northwest of Los Angeles, is the Conejo Ranch, which promises to become one of the greatest swine breeding establishments in the West. It is owned by the Janss Investment Company of Los Angeles, a concern backed not only by unlimited capital but also by plenty of brains and good judgment.

This company has gone into the leading Eastern herds and picked seven prizes were captured, including grand champion sow and reserve grand champion sow.

These same herds will be shown at the Liberty Fair, together with a carload of fat barrows. Watch for a great clean up.

In the accompanying illustration we show Western Girl, a senior yearling prize winner; Model Lady, reserve grand and reserve senior champion; and Critic's Rose, junior yearling prize winner—all in the Duroc

State Fair prize winners owned by Conejo Ranch, Newbury Park.

the cream of Durocs and Hampshires—the two breeds in which the firm is specializing. And to show that the men who do the buying are some pickers, we need merely to refer to their record at the recent State Fair, where with sixty animals entered they won sixty ribbons.

In the Duroc class twenty-three ribbons were won, including grand champion boar, reserve champion boar and reserve grand champion sow. In the Hampshire class thirty-classes at this year's State Fair. Notice the type, quality and finish—characteristics found in all Conejo Ranch hogs.

Dr. J. A. Crawshaw, the Poland-China breeder of Hanford, has purchased the boar, Giant Buster, from Williams & Thornton of Indiana. He will change his name to Kings County Buster. This boar will assist the present herd boar, California Gerstdale.

C. J. Gilbert, Lancaster, is a live-wire Hampshire breeder. He already has 50 head of high-class recorded animals, and is developing a wonderful herd.

15,000 to 30,000 Pounds of Milk

Seventy-seven cows have been admitted to the Holstein-Friesian Advanced Register that have produced 7000 to 15,000 quarts of milk in periods of ten months to a year. The capacity of the Holstein cow for milk is a matter of extraordinary interest.

If interested in

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information

The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

REGISTERED JACK

Mealy nose and black points, about 15½ hands high; 4 years old.

PERCHERON STALLION

3-year-old, from an imported registered stallion that weighed 2000 lbs.

Both animals are first-class and for sale.

L. E. RUDY, Rt. D, Box 79, Modesto.

ABSORBINE STOPS LAMENESS

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. **Does not blister or remove the hair** and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.50 a bottle delivered. **Horse Book 9 R free.**

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. $1.25 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps.

W. F. YOUNG, P. D. F., 86 Temple St., Springfield, Mass.

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

CHESTER WHITES FOR PROFIT

HIGHLANDER, the $1000 Grand Champion Boar heads our mammoth herd, bred for large litters, rapid growth and easy feeding qualities. Service fee, $100; sows guaranteed safe in pig. Some corking good March pigs for sale.

OAK KNOLL FARM Box 338 LAKEPORT, CAL.
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

Hampshires--Durocs

"Perfect Quality" Grand champion sow, Hampshire, California State Fair, 1918. Conejo Ranch herd.

Conejo Ranch pure-bred Hampshires and Durocs captured 48 ribbons at the 1917 California State Fair, mostly championships, first, seconds and third prizes.

Read the 1918 winnings.

"Councilor" Reserve grand champion Duroc-Jersey boar, California State Fair, 1917 and 1918. Conejo Ranch herd.

HAMPSHIRES

At the 1918 California State Fair the Conejo Ranch Hampshires won Grand Champion Sow, Senior Champion Sow, Junior Champion and Reserve Grand Champion Sow and Reserve Champion Boar and Reserve Junior Champion Boar—a record of 29 ribbons, mostly first, second and third prizes. Also first prize for herd over one year; first, second and third for herd under one year, productive dam, fat barrows and pen of barrows.

DUROC-JERSEYS

The 1918 exhibit of Conejo Ranch Duroc-Jerseys broke all records, winning 37 ribbons, including Grand Champion and Senior Champion Boar, Reserve Grand Champion and Reserve Senior Champion Boar, Reserve Senior and Reserve Grand Champion Sow and many firsts, seconds and thirds, besides first prize for herd over one year.

These High-Class animals will be exhibited at the California Liberty Fair Los Angeles, October 12th to 26th

WE ARE BREEDERS OF THE HIGHEST CLASS ANIMALS FOR SALES PURPOSES AND OFFER ANY OF THIS PURE-BRED STOCK AT REASONABLE PRICES

Ranch located on Ventura State Highway, Forty Miles northwest of Los Angeles.

CONEJO RANCH

ADDRESS NEWBURY PARK, VENTURA CO., CAL.

Los Angeles Office—Janss Investment Co., fourth floor Metropolitan Building, Fifth and Broadway

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

J. H. Hackett recently sold a registered Jersey bull to Gartin & Sykes of Ceres.

Dora Hengerveld of Silvan Iris, owned by L. D. Thompson, Modesto, has recently made a record of 23.06 pounds of butter in seven days.

We are a little late, but none the less enthusiastic, in reporting the record of 35.18 pounds of butter made by Creamcup Vogelschen Cornucopia, in the herd of Gotshall & Magruder at Ripon.

The Valley Creamery of Stockton has been purchased by the Milk Producers' Association of Central California and added to its string of plants. It is announced that J. E. Humphreys will be in charge of it.

The John Lynch Ranch of Petaluma recently sold two registered milk strain Shorthorn heifer calves to John Whobery of Myrtle Point, Ore., and one registered bull calf to Brownson Brothers, Bridge, Ore.

W. L. Mitchell of Napa will ship a carload of high-grade Jersey cows and one purebred bull in a week or two to Charles Lucas, Honolulu. Mr. Mitchell is a breeder of purebred Jerseys and is going to turn his attention more to that line.

J. E. Wherrill of Riverside has recently purchased from T. F. Cooper & Son, Coopersburg, Penn., the noted bull, Pursell Oxford Prince, considered one of the best Jerseys ever brought to the Coast. He is by Oxford You'll Do and out of Golden Fern's Priscilla.

A. R. Bates of Modesto, chairman of the State Dairy Bureau, has been interviewing dairymen around Tulare in the interests of a project to build a $100,000 cheese plant in that city. The same organization is operating at Salida the largest cheese plant in the United States.

The heifer, Anoka Diotime Korndyke, 25 months old, purchased of the Anita Baldwin breeding farm in the Guaranty Sale last December by H. E. Cornwell and A. M. Bibins, has completed a seven-day record of 17.39 pounds of butter. The price paid for her was $1,350. She is on semi-official yearly test.

Last week, in mentioning the breeders who will show at the Liberty Fair, we inadvertently omitted the Elliott-Brant Rancho, Owensmouth. This well-known concern has always been a prominent winner at our shows and has in its Guernsey herd cows that have made both state and world's records for production. They will show a fine lot of Guernseys at Los Angeles.

Excitement in Jersey circles is intense over the announcement of the sale by the Waterloo Jersey Farm, Waterloo, Iowa, of a half interest in the yearling bull, Financial Sensation, to Greystone Jersey Farm, Westchester, Penn. Hugh G. Van Pelt, the dairy cattle judge, is at the head of the selling committee and P. M. Sharples and Dale E. Andrews are owners of the Greystone Farm. The purchase also included twenty cows at $20.000. Going some!

Beef Cattle.

Stockmen near Dunnigan are feeling great anxiety because a few cases of anthrax have recently been found in that section. Dr. Iverson, State Veterinarian, and Dr. Alexander, County Veterinarian, made an investigation and they urgently request any stock-raisers discovering signs of the disease in their cattle to report the matter immediately either to State or county headquarters, so that active steps can be taken to stamp it out.

Swine and Swinemen.

The Ireland Ranch, Owensmouth, recently sold the Duroc sow, Lady Marion, to L. W. Serel, Van Nuys; a six-months-old boar to Arthur Peck, Owensmouth; and a six-months-old gilt to Mrs. J. E. Norris, Zelza.

N. K. Horan, Lockeford, announces that he has purchased the remaining one-half interest in the great Eastern Poland-China boar, Big Bone Bob, from Young & Clark, Lodi. Mr. Horan has as a herd sire Major Hadley Wonder, the grand champion at the State Fair last year.

J. C. Craig has recently purchased a fine ranch at Owensmouth and intends to develop it into a model Duroc establishment. He has a sow, Red Rock Jean, that has produced 26 pigs in three litters in 14 months, and these pigs have averaged 50 pounds each at eight weeks of age.

At the Kings County Farm Bureau Auction Sale, September 16, one carload of hogs brought $18.80 per hundred pounds, this being the best price ever paid in the State. The carload was made up of 81 head, uniform in quality and finish, and averaging 200 pounds each, grain fed. This car brought the farmers $648 more than could have been obtained locally. Did you get that?

W. J. Sandercock of San Francisco, owner of Natomario Farm, near Sacramento, has purchased from Frank A. Brush, Santa Rosa, the Berkshire boar, Baron Duke 201st, that was made grand champion at the National Swine Show at Omaha last year. Mr. Sandercock had previously purchased much of the best stock in the Brush herd. He is developing one of the leading herds of Berkshires on the Coast.

Sheep.

Miller & Lux, through Sam Stoddard, bought three Hampshire and three Shropshire rams at the Salt Lake sale. They are running 175,000 sheep. Whew!

A. S. Mann, Ukiah, bought at the Salt Lake ram sale for $1,500 a pen of ten yearling Rambouillet ewes consigned by F. S. King Bros. Co., Laramie, Wyoming.

L. V. Olcese of Bakersfield bought 25 Rambouillet rams at the Salt Lake sale at $180 each. He is one of the old-timers in California, but is a progressive breeder and is satisfied with nothing but the best.

Charles Kimble, the well-known breeder of Hanford, bought some of the choice ones at the Salt Lake ram sale. An $875 ram will add luster to his stud and a buck that he bought at $575 is a jim dandy.

CREAMERY OPERATORS' CONVENTION.

The nineteenth annual convention of the California Creamery Operators' Association will be held at Visalia, October 17-19. A very elaborate program has been prepared, including addresses by Prof. G. H. True, Prof. F. W. Woll, Dr. C. L. Roadhouse, and S. L. Denning of the University Farm, L. M. Davis of the U. S. Bureau of Markets, Ed. H. Webster, El Centro; George R. McLeod, Stockton; S. H. Greene, San Francisco; J. M. Henderson, Jr., Sacramento; J. P. Murphy, Tulare, and others. There will be a butter scoring contest and a butter judging contest.

SEE

the Sheep, and Swine Exhibits

at the California International Livestock Show—the largest exclusive livestock show ever held on the Pacific Coast. You'll pick up many valuable pointers, especially now when sheep and hogs are bigger money-makers than ever.

And then—don't forget the splendid showings of Dairy Cattle, Beef Cattle, Horses, Poultry, etc. $38,000 in premiums. Judging by men known the country over.

Whatever you do—*don't miss the big Night Horse Show.*

Every department of the California International Livestock Show will provide every possible comfort for Exhibits, Exhibitors and Spectators. You'll be welcome!

Low railroad fares from all points.

For detailed information write Joseph E. Painter, Manager, 1205 Merchants Exchange, San Francisco.

Entries positively close Oct. 5th. Make your entries NOW!

(2)

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

SAN FRANCISCO - NOV. 2-10, 1918

First Tulare Sale

REGISTERED

125 Holsteins 125

Tulare, California, November 20-21, 1918.

This great sale will open the new sales pavilion built by Tulare Livestock Association, and will contain an extra choice lot of cattle of both sexes and ages from calves up to mature animals.

THIS SALE WILL CONTAIN MORE FEMALES BRED TO BULLS OUT OF 35 TO 40-POUND DAMS THAN HAVE EVER BEFORE BEEN OFFERED IN ONE SALE IN THE WEST.

Consignors:

A. W. MORRIS & SONS, Woodland	W. J. HIGDON, Tulare
BRIDGFORD CO., Knightsen	ALEX WHALEY, Tulare
C. L. HUGHES, Sacramento	CHARLES YOCUM, Tulare
W. F. MITCHELL, Visalia	R. C. STURGEON, Tulare
R. F. GUERIN, Visalia	E. G. WHARTON, Tulare

THE FEMALES in this sale are bred to two 30-pound bulls, three 35-pound bulls, one 36-pound bull, one 40-pound bull, a full brother to a 34-pound four-year-old, a son of "It" out of a 27-pound four-year-old daughter of King of the Pontiacs, a bull who has the second highest average in the world for yearly butter production of five of his seven nearest dams, a son of King Mead of Riverside out of a cow that made over 29,000 pounds milk and 1077 pounds butter in one year, and Prince Riverside Walker, whose sire and dam both have world's record daughters.

EVERY ANIMAL POSITIVELY GUARANTEED TO BE A BREEDER. EVERY ANIMAL OVER SIX MONTHS OF AGE TUBERCULIN TESTED AND SOLD SUBJECT TO RETEST BY THE BUYER.

Catalog in preparation. Write for one.

Management

California Breeders Sales and Pedigree Company

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager

Sacramento, California.

Auctioneers—Col. Ben A. Rhoades, Harold B. Rhoades.

FINE WOOL HEAVY LAMBS

Big smooth-bodied heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them

E. C. SPEAR, St. Helena

REGISTERED JERSEY CATTLE

DUROC JERSEY HOGS

Look up my winnings at the fairs. Stock for sale at reasonable prices.

J. E. THORP Lockeford, Cal.

LIVESTOCK DIRECTORY.

SWINE

Poland-Chinas.

I AM IN CLASS 1 IN THE DRAFT, so will sell my 26 head of registered Poland-China hogs. They are of the best blood lines and breeding obtainable, such as the Giantess strain, the Big Jumbo, Big Timm, Big Bone, Young Jumbo, President and Longfellow strains. Will sell entire herd, including one herd boar, several young boars, brood sows and gilts. All are A1 animals. Prices reasonable; satisfaction guaranteed; pedigrees promptly furnished. Howard C. Peterson, Box 396, Reedley, Cal.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

BIG, SMOOTH POLAND-CHINAS — with plenty stretch and bone. Stock for sale—the kind that will make money for you. A son of Gerstdale Jones, the $6600 boar, just arrived. A. Buckland & Son, Fresno, Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

WATCH FOR OUR AUCTION SALE of great sows bred to Big Bone Leader, grand champion 1918 State Fair. Chas Gatewood & Sons, Fresno, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

REGISTERED POLAND-CHINAS of choice breeding and careful selection. C. C. Roberts, Rt. 4, Box 411, Chico, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

LAUESSEN'S BIG TYPE Poland-Chinas; weanlings for sale. Write me. William G. Lauessen, Van Nuys, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Harris, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts, weaned boar pigs. C. B. Cunningham, Mills, Cal.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BOAR PIGS—Farrowed April, 1918, sired by Baron Duke 201st, National Grand Champion, and from Riverby Princess 3rd, litter mate to World's Champion Sow. Other spring boar pigs from same boar and 650-pound prize-winning sows—all at very reasonable prices. Natomaris Rancho, Office 906 K St., Sacramento.
Owners: Sandercock, Land Co.,
In charge of sales of Natomas Ranch.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BARGAINS—Thirty pigs, three to four months old. Eight bred sows and gilts, grandly bred, fine individuals. Sows bred to one of the best boars in the State. Priced to sell at once. Come and see them or write us. Sold culls for pork. Twin Oaks Ranch, Linne, Cal.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

RANCHO RUBIO DUROCS—Thirty of the smoothest and best fall gilts we ever raised. Will begin breeding May 10th. Write for prices and pedigrees. Some choice weaned boar pigs for $25.00. Elmer Lamb, Ceres, Cal.

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

SOME OPEN GILTS and young boars from Taxpayer, Burks Good Enough and King Col. strains for sale. Shipped on approval. F. W. Gardner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

SELLING OUT DOS HERMANOS DUROCS. Your opportunity. My herd boar, sows and young stock priced to sell. Hans Duveneck, Ukiah.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

CHERRY CHIEF CRITIC is our herd boar. Good enough to please any one. Stock for sale. Write us. Craig's Ranch, Owensmouth, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

NO MORE BOARS sired by my 1917 State Champion, but can furnish a few sows. J. M. De Vilbiss, Patterson, Cal.

RANCHO DEL SUR DUROCS are the large, smooth, prolific, easy feeding kind that pay. Donald H. Graham, Lancaster, Cal.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J. H. Minto, Patterson, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

FOR SALE—40 head of Holstein cows, some are registered, the rest are choice grades; 17 milking, others coming fresh. Ranch five miles south and five miles east Hanford. Wm. Harlan Smith, Route C, Box 181, Hanford, Cal. Phone 48F2.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme from 30-lb dams. Tovon Farm Association, First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

FOR SALE—34 high-grade Holstein heifers, long twos and short three-year-olds with first calf. Geo. V. Beckman & Sons, Lodi, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Bull calves. Joseph Paxton, Breeder, Athlone, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

SECOND SALE OF

SHORTHORNS

UNDER AUSPICES OF

California Shorthorn Breeders Association

WILL BE HELD AT THE
SHOW GROUNDS OF THE

California International Livestock Show,
SAN FRANCISCO,
ON
THURSDAY, NOVEMBER 7th, 1918
At the hour of 9:30 o'clock a. m.

30 head Choice Bulls
20 High-Class Females

Earl Gartin of Greensburg, Indiana, Auctioneer
FOR CATALOGUE APPLY TO

California Shorthorn Breeders Assn.
320 Sharon Building, San Francisco, California

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, Cal.

Jerseys.

FOR SALE—Four-year-old registered Jersey bull, a direct descendant (25 per cent) of King's Valet, Imp. (No. 79143), and a very beautiful animal, with many records behind him. Chas. Nelson, Elk Grove, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers. O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, Proprietor, Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D., Berkeley.

FOR SALE—Guernsey Bull Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NOKABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS. Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. O. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

FOR SALE—1000 head high grade ewes in lots of ten or more. J. A. Youngreen, Orland, Cal.

FOR SALE—Yearling Toggenberg buck. Not eligible to record. Price $30. Geo. Langlois, Auburn, Cal.

BISHOP BROS., SAN RAMON, CAL. — Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders importers of Hampshire sheep.

HORSES.

FOR SALE—Five team horses, unbroken workers, weight 1200 1300 lbs. Sunnybrook Ranch, Willits, Cal.

FOR SALE—A herd of 75 head of mares and colts, consisting of Percherons, Saddle Jacks. A. H. Tilton, R. D. Box 164, Madera, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

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Poultry for Profit

By Susan Swaysgood, Pomona.

THE RATIONALE OF THE MOLT.

Naturally all feathered birds molt once a year in fall, then if very hard weather comes we notice a closer and heavier coat of feathers on wild birds. When this occurs the extra feathers are usually dropped gradually before spring opens, without our having any knowledge of the occurrence except we happen to kill a wild fowl. With domestic poultry it is different, because they are under our eye all the time and we learn to notice everything connected with them—at least we should do so. A great many notice the loose feathers lying around, on the ground and in houses, but do not know the cause.

MOLTS CAUSED BY FOOD CHANGES.

Now, in the majority of cases these partial molts are caused through the feed—either through a change in variety or a change in quantity. Both cause some kind of a molt varying according to the seriousness of the change. A shortage in food will start a serious dropping of feathers more quickly than anything else. This is because the system begins to draw from the outer skin to keep the internal system going. This was the leading idea in molting hens when eggs were cheap, so as to have them laying when eggs were high. It was practised several years ago more than it is now, because it turned out that while a hen could be fooled part of the time all the hens could not be fooled all the time—which means that while it worked in part, a great many hens took on another molt just about three months later, and that at a time when eggs were really worth more than in the early fall months. The forced molt is not near so popular now. Another cause that contributed to its unpopularity was that many hens, heavy layers usually, succumbed to the harsh treatment of starvation, just at a time when they needed extra feed to offset the season's hard work.

DON'T CHANGE FEED TOO ABRUPTLY.

The second way of starting a molt is by making too radical a change in the kind of feed. If a change is desirable or necessary, it is best to commence making it gradually, say feeding one-fourth of the new feed with three-fourths of the old, then adding just a little more every day until you are feeding all of that one kind if you wish. Hens will thus not notice it to any extent; and if it happens to be anywhere near as rich in protein they nor the egg basket will never make any signs. While if you start in to feed it on the "eat it or starve plan," very likely the egg production will drop and the feathers will loosen and eventually drop, and you have an improvised molt on your hands.

A LOSING CONTRACT.

The poultryman who starts out to force his hens into eating what they do not relish has a losing contract to fill. Consult the hens and then use persuasion. Another way of starting the molt is by trying to get along without any kind of animal food, then, when the eggs drop short, suddenly feeding beef scrap again. The hens, being hungry for it, eat to excess and that disturbs the digestion. Nature tries to throw off the surplus through the bowels and skin, and anything that disturbs the skin loosens the feathers—and there you are again! Another partial molt results; it may not be serious, but it is an interference with the egg production and also with the vitality of the hens.

SUDDEN CHANGES OF TEMPERATURE.

Extreme changes in the temperature are also the cause of partial molts. During a term of excessive heat the fowl's body is deprived of moisture to such an extent that drinking does not fill the bill. The surface skin draws tight and the feathers relax, then in a few days commence to fall. All that can be done in this case is to supply moisture to the atmosphere by sprinkling the ground and houses, making everything as cool as possible, which if it does not stop the feathers falling altogether will lessen it to a marked extent and save the falling off of eggs.

ELECTRIC LIGHTS UPSET HEN'S CALCULATIONS.

Electric lights, supplied during the winter, throw the hens into a partial molt in the spring time, but I don't consider that is any loss, because the hens rest up a little while and are soon back to work again. But it goes to show that any disarrangement, however or for whatever purpose it is made, upsets the hen's calculations.

GREEN MASH FOR POULTRY.

To the Editor: I have been keeping poultry for forty years, and I never had anything to equal it. You have to have grain, and after grain comes milk. If you have milk, you have to have some greens, but if you have no milk then you need more greens. My experience is that if you feed kale and chard in the leaf hen's won't eat enough to do any good. Of course, they will eat it; but only because they are starved to it. But cut or ground fine enough to be eaten as a mash, they will eat greens that have been wilted so they would not touch them otherwise, also the stalks.

If greens are not cut or ground finer than most poultrymen cut them, I would rather feed in the leaf. I consider the green mash as the best thing I have heard of in the poultry business. For a large flock I should use alfalfa for most of the greens.—H. R. Dakin, Santa Cruz.

THE MEDICINE CHEST.

It is a good idea these autumn days to have a small medicine chest handy, because often a dose of physic drives away colds that may develop into roup in just a few days. For a plain physic, a bottle of castor oil will be found efficacious, but the after-effects are not felt by chickens as long as are some drugs. Don't forget, too, that when broody hens stay on the nest in the fall that they are breeding lice and harboring mites all the time they sit. Some people seem to think because hens have been laying well all summer they are entitled to a rest in the fall; but if they need a rest let them take it outdoors, not on a nest. The nest is supposed to be for layers, who jump off and cackle when they have deposited an egg, and there is no sense in letting non-layers monopolize the nest for several days at a time because they want to rest. Bounce them off, put them under a wire coop right in view of the rest of the flock, and they will soon forget the need for solitude. Feed and water them, of course, and let them stay outdoors in the open until the fever leaves them.

A two-day field meeting and poultry conference will be held at the Vineland International Egg-Laying and Breeding Contest at Vineland, N. J., on October 11 and 12.

ENTRIES FOR POULTRY AND RABBITS AT SAN FRANCISCO LIVESTOCK SHOW OPEN TO OCTOBER 15.

For the reason that entries for the general livestock displays at the San Francisco Livestock Show closed October 5, some poultry and rabbit exhibitors think all entries close on that date. Entries in the following divisions are open until October 15 and should be addressed as follows: Poultry entries to George H. Croley, 525 Market street, San Francisco; rabbit entries to Walter Hickling, 3335 Lincoln avenue, Oakland.

Harrison Bentley of Napa has 170 hens and he has kept account of his earnings from them for the past nine months and it amounts to $690, and he says they will nearly reach $1,000 by the end of the year at the rate they are laying. His expense for the nine months was $325.06.

Poultry Breeders' Directory

Rates 3 cents per word per week

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $14 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

PRIZE WINNING Rouen and colored Muscovy ducks for sale. Choice Light Brahma cockerels, $4 to $10 each. Muscovy eggs, $2 per 15. Emma Miller, Farmington, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

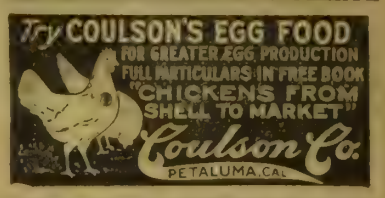
BABY CHICKS and hatching eggs from our selected purebred S. C. White Leghorn hens. Tupman Poultry Farm, Ceres, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.



HOME CIRCLE

IF I MISS ONE CHANCE.

(Contributed.)

Over in France where the death shells scream
The boys are fighting as in a dream;
A glorious dream of blood and hell,
While I stay at home and prosper well.

Over in France they are dying now
Like red earth turned by a giant plow;
They are going across with a smile for me,
While I stay home in security.

Over in France the gas clouds roll
And the shower of steel is taking its toll;
The flag drives on, but the boys lie still,
While I live on and eat my fill.

Great God in heaven, in whom we trust,
Turn the food in my throat to dust;
If I miss one chance that may come to me,
To bring them home with the victory.

LUCILLA'S PRIZE.

"Oh, but all your marks can't be so bad. You always answer in geography."

Beryl spoke cheerfully. It is easy to be cheerful, Lucilla reflected, when you know that you are pretty safe for the general proficiency prize, and sure, quite sure, of both Latin and French! How she wished this warm afternoon, as she stood leaning over the gate of Beryl's pretty garden, that she herself had studied hard, from the very beginning of the year—that beginning that seemed so far away now, in the warm sunshine.

"There is no geography prize," was all the answer she made. "Geography's counted in with general English subjects, and my grammar"— She gave an expressive little shudder.

"Well, I'd do what I could in these four weeks," advised Beryl. "Come in and rest, won't you? I've some extra studying to do—she gave us double Latin today, for some unknown reason!"

"She" was, of course, the language teacher.

"No, thank you. I'll go home," replied Lucilla.

Home she went, with a very sober little face. For two long years she had been feeling fatherless, because her father had been at work "down in the Zone." Now he had a long holiday, and would be home just about Commencement Day, and Lucilla would have no prize to show him! He had spoken of his anxiety about her school work in so many lessons, and she had always meant to "put on steam," but somehow she had not done it, and now Commencement was four weeks off and examinations three.

"You had better rest before you begin to work, dear," suggested Mrs. Dean, as her daughter entered.

"Mother," began Lucilla, desperately. "Please take out my reports, and let's go over them. I want to see just where I stand."

Mrs. Dean went to the desk. As she looked at Lucilla's troubled face, she felt tempted to bid her not worry; that her father would be so glad to be with his loved ones that he would not think much about the prize that wouldn't be there. But she was a wise mother as well as a tender one. It occurred to her that perhaps this trouble now might make her heedless little daughter more industrious in the future. So she handed out the reports without a word, and sat down to her work, embroidery for Lucilla's Commencement frock.

Lucilla was reading the disheartening figures, when a knock sounded at the door. She looked up, and gave a cry of joy. There stood her much loved little cousin, Charlotte Gray.

"Why, Lottie! How did you get here alone?" she cried, for Lottie was only ten, and her home was thirty miles away.

"Mother's here, too," explained Lottie, and her mother came in at that minute.

While Mrs. Gray and Mrs. Dean conferred over supper preparation in the kitchen, Lottie told her own small woes to Lucilla, while Lucilla flew back and forth, setting the table.

"Mother's going away, and I'm coming here. I want to come here, but I don't want mother to go away," she explained, her little face puckered perplexedly.

That night, when Lottie was safely tucked away in a cot in Lucilla's room, Mrs. Gray told her daughter that her sister-in-law was traveling West to see her twin brother married, and that she feared the long trip for Lottie, who had not been strong. That was why Lottie was to stay with them.

The next day, with rather better lessons than usual, and proudly chaperoning her cousin, Lucilla found the day go quickly. But Lottie—rather a spoiled little girl, if the truth be told—had been unhappy. She did not like her teacher. She did not like her classmates. She could not do the lessons.

Lucilla coaxed and petted, and finally helped her so much with the lessons that Lottie went to bed cheered.

The next day, in order to bring about, if possible, pleasanter relations between Lottie and the other members of her grade, Lucilla spent all recess with them. Only one of the class, Roberta West, seemed able to put up with Lottie, and she was the very dullest.

"Come to our house after supper, if your mother will let you," proposed Lucilla. "And I will help you, with Lottie."

This proposal poor dull little Roberta hailed with joy. The next day, two other backward children asked to be allowed the same privilege. Lucilla said, with a smile, "The more the merrier."

"But, mother," she cried, that night when Lottie was in bed, "I find my lessons easier, not harder, for all this extra work. Isn't that odd?"

"I think," said Mrs. Dean, smiling, "that your love for Lottie makes the extra work easy, and that the exercise makes your own less formidable. Your trouble was always bringing yourself to settle down and make a beginning."

The three weeks went swiftly by. Just before Commencement Mrs. Grey returned and took Lottie away, but the "evening class for study," as the little girls called it, went on till the examinations were in full swing.

"Well," sighed Lucilla, the night before Commencement, which was also the day of her father's expected return, "I've just not failed; that's all. But I'm at the foot of those who passed."

"Next year you'll do better," prophesied her mother, "and don't cry over spilt milk, dear. Make stepping-stones of your failures. We can all do that."

For the second time in this story a loud knock at the door, much louder than the first, startled mother and daughter, but before it could be answered it opened from without. A tall, bronzed man stood there, and the next moment, after joyful cries of "Wife!" "Daughter!" "Father!" "John!" the three were clasped in one embrace. Even prizes seemed very small things beside that happiness.

But the next day, when other girls, including Beryl, went up for their prizes, Lucilla's heart sank again. It would have been nice, oh, it would, if she could have crowned her father's home-coming with the success he valued for her!

There was no prize, however. No one remembered that she had written a special essay, or done anything deserving of an extra prize. The Commencement festivities came to an end, and only one thing could have been worse—if she had failed!

Mr. Dean, with his wife's hand on his arm, and his other hand on Lucilla's shoulder, said not a word about his disappointment, for which Lucilla was grateful, but his very silence intensified her own regret. Oh, if one could realize in September the month that school girls take lightly, what it means to have a good start!

Just as they were at supper, a meal which Mrs. Dean had made very festive indeed, there came the third and last knock of this story.

Two little girls, Roberta and another, stood outside the door when Mr. Dean opened it.

"For Lucilla,' 'they said, handing him a packet. "From our fathers and mothers."

They ran away, laughing. He brought the packet in, and gave it to his daughter.

"It isn't your birthday," he remarked.

"Open it, dear"; her mother was interested as Lucilla herself.

The packet proved to contain a handsome edition of Longfellow's poems, and on the flyleaf were these words:

"To Lucilla Dean: An appreciation of her kind help during the last month of term."

Underneath this inscription were the names of three fathers and three mothers.

"But I never 'dreamed!'" cried Lucilla, with shining eyes. "I only wanted to help those who were kind to Lottie!"

"But you need not call this a Commencement without a prize," said her father, with a smile. "Now, are you ready for fried chicken?"—Lee Wyndham.

THE SECRET.

To a Dimple said a Frown,
"I would give you half a crown,
To teach me how a compliment to win."

To the Frown replied the Dimple,
"Why the trick is very simple:
Dance on tiptoe all around the mouth and chin."

—John B. Tabb.

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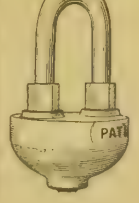

GENERAL THRIFT MAKES TREMENDOUS GAINS;

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SAN FRANCISCO

San Francisco, October 9, 1918.

WHEAT.

Wheat is selling at the prices announced by the Federal Grain Corporation, and these prices will doubtless be maintained for the present crop. The prices quoted are for grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guaranteed at least $2 per bushel f. o. b. shipping point. The price of sacks and sacking not included.

No. 1 hard........$2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft........ 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1........ 2.16
do, No. 2........ 2.13
do, No. 2........ 2.09

BARLEY.

Barley continues weak, although the price of choice feed has been but slightly lowered. A small amount of choice brewing barley standard was sold this week at $2.25.

Choice feed, per ctl........$2.10@2.15

OATS.

Oats are stagnant. The top price has been maintained, but the range has been increased in feed oats to stimulate movement.

Red feed, per ctl........$2.40@2.55
Red seed .... 2.90@3.10

CORN.

There is still a little of the old California crop in odd lots. The demand is almost nil and $4 was the top price at which any movement was started. Milo maize and Egyptian are nominally unchanged.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked ....$3.90@4.00
Milo maize .... 3.95@4.05
Egyptian .... 4.05@4.10

HAY.

The receipts of hay for the past week were 764 tons, compared to 934 the previous week. Practically all the hay received had been out in the recent rains and was more or less damaged. There has been practically no market during the week, as wet hay has been sold in accordance to the amount of damage shown.

Wheat No. 1 ....$24.00@26.00
do, No. 2........ 21.0@23.00
Choice tame oat........ 25.00@27.00
Wild oat, new........ 19.00@23.00
Barley, new .... 19.00@23.00
Alfalfa, first cutting........ 16.00@20.00
do, second cutting........ 22.00@24.00
Stock .... 18.00@21.00
Barley straw ....50@80c

FEEDSTUFFS.

Rolled barley and rolled oats were lower in response to the weakness shown in the whole grain. The entire market is weak. Reports from country districts state that grass has never been known to be in finer condition at this time of the year. Ranges resemble springtime. This is having a depressing effect on the feedstuff market.

New alfalfa meal, per ton.....$34.00@35.00
Cocoanut cake or meal........ 45.50
Cracked corn .... 86.00@88.00
Oilcake 78.00
Rolled barley .... 46.00@47.00
Rolled oats .... 56.00@57.00
Bran, carload lots in S. F.... 23.75
Mixed feed, do, do........ 25.00
Middlings, do, do........ 25.75

POTATOES, ONIONS, ETC.

Potatoes and onions were lower owing to the ample supplies and somewhat restricted demand. While some onions sold as low as 90c, they were mostly "off" stock. A quiet market for both these descriptions is looked for during the next few weeks. Beans came in in good quantity this week and sold below last week's quotations. Lettuce is again plentiful and 15c was about the top price. Cucumbers have advanced.

Peas ....Nominal
String beans ....4@6c
Garden beans ....6@7c
Wax beans, per lb........5@6c
Carrots, per sack........85c@$1.00
Rhubarb, San Jose per box.....$1.00@1.25
Summer squash ....50@75c
Pumpkins $1.00
Cucumbers (hothouse), per box......None
do, Alameda lugs........75c@$1.25
Eggplant, per box........75c@$1.00
Lettuce, Sacramento, doz........ 15c
Celery, bunch ....20@25c
Tomatoes, per crate—
Merced ....Nominal
Bay ....$1.25@1.50
Potatoes—
Garnet Chile, on street .... None
Whites ....$2.00@2.15
Sweets, per sack........ 3.75@4.00
Onions—
River Reds .... None
Yellows ....90c@$1.15
Australian Browns ....90c@$1.15
Garlic, new ....13@15c
Green corn, Alameda, per sack....Nominal
Okra ....5@7c

BEANS.

Large white beans of the new crop are now on the market, but other descriptions of the 1918 crop are not expected to arrive for two or three weeks yet. Several descriptions have advanced in price.

Bayos, per ctl ....$7.75@7.90
Blackeyes .... 6.90@7.00
Cranberry beans .... 10.25@10.50
Limas (south, recleaned) .... 11.70@11.90
Pinks .... 7.40@7.60
Red kidneys ....Nominal
Mexican Reds .... 7.25@7.40
Tepary beans .... 7.00@7.50
Garbanzos .... 8.00@8.75
Large whites, new crop .... 9.40@9.75

POULTRY.

There was something of a slump in the poultry market this week, especially in fryers and roosters. Turkeys sold at a higher price and squabs advanced from 5c to 8c a pound. The State receipts were up to the mark and three cars are reported to have arrived from the East.

Turkeys, live, young spring, lb....38@40c
do, old ....35@36c
do, dressed, old ....42@44c
Broilers, 1½ to 2 lbs........39@42c
do, 1¼ lbs........45c
do, ¾ to 1¼ lbs........47c
Fryers 32c
Hens, extra, per lb., colored........34c
do, Leghorn ....30@31c
Smooth young roosters, per lb. (3 lbs. and over) 33c
Old roosters, colored, per lb........24c
Geese, young, per lb........27@28c
do, old, per lb........25c
Squabs, per lb........55@60c
Ducks ....29@30c
do, old ....25@27c
Belgian hares ....18@20c
Jack rabbits ....$1.50@3.00

BUTTER.

Butter was weaker on larger receipts, after the first day's advance to 68c. A slight reaction occurred at the end and extra closed at 63c. A demand for prime first advanced that description 6c from its last quotations. It almost immediately reacted one cent, but closed only 2c below extra.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	68	67	64	62	63	63
Prime first	—	—	62	61	61	61
Firsts			Nominal			

EGGS.

Extra eggs reacted with the slump in butter, going down 2c from the high mark. Small arrivals, however, immediately strengthened the market and it reacted to the high point at the close. On the close there was not enough extras to make a market and the members turned to extra pullets, which jumped 3½c to 59c on the increased demand.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	66	65	64	64½	65	66
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	56	55½	54	54½	55	59

CHEESE.

The San Francisco Produce Exchange has posted the following notice in reference to cheese: "The call of storage cheese is hereby discontinued until further notice, the call having been reopened only to assist in marketing the cheese held in storage prior to January 1, 1918, in line with the requirements of the Food Administration." It is said that all this cheese has now been cleaned up.

California Cheddar, flats, fancy......30½c
Fancy California flats, per lb........30c
First California flats, per lb........27c
California Y. A. fancy........31c
Oregon triplets, fancy 35c
Oregon Y. A. fancy........Nominal
Monterey cheese ....24@27c

FRESH FRUITS.

The market is rapidly becoming dominated by apples, which are in good demand. The berry market continue steady, and while some of the fruit shows the effect of rains it is not in bad shape for immediate consumption.

Apples ....$1.50@2.50
Peaches, 4-box crate ....75@1.25
Figs, black, per box........None
do, double layer........75c@$1.00
do, Single Row Whites........75c@$1.00
Strawberries, per chest........$8.00@10.00
Blackberries, per chest........$8.00@10.00
Raspberries, per chest........$8.00@10.00
Plums ....$1.00@1.50
Cantaloupes, flats ....None
do, ponies ....Nominal
do, standard ....Nominal
Watermelons, per lb. ....1¼@1½c
Pears, Bartlett, per box........$1.50@2.50
Grapes, seedless ....None
do, Malaga ....$1.00@1.25
do, Fontainbleu ....None
do, Tokay ....$1.00@1.25
do, Isabella .... 1.00@1.25
Persimmons .... 1.00@1.50
Alligator Pears .... 3.00@3.50
Pomegranates, per box........$1.50

CITRUS FRUITS.

Lemons were stronger on the San Francisco market this week and 50c was added to the selling price of each description. Oranges and grapefruit continue strong, and, although they are expected to go higher, no change in quotations is made this week.

Oranges ....$7.50@8.50
Lemons, fancy .... 4.50@5.50
do, choice .... 4.00@4.50
do, standard .... 3.50@4.00
Grapefruit .... 5.50@7.00

DRIED FRUITS.

In addition to taking over the entire prune crop for 1918 in California, the Government has commandeered the Oregon prune crop of 40-90s for this year. Its action regarding prunes has caused an advance in the price of apples and pears. Buyers are now paying the growers 14c to 15c for dried apples and 12c to 15c for dried pears.

Apples ....14@15c
Pears ....12@15c
Prunes, graded, price to growers:
gain in dip 11c
Prunes, graded, prices to growers:
20-30, inclusive, per lb........15c
31-41, inclusive, basis 10c
42-51, inclusive, basis 9½c
52-61, inclusive, basis 8½c
62-71, inclusive, basis 8½c
82-91, inclusive, basis 8c
92-101, inclusive, basis 8c
102-121, inclusive, per lb........4½c
122 and up, per lb. 4c
Apricots ....12@15c
Figs ....13@17c
Raisins—
Muscats 5½c
Thompsons 6¾c
Sultanas 6½c

RICE.

The first sales of paddy will probably be postponed until next week on account of October 12 being a legal holiday.

Paddy rice, 1918 crop........$4.32
Clear No. 1, 1918 crop, at mill........ 7.00

HONEY.

The honey crop is said to be pretty well out of first hands now and except for odd lots there will be little more buying this season from beemen. It is reported that a considerable quantity of honey is held in storage by some of the dealers of this city.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, October 8, 1918.

Tokays shipped since the rain have in a great many instances been showing up ripe and watery and prices realized for this stock ranged considerably lower than Tokays that arrived sound. A few cars of Tokays that were shipped East by express brought unusualy high prices.

Malagas have been selling to decidedly good advantage and most of the stock has been arriving in good condition.

The movement of Emperors had hardly begun when shipments were curtailed on account of the weather. A few cars have been shipped East for storage purposes, but a large percentage of the stock has been sold at private sale. Possibly 50 per cent of the Emperors this year that ordinarily would be packed in sawdust will be shipped in lugs, and the trade seems to have taken kindly to this package, though it is not as suitable for reshipment as the drum or keg.

A few cars of late winter pears will move this week, which will clean up the tree fruit season, with the possible exception of some Santa Clara Anjous and Winter Nellis.

It is reported that a few thousand barrels of Spanish Almerias are en route to New York. It is predicted, however, that the importation of this variety will be extremely light this year and we look for an unusually strong and high market on late grapes if the stock arrives in good condition.

Averages for the week:

New York: Grapes—Zinfandel, $1.88; Alicante Bouchet, $2.36; Mission, $2; Malaga, $2.16; Cornichon, $2.38; Tokay, $2.27; Muscat, $1.88; Emperors, $3.23. Pears—Bartlett, $3.67; B. Hardy, $3.62; Winter Nellis, $3.18; B. Clairgeau, $3.70. Peaches—Phillip Cling, $1.60; Levi, $1.68.

Boston: Grapes—Tokay, $2.36; Malaga, $2.08; Black Prince, $1.92; Alicante Bouchet, $1.62; Zinfandel, $1.42; Muscat, $1.75; Mission, $1.50; Cornichon, $2.57. Pears—Bartlett, $4.11; B. Hardy, $4.08; B. Clairgeau, $4.57. Peaches—Levi Clings, $1.70.

Chicago: Grapes—Cornichon, $2.28; Malaga, $1.85; Tokay, $1.95; Emperors, $3.14; Muscat, $1.75. Pears—Bartlett, $3.45. Peaches—Levi, $1.65.

Shipments from September 27 to October 4, inclusive (incomplete): 4 peaches, 63 pears, 1691 grapes. Total shipments to date, 1918: 18,255 cars. Total shipments to date, 1917: 16,905 cars.

Special Citrus Market Report

San Francisco, October 8, 1918.

The quality of the offerings of California oranges this week was of the highest, so with a strong demand for the fruit from the hospitals and a steady call from the U. S. Quartermaster's Department prices ruled high. In the auction market prices ranged from $6 for poorer grades of fruit to $11.55 for the best. F. o. b. quotations were on the basis of $7.50 to $8, according to sizes. About 300 to 350 cars of Valencias remain to be shipped, but they will be cleaned up at good prices before the Florida oranges arrive in quantity. The new crop in Southern California gives promise of early shipments in some sections. In Central California the best districts will produce 40 per cent of normal crop, but elsewhere estimates are placed at 25 per cent. Sizes will run large owing to the short crop.

California lemons are again in demand. The foreign lemons have been cleaned up and the new crop from abroad will probably not arrive before December. Supplies of old stock in storage are exhausted, but all lemon houses have an accumulation of sweated fruit owing to recent low market conditions. F. o. b. quotations are on the basis of $4.

The total shipments of citrus fruits from Southern California for the season are: Oranges, 13,944 boxes; last season, 38,907. Total shipments of lemons this season, 5606 boxes, last season, 7536.

LOS ANGELES

Los Angeles, October 8, 1918.

BUTTER.

This market reached the high point of the year the past week and lost the advance before the close of the week. Receipts for the week were 255,400 pounds, against 294,700 pounds the same week last year. This shortage in the supply and sharp advance in San Francisco the early part of our review week caused dealers on 'change to bid extras up Wednesday to 60c, and this price was maintained up to Saturday. There was withdrawn from cold storage during the week to meet this shortage in fresh receipts 62,736 pounds, against 4040 pounds the same week last year.

We quote:

California extra creamery........58c
do, prime first 56c
do, first 55c

Daily quotations

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	58	60	60	60	60	58
1917—						
Extra	46	46	46	46	46	46

EGGS.

Continued scarcity of fresh stock caused a firm and fairly active market the past week for all fresh receipts, and the high prices caused the trade to use cold storage more freely. The receipts of fresh eggs by railroad for the week were 419 cases, against 527 cases the same week last year. The receipts by truck were 2090 cases, against 2635 cases the same week last year. There was withdrawn from cold storage during the week 3425 cases, against 5141 cases the same week last year.

Daily quotations:

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	60	60	60	60	60	60
Case count	54	.54	54	54	54	54
Pullets	50	50	50	48	48	48
1917—						
Extra	51	51	51	51	51	52
Case count	46	46	46	46	46	49
Pullets	42	42	42	42	42	42

POULTRY.

The market was hardly so strong on fryers and hens. Broilers were in lighter supply and were in fair demand and sold up 2c. Turkeys in good demand and the market for young toms firm. Ducks quiet but steady. Geese dull.

The following prices were agreed upon last Friday, October 4, and hold good until the coming Friday:

Broilers, 1@1¼ lbs........37c
Broilers, 1½@1¾ lbs........37c
Fryers, 2@3 lbs........31c
Roasters (soft bone), 3 lbs. and up....31c
Stags and old roosters, lb........20c
Hens ....26@30c
Tom turkeys ....32@35c
Ducks ....22@28c
Geese 15c

VEGETABLES.

Potatoes were slow sale and lower, coming in more freely and the trade not inclined to stock up. Onions were also dull and a little lower. String beans slow sale and weak, while lima beans were dull and lower. Sweet potatoes off a little and continue to drag. Celery coming in more freely and slow sale and lower. Cabbage dull and lower. No shipping demand; local sales light.

We quote from growers:

Bell peppers, per lb........2½@3c
Chile peppers, per lb........2½@3c
String beans, per lb........4@4½c
Lima beans ....4@5c
Potatoes, local, per lug........75c@85c
do, do, per cwt........$1.75@2.00
do, northern, per cwt........ 2.00@2.30
Sweet potatoes, per lb........2½@3c
Garlic, per lb........8@9c
Onions, Stockton Yellow Danvers cwt........$1.40@1.50
Onions, White Globe, per cwt........1.75@2.00
Cabbage, per 100 lbs........1.75
Celery, crate ....3.00@3.25

FRUITS.

All good fresh stock in good demand. Apples steady at last week's prices. No. 1 pears and peaches continue to sell fairly well. Grapes in good supply, and demand good. Most of the offerings from nearby. Figs slow sale and lower. Quinces steady and in fair demand. Some Japanese persimmons now coming in, but selling slow.

We quote from growers:

Figs, Black Spanish, 7 lb. box........30@40c
do, White, 7-lb. box........30@40c
Peaches, freestone, per lug........$1.00@1.25
do, clings, per lug........ 1.25@1.50
Pears, local, per lb........2@3c
Pears, Mountain ....3½@4c
Grapes—
Malagas, per lb........2½@3c
do, Muscat, per lb........2@2½c
do, Liberty, per lb........2½@3c
do, Rose Peru, per lb........2½@3c
do, Tokay, per lb........4@5c
do, Cornichon ....4@4½c
do, Black Morocco, lb........4@5c
Apples, Bellefleur, 4-tier........$1.65@1.75
do, 3½-tier .... 1.70@1.80
do, Gravenstein, 4-tier 2.25
do, do, 4½-tier 2.00
do, Bellefleurs, local, per lb........2@2½c
Avocado pears, small, per doz....50c@$2.00
do, large, per doz........$4.00@7.00
Quinces, lug ....75@85c
Japanese persimmons, per lb........6@7c

WALNUTS.

Some few were delivered the past week, the first of the season. So strong was the demand despite the high prices named, that they were advanced 2c all around and held firm at this improvement. We quote f. o. b. California points:

	1918	1917
Fancy budded	33½c	24c
Standard budded	31c	21c
No. 1 soft shell	30c	20c
No. 2 soft shell	27c	15½c

BERRIES.

Fancy strawberries were sharply higher and raspberries and blackberries were firm at quotations. Demand only fair at the high prices.

HOW DO YOU FEEL ABOUT IT?

Frankly, how do you like the Rural Press nowadays? How does it meet your needs? How does it compare with other farm papers? How do you like the improvements we are making? Here is what one subscriber thinks about it, and he ought to be able to judge the real value of the paper, for he is none other than Mr. Luke Powell, the well-known District Horticulturist of Prosser, Wash. He says:

"Working on a salary that cannot be increased because of State laws, and with living expenses advanced, I feel that I can hardly afford to keep up the subscription of your valuable paper, yet if I am going to stay in this line of work I do not see how I can afford to be without it. There are farm papers that are real, and there are farm papers that are impostors, and I sincerely hope that the Government or somebody will put such a conscription on printers' paper that these junk farm papers that are full of advertising and poor information will have to go out of business. They are irresponsible and full of irresponsible dope. This may sound a little erratic, but if it were possible I would have every farm paper passed on by a board of censors and then require every farmer to take one or more of these papers and spend so much time each day reading them. My work puts me in personal touch with the ranchers, and I can tell you the ones who read and the ones who do not read; also those who read good farm papers and those who read "junk." Your paper is one that has done me a great deal of good, although your pen is pretty sharp sometimes. However, you are keeping in close touch with the California growers on the different conditions that exist in your State, and I have often wished that we had such a paper in our own State of Washington."

We thank Mr. Powell, and now how about you? Is the paper just as valuable to you in your line of work? If so, won't you tell us about it? Of course, our marvelous growth is convincing proof that the paper is giving satisfaction, but we who edit it are human, and we like to have our heart-strings touched by letters from those who have been helped. We value them more than our salary checks. They are our highest reward. What have you to say?

Strawberries—
Fancy paper 30-basket crate....$3.50@3.75
Poor to choice, 30-basket crate. 1.50@1.65
Blackberries, 30-basket crate.... 2.50@3.00
Raspberries, 30-basket crate..... 3.50@4.00

MELONS.

As the weather was cool most of the week, the market was dull for watermelons and casabas. Quality falling off. Cantaloupes about out of season. Honeydew melons dull and a little lower. Offerings poor.

We quote from growers:
Casabas, per lb.....................1@1½
Watermelons, per 100 lbs........75c@$1.00
Honeydew melons, 16-inch crate.75c@$1.00
do, jumbo crate ....$2.75@3.00

BEANS.

The market continues quiet. What demand there was was mainly confined to limas and blackeyes, which sold fairly at steady prices. There was also some little doing in pinks at quotations. Teparies dull and lower. Small and large whites neglected.

Limas, per cwt......................$11.50
Large white, per cwt................ 10.00
Small white, per cwt................ 10.00
Pink, per cwt........................ 7.50
Blackeye, per cwt.................... 6.25
Tepary, per cwt...................... 7.50

HAY.

The market the past week was duller than ever. Not much in, but very little wanted. Prices were lowered $1 a ton all around. Still buyers took hold in a limited way.

We quote f. o. b. Los Angeles:
Barley hay, per ton..........$23.00@24.00
Oat hay, per ton............... 25.00@27.00
Alfalfa, northern, per ton..... 20.00@21.00
Alfalfa, local, per ton.......... 21.00@23.00
Straw, per ton .... 9.00@10.00

Special Livestock Market Report

San Francisco, October 9, 1918.

CATTLE—Cattle of good weight and quality are becoming scarce, with a good probability of higher prices soon for this kind of stock. Several large lots from Oregon were recently shipped into this market.

Grass steers—
No. 1, weighing 1000 to 1200 lbs..11½@12c
No. 1, weighing 1200 to 1400 lbs.11½@11¾c
Second quality ....10@10½c
Thin ....8@9c
Cows and heifers—
No. 1 ....7½@8c
Second quality ....6½@7c
Common to thin......................4@5c
Bulls and stags—
Good ....6@7c
Fair ....5@6c
Thin ....4@5c
Calves—
Lightweight 11c
Heavy 8½c
Medium 10c

SHEEP—There is little or no change in the sheep and lamb situation. Owing to the relatively high prices asked for mutton, the consumptive demand is so limited as to be easily supplied.

Lambs—
Yearlings ....12@12½c
Milk ....14@14½c
Sheep—
Wethers ....11½@12c
Ewes ....9@9½c

HOGS The hog market is down again. This is largely due to the decline in the Eastern markets. The quality of those marketed, however, continues to be good.

Hogs -
140 to 300 lbs.........................17¾c
300 to 400 lbs.........................17¼c
100 to 140 lbs.........................17¼c

Los Angeles, October 8, 1918.

CATTLE—A fair market was had for choice fed steers; few coming in. Thin and medium cattle are still dull.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers........ 7.50@ 8.50
Good cows and heifers.......... 7.00@ 7.50
Canners, per cwt.............. 5.00@ 5.50
Calves, per cwt................ 8.50@ 9.50

HOGS—In sympathy with declining markets in the Central West, brought about by a sharp decline in corn, the market here the past week showed weakness and killers withdrew the premium they were paying for choice offerings. They are still paying quotations, however, for good hogs. Market shows a downward tendency.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$15.50@16.50
Mixed, 225x275 lbs............ 16.00@17.00
Light, 175@220 lbs............ 16.50@18.00

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—But few choice sheep and lambs are to be had and they are bringing steady prices. Thin and medium stuff is dull and weak.

Per cwt. f. o. b. Los Angeles—
Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs .... 15.00@16.00

Portland, October 8, 1918.

CATTLE—Steady; receipts, 179. Steers, prime, $12.50@13.00; medium to good, $9.75@11.00; good to choice, $11.00@12.00; fair to medium, $8.25@9.25; common to fair, $5.75@8.25; cows and heifers, choice, $8.00@9.00; medium to good, $5.75@7.25; fair to medium, $4.75@5.75; canners, $3.00@4.00; bulls, $5.00@7.00; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Lower; receipts, 471. Prime mixed, $19.25@19.50; medium mixed, $18.75@19.00; rough heavies, $17.25@17.50; pigs, $15.50@16.50; bulk of sales, $18.75@19.00.

SHEEP—Steady; receipts, none. Prime lambs, $12.00@14.00; fair to medium, $9.00@11.00; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@9.00.

Classified Advertisements

Rates 3 cents per word per week.

MISCELLANEOUS.

FOR SALE—Pumping plant: 8-h.p. engine, 4-in. centrifugal pump, 160 ft. 0 in. 6-inch pipe, 550 ft. 0 in. pipe, one 45 deg.-90 deg. elbows. Plant can be seen in operation any time. Inquire or write G. W. Heer, Santa Ynez, Santa Barbara county, Cal.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets San Francisco, Cal

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works,** 160 Eleventh street, San Francisco.

APPLES FROM GROWER—Bulk pack; Bellflower, Newtown Pippin, Langford Seedling, fancy $1.25, No. 2 grade $1 per box. Edward A. Hall, R. F. D. 1, Box 39, Watsonville, Cal.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

FOR SALE—Holt 30 tractor, Fire Bottom Benicia plow, 28-inch disks. Also 8-foot double disk harrow. Price $2,500. Fair Oaks Ranch, Willits, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

COUNTRY LANDS.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dep't, Chico, California.

FOR SALE OR EXCHANGE—A home with an income for going ranch near schools. Two houses in the center of Palo Alto, the university and cantonment city. Always rented, at your price. Address, W. F. H., Times Office, Palo Alto, Cal.

SEEDS AND PLANTS.

WANTED—1918 sweet and bitter hard shelled almond seed, suitable for nursery planting. Seed must not be bleached. Submit quantity, sample, and price per pound. Fancher Creek Nurseries, Fresno, Cal.

WANTED.

FARM SUPERINTENDENT WANTED—Experienced in cereal, bean, beet, alfalfa culture, to advise and supervise tenant farmers; also familiar with and to have charge over pumps, motors and irrigation. Must be industrious, affable and good mixer. House and auto furnished. State experience, references and salary. Address E. M. G., 414 Clay St., Monterey, Cal.

POSITION WANTED to take charge of a hog ranch by a single man, experienced in handling registered stock. Hans Duveneck, Ukiah, Cal

WANTED—Single man to take charge of and break horses on large ranch; good wages to competent man. Address Box 1039, Chico, Cal

EXPERIENCED MAN with small family would rent good ranch on shares or would consider salary proposition. Give full particulars first letter. Wiley Lewis, Denair, Cal.

Dealers in PAPER
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37-45 First St., San Francisco
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Blake, McFall Co.., Portland, Ore

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of Pacific Rural Press, published weekly at San Francisco, Cal., for October 1, 1918.

State of California, County of San Francisco—ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Frank Honeywell, who, having been duly sworn according to law, deposes and says that he is the publisher of the Pacific Rural Press, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Frank Honeywell, San Francisco; editor, E. J. Wickson, San Francisco; managing editor, E. J. Wickson, San Francisco; business manager, Frank Honeywell, San Francisco.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) Frank Honeywell, San Francisco, Cal.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is .... (This information is required from daily publications only.) FRANK HONEYWELL.

Sworn to and subscribed before me this 30th day of September, 1918.

(Seal) H. F. HOBSON,
Notary Public in and for the City and County of San Francisco and State of California.
(My commission expires June 26, 1922.)

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The Avery costs less to buy—The Avery costs less to operate—The Avery needs no experienced engineers to run it—The Avery costs less than any to keep in repair—The Avery comes in six sizes. — The Avery has removable cylinder walls—This money-saving factor is a distinctive patented Avery feature

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"Can I get as many eggs from my hens as I should?"

Surely!

IF you have not received a copy of the 1918 edition of our handbook—"Makes Hens Happy"—we want you to have one. It is a splendid guidepost to success in the poultry business; and no one knows so much about poultry-raising that he can afford to overlook the big money-saving and money-making suggestions embodied in this booklet.

There has been such a tremendous demand for this booklet, however, that we cannot say how long the supply will last. But—this much we can say: If you fill out the coupon below and mail it today—we will promise to get your copy to you post-haste.

Mail the coupon NOW!

Stock and Poultry Food Department,
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Gentlemen:

I shall be glad to have a copy of your handbook—"Makes Hens Happy"—which is to be sent to me FREE.

Name .....

Address .....

After all, the problem simmers down to feeding. If you let the hens loll around waiting for *them* to make use of the embryo eggs that are in them—you won't find it very profitable waiting.

You know that Nature provides each laying hen with just so many eggs in embryo. And—if you leave it to Mrs. Hen she will take six or seven years to produce her quota of eggs. And, incidentally, she will leave *you* high and dry—by the time you have paid for her feed and keep all that time. Not much in that—is there?

Your job, then, is to see that the hen produces her *full supply of eggs in two or three years*. And—the biggest part of your job is to see that she gets the proper feed—the balanced ration—she needs to give you the best (and the most) that's in her.

Quite a problem—you say? It is—if you waste a lot of time, money and energy experimenting with hand-mixed feeds and mashes. But it isn't—and it won't be—if you do what thousands of successful poultrymen are doing today: if you bank on Surelay.

Surelay contains *sixteen* distinct ingredients that every hen in your flock needs to make her a profit-producer. It is made so good, so wholesome, so tasty, that every time Mrs. Hen takes a peck of Surelay she is eating a little of everything that goes to make up an egg.

There is nothing mysterious about Surelay—or what it will do. You know what to expect of it—day in and day out. You know that it contains just the proper proportion of *protein* for the white—just the right amount of *fat* for the yolk—just enough *lime* for the shell.

And, what's more, we make no secret of it. You will find its analysis printed on the back of every sack. And remember: what's *on* the sack is *in* the sack, and that's what makes the *eggs*.

So—what's the use of bothering with hand-mixed feeds that are only guesswork at the very best? Where's the dollars-and-sense? Why not "cash in" on the experience of countless poultrymen who have found that Surelay—a uniform, high-grade, perfect-balanced ration—is *always* the most economical, convenient and dependable feed you can use?

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LIBERTY FAIR AT LOS ANGELES HAS BEEN POSTPONED. WILL OPEN OCTOBER 26, 1918

Vol. XCVI—No. 16

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — OCTOBER 19, 1918 — LOS ANGELES

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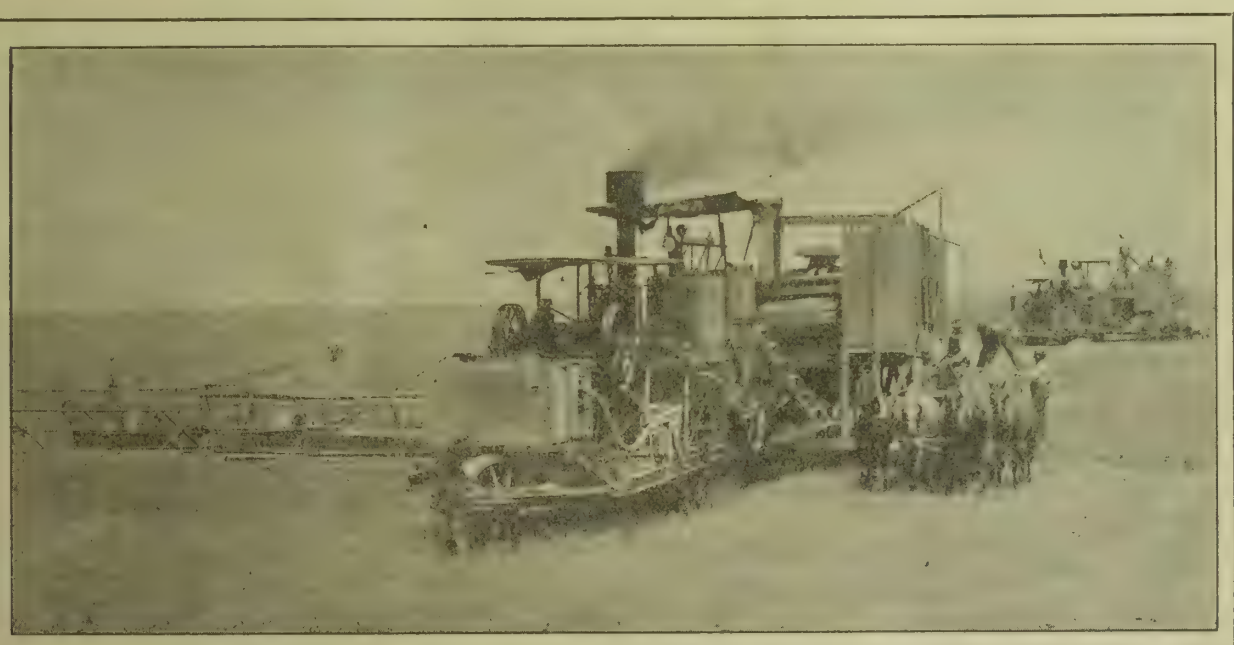
The 1919 Wheat Crop Will Be Increased

Written for Pacific Rural Press by R. E. Hodges

WHEN the hare and the turtle were racing to reach a certain goal first, the hare thought he had a cinch when he came in sight of the end. So he went to sleep on the job and the turtle beat him to it. The war is not yet won and we are not so hare-brained as to go to sleep on the job. We want our boys to keep the Huns a-running and we will have to give them several grains of wheat for every bullet we want them to shoot. California's apportionment for 1919 is 538,000 acres of wheat, an increase of 122,000 over last year, as stated in outlines of the project which all Farm Bureaus in the State are pushing. There are plenty of reasons why we should put up that increase, including the certainty of profit from a fair yield, but the good feature of it is that even so early in the season as October 1 the gain is practically assured. This glorious fact we get not alone from our own interviews with wheat growers and local warehouse and elevator men, but while reports from the 475 Farm Bureau centers are not ready for tabulation those that are indicate an overwhelming increase in practically every county. Not so overwhelming with relation to the total grain acreage, but surely so when we consider that wheat growing has of late years steadily declined in California due to its relative unprofitableness.



Combined harvester cutting and threshing grain in bulk on Moreing Bros.' ranch in Sacramento county. Notice the improvised wooden bin on the side which receives grain that would otherwise be sacked at great additional labor. The horses were replaced by motor trucks for the 1918 harvest. Bulk harvesting saved 65 men's labor on this ranch alone through the harvest period. Men would have cost at least $4 a day if they could have been obtained and kept on the job; which they couldn't.

The most reliable and most definite estimates we are able to get for the probable increased wheat acreage in the various counties is that furnished us by George R. McLeod of the Sperry Flour Co. The efforts of that institution to justify greater wheat acreage in California by introducing varieties that will yield more per acre under our conditions and will be worth more per cental because of better milling and baking qualities than the varieties commonly grown, have been set forth in the Pacific Rural Press at various times.

Mr. McLeod says that with anything like a normal season this fall and winter, an increase of 125,000 acres is already assured, and he thinks it will be nearer 175,000 acres. Here is the way he estimates in general round numbers that the various counties will accomplish the increase: San Joaquin county, 15,000 acres more than last year; Stanislaus, 10,000; Madera, 7500; Fresno, 10,000; Kern, 10,000; Imperial, 10,000; San Luis Obispo, 5000; Monterey, 10,000; Contra Costa, 7000; Yolo, 10,000; Colusa, 10,000; Glenn, 5000; Tehama, 5000; Butte, 10,000; Sutter, 10,000; Sacramento, 7000. The final plantings may easily vary considerably from these figures, especially in the northern Sacramento Valley, and there may be smaller increases in the grain counties not mentioned. Merced county people are figuring on a big increase, while Tulare and Kings will not be left out.

Already enough of the new wheat, Early Baart, alone has been sold to plant 50,000 acres, mostly in the Sacramento and San Joaquin valleys. A great many large tracts of land that have been in pasture for a decade or more are laid out and partly plowed for wheat. Barley growers are planning in a large way to sow wheat instead of barley—even though they have not grown wheat at all for many years. For several days the Sperry Flour Co. sold seed wheat enough every day to plant 2000 to 3000 acres for people in one district who had grown only barley before. Rice land in great areas will be planted to wheat, especially where watergrass has become troublesome. One outfit in Butte county expects to change 3500 acres of rice land to wheat, largely on the principle that leaving water off the land occasionally will secure better crops of both rice and wheat.

Use Best Seed Wheat.

Ninety per cent of California wheat is of mixed varieties, cross-bred, or hybridized. That is one prime reason why we are not getting good acre-yields. It is also probably the greatest reason why milling and baking tests show that California wheat has been deteriorating. If by paying $1 per acre more for seed you get a sack more per acre of wheat, you have made profits that would look like profiteering in any other business.

"No one variety of wheat is likely to turn the State upside down," says Mr. McLeod. "We believe in using in large acreages only those varieties that have proved best adapted to each district, considering both average yield and market value. But whatever variety is favored, be sure to plant only that seed which is truest to type for that variety.

Early Baart Wheat.

No variety in the past two decades at least has sprung into such widespread enthusiastic popularity, however, as the Early Baart, which was grown more extensively last season throughout the central valley of the State. Wherever it was grown, neighbors have generally bought the crop for seed until the Sperry people have had to get their stocks of seed from Washington and Arizona.

Early Baart is not one of the two or three dozen varieties obtained by the Sperry Flour Co. from the Australian exhibit at the Panama-Pacific, but its value was quickly realized when a field of it was found two or three years ago in Modoc county. This variety had been introduced to Arizona from Australia ten or twelve years ago to give life to a dying wheat industry in that State. It has replaced practically all other wheats there, and Prof. George F. Freeman, plant breeder of the University of Arizona, who introduced it, says that he has grown 67 bushels per acre on plots of an acre or larger, and he sees no reason why the average for that State should not be 40 or 45 bushels.

A few years ago some mustard seed were scattered along railroad rights of way in Washington State from Oriental shipments being carried across on "Jim" Hill's railways. This "Jim Hill" mustard took possession of wheat fields until growers began search for a variety that would survive the mustard. They found such a variety in the Early Baart, then grown in the United States only in Arizona. It not only got ahead of the mustard, but produced as well or better than Bluestem commonly had, and sold two to three cents higher, until all No. 1 Hard White wheats were valued at one price by the Food Administration. That is why so much of our Early Baart wheat seed is coming from Washington this fall, and that is why there is enough to supply all demands.

(Continued on page 425.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
E. E. HODGES - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

THE WAR IS TO GO ON.

AS WE write on Tuesday there comes President Wilson's declaration, in answer to the German plea for an armistice, that the war must go on until it reaches its only real terminal—the guarantee of world peace beyond all possibility that those who are now outraging it shall ever repeat the offense. To this end it is necessary that the German people shall bind themselves over to keep the peace and to repair the damages they have wrought and therefore no international talk about peace can be arranged until the world is sure that it hears the voice of the German people and not the ventriloquism of its lying and murdering overlords. The war is in its last stages, but it must not end until it ends right. This is the declaration of the American people and it is the duty of every citizen of this country to "carry on" with doubled energy of purpose and doubled generosity of contribution toward the realization of that purpose. The War Department at Washington announces that a quarter of a million American soldiers will continue to embark every month for France until the American objective, world freedom and self-government of all peoples, is actually attained. Your country never needed your money more than it needs it now! A great, beneficent victory is in sight. If you cannot be able in coming years to put on your old uniform to show your grandchildren what you did for your country, you can surely arrange to tell them how your money went to war and helped those who were privileged to wear the honored insignia of their country! It will be the greatest joy of your declining years. Do not neglect the present opportunity. As a victory which will insure world peace is now in sight, thank God and buy more Liberty Bonds! It may be your last chance, in connection with this supreme effort of your country, to demonstrate your right to cry out to all mankind: "I am an American!"

WILL THERE BE ROOM IN HELL?

TO THE EDITOR: What do you think of this resolution of the labor unions at their San Diego assembly? The brave soldiers to be kept in Europe so unionists can get high wages after peace comes! To hell with the unions!—Patriot, San Francisco.

We do not agree with our correspondent's consignment of the labor unions to the apartments already engaged by the U. S. Marines for the kaiser and his satellites. When the Teutonic autocrats and their dupes, the Russian anarchists, and their imitators, the American anarchists, reach that steam-heated summer resort there will be no room for the labor unions. Besides, we have no sympathy at all with the idea that the unions, as such, merit any such condemnation. In their organization to serve their purposes of securing their rights as they conceive them, the unions are not only within their rights but they are an example to other elements of the producing class. They have as a whole exerted a great patriotic influence during the present war. No one can tell what a hell of anarchy we might have been in in this country if our laboring men had been unorganized and open to the perversion of American bolsheviki. The few failures which labor leaders have made in patriotic direction of their constituencies indicate very clearly what we might have experienced if there had been no such leadership at all. Therefore, we are very glad that they are not entitled to consignment to the kaiser's crowded future state and very thankful for what they have done to push him and his hirelings in this country toward that destination.

AN ABHORRENT IDEA.

BUT though we claim that labor unions have a right to exist without consignment to perdition, we quite agree with the main contention of our correspondent that some of their transactions and declarations are abhorrent—and "unfair," which is, we believe, the worst word in their institutional vocabulary. The resolution to which our correspondent especially refers urges—that after the war the soldiers be returned to their homes gradually, and in numbers so they can be assimilated without an upheaval of industrial conditions.

The resolution was referred to a special committee of seven for further consideration and action, "to the end that some sane solution may be devised to maintain the equilibrium of our movement and safeguard the interests of the boys when they return from over there."

Such a resolution is really outrageous and unworthy of consideration by any American organization. It should have been stamped upon by the resolutions committee and denied discussion and publication. Think of the world service these boy heroes of ours have rendered and the sacrifices they have made: think of their longings for their homes and the return to the embraces of the millions who have given them to danger and to death because there are human purposes attainment of which transcends all emotions of personal love and kinship! Who can for a moment think of such things and of the merited reward to which service of sons and sacrifice of parents give just title in the return of these noble youths immediately upon the completion of their patriotic tasks, and view with any tolerance the proposition that our soldiers be held abroad intentionally for the sake of a wage scale for the stay-at-homes and the enforcement of a six-hour day at wages which now prevail! That is what they propose to demand.

It is a fact, of course, that our soldiers' foreign job is not complete: it is true also that they cannot all return at once when it is complete, but neither fact justifies the abominable effort to protract their exile and deny their right to enter as soon as possible upon the building of American lives to which they were born and upon the success of which all their families await with longing love and upon which many of them are directly dependent for comfort and support! We are not surprised that our correspondent consigns the organizations authorizing such a proposition to perdition. He is, however, wrong in that, though he is perfectly right in this: the idea is hell-born and should return hither!

THE UNFAIRNESS OF IT.

WE WILL not emphasize the argument that any American workingman who urges the Government to keep American soldiers abroad at $30 or less per month so that he can be secure in possession of $30 or more per week is unfair and undemocratic. Nor will we push the personal argument that if he does so he is merely carrying out the historic policy of his organization when it called upon fathers to make cigar-stand statues of their sons because they were forbidden to make apprentices of them in their own trades. It is, however, unavoidable to say that those who favored that resolution at San Diego did what they could to rob their own sons and brothers of the chance of selling their time for wages which they fix for themselves and they rob them of their best years in qualifying themselves to get the rewards of master workmen in the vocations which they choose. It is questionable whether the kaiser himself could plan a more ingenious debasement and punishment for the American soldier. And then, why is the kaiser deporting Belgians and Alsatians? Obviously it is "so they can be assimilated without an upheaval of industrial conditions." Deport Americans so they will not upset America! There is surely some excuse for the rage of our correspondent.

But the unfairness of the San Diego resolution is broader even than that because it aims to undermine the whole producing prosperity of this country. It is only in time of war, when prices are not measures of intrinsic value or serviceability but simply mortgages upon the industry of the future, that such wages as are now being paid are possible. The continuation of such wages will make the whole country hungry and ragged and poverty stricken, because none can pay them and therefore none can get them. To plan, therefore, to perpetuate such wages is not only unpatriotic, because they will arrest the development and destroy the prosperity of the country, it is also industrially suicidal to all who make such plans and hope by reducing the labor supply to carry them out. After the war we shall need more active capital, more materials, more labor. Every agency must do its best to recompense the direct cost, the indirect waste and the deficiency of everything which naturally results from killing people in such colossally expensive ways. Every product must go to the consumer on a fair basis of cost of production and fair profit thereupon for all who contribute thereto. In this way alone can the world regain its wasted wealth. Any enterprise or undertaking which plans otherwise is unfair and merits public condemnation.

TOO MANY TEMPLES.

WE HAVE admitted that the labor organizations are not only within their rights in organizing but are in this respect an example for other elements of the producing class. Our arraignment of some policies of the labor organizations does not reduce our admiration of the way they tackle their job of having their own way—so far as they can. It is up to other people to determine how far they shall have it—but in trying to get it they are surely an example and in showing other people how not to try they are also exemplary. In our issue of September 28 we outlined a movement by the National Board of Farm Organizations to secure a "Temple of Agriculture" in the national capital which should serve as "a national headquarters for the organized farmers of America." Since then we have received a copy of the "Farmers' Open Forum," an interesting journal published by the Associated Progressive Farm Organizations. Why the journal should be called the "open forum" we do not know, for all the fora we ever saw or heard of were the most open and draughty places in the world. But that does not matter. What strikes us as significant is that the journal claims that its forum is a good enough temple and that the business of its association is to foregather all the headquarters of American farmers and has been for the last eight years. It so happens, however, for what reason we do not know, that the "National Board of Farm Organizations" does not desire to worship in the forum of the "Associated Progressive Farm Organizations," but proposes to build a temple of its own. This fact is illustrative of all our previous efforts at really national organization of agriculture in this country. We have never been able to get together. Whenever one bunch of farmers digs out a forum another bunch builds a temple, and so we have a cellar in one place and a superstructure in another and no power on earth has so far been able to put the superstructure over the cellar. What will come of it in this latest instance we shall have to wait to see. The problem now being discussed does, however, give us fuller knowledge of what federated labor does when it comes up to the question of representation in places where laws are made and national policies determined. The Open Forum in the course of pouring cold water upon the head of its rival organization says this:

To talk of a Temple of Agriculture at Washington at this time, except as a goal to be achieved in the future after many preliminary achievements, is worse than folly. The Federation of Labor, before building its Labor Temple, had maintained labor headquarters for many years, and had overrun several entire floors of a large office building. They had, in fact, reached a point where the saving of office rentals alone would pay good interest on the capital required to build the temple. Last year the Federation of Labor expended $400,000 on its work in Washington. It had use

for every room in the temple before the architect's plans for the building were even drafted.

The significant facts are that when labor organizations set out to put something over they do not scrap in the forum or in the temple but do all their scrapping in the catacombs, and when they are ready to get something there is nothing to be seen or heard but a garlanded procession for Pennsylvania avenue, a sweet low chorus for the whispering gallery of the White House, and soon after there is a walking delegate on every national excursion which Uncle Sam issues tickets for! There will be a "labor representative" on the peace plenipotentiary bunch which will be sailing before long. How many farmers will there be? Not one: they will all be too busy sweeping out the forum or whitewashing the temple after a joyful time throwing mud and rocks at each other.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Summer Cropping Not Summer Fallow.

To the Editor: Do you consider a piece of land, that has raised and matured a crop of gyp corn, summer fallow? I am asking to help clear up a matter of land rental.—R. F., Stockton.

Summer cropping is not summer fallow. It is true that the growing of a crop of clover or other legume is called in humid climates a "covered fallow" if the crop is plowed under in the fall before seeding to grain, but taking off a summer crop is no kind of a fallow. In California the only thing which is called a fallow is a "bare fallow," for which the land is worked several times and nothing is allowed to grow. The chief value in a bare fallow, in our climate, is conservation of moisture—storing up all you can of two years' rainfall to grow one crop. There are minor advantages in the several cultivations and in cleaning the land by not allowing weeds to go to seed and these would be probably largely gained by growing a summer crop of gyp corn, for instance, but the chief advantage, that of storing moisture in the soil, would be lost because the moisture is used up by the summer crop. For this reason, perhaps, growing such a summer crop is sometimes called a "half fallow"—but strictly, from a California point of view, it is no fallow at all.

Grains for Winter Feeding.

To the Editor: We have four acres facing south. After the recent rain we plowed it and put in barley, which we intend to cut green for the cows. Alfalfa hay is high in price and very poor in quality. Can we get two crops? Will it be too late to put in red oats and vetch or cow peas? We have no water and the place is hilly.—S. M., San Francisco.

If you cut the barley early enough in its green growth, you will get a considerable second growth. Cutting forward as needed for the cows (if you do not have too many of them) will enable you to cut second growth in the same way later. Then you can plow and resow about next March with oats and vetch as you propose. Common talk, however, is that common vetch seed is shy, and those who can supply it ought to be advertising that fact right now. When the ground becomes warm in March you can probably sow cow peas with the oats instead of vetches, because on the San Francisco hills there is little danger of spring frosts to kill them. Or you can get a lot of corn fodder if spring rains are normal.

How About Barley?

To the Editor: Can you tell us anything more about the chances of selling our barley?—R., Sacramento.

We have seen a report that the California committee which went to Washington to tell Hoover about it has returned with a little better feeling. There seems to be little show at present to move barley profitably to the East, for it is reporting selling at New York at $1.15 per bushel. Some encouragement seems to have been given by Mr. Hoover and Mr. Barnes of the Grain Corporation "that there might be an opportunity to get some tonnage later at San Francisco and that some barley might be bought for the allies fairly in competition with other barley and that the probable movement thus of the limited amount would relieve the California situation." This seems to be at present the chief hope of disposing of our surplus beyond local feeding requirements, although the Food Administration would like the millers to flour more barley and will do what they can to secure relief in that way.

Reclaiming Dried Fruit.

To the Editor: Neglected dried fruit of the crop of 1917 became slightly wormy and was treated with carbon bisulphide in the usual manner—a saucerful on top in a tight container, with the fruit in bags on the bottom—left two days, when bugs were dead and easily brushed out. Do you think such fruit is injurious to use from the bisulphide gas? It is bright, nice fruit.—L. G., Sacramento.

Bisulphide treatment does not injure the fruit in any way. If properly exposed to the air (in a screened room, so that no egg-laying moths can gain access to it) evaporation of the vapor is complete and the fruit will remain good if still protected from new infestation. The treatment with the vapor which you gave was unnecessarily extended; a few hours is ample.

The Tree Malva.

To the Editor: Mention has been made several times this summer in the Rural Press in regard to the "tree malva" or "lavatera." Will you kindly inform me whether it is grown from seed and where I can purchase it? I have tried every seed store and nursery in Sacramento, but none are familiar with it.—Reader, Elk Grove.

It is very common with seedsmen in the coast region. We find it in five San Francisco and Los Angeles seed catalogues which we happen to have in hand. Seedsmen nowadays seem too busy to advertise that they have catalogues and collections of all desirable things. In getting lavatera be sure to tell the dealer you desire "tree malva," which grows six to ten feet or more in height, not the lower species, which may have larger flowers. The plants grow very readily from seed.

Hop Crop Refuse for Spinach.

To the Editor: Are well-decayed hop vines valuable substitutes for commercial fertilizer for the spinach family? If so, why?—Subscriber, Brighton.

Hop vines and leaves are very rich in nitrogen, phosphoric acid and potash as compared with other crop wastes and are therefore, when well decomposed, and plowed in early, a valuable complete fertilizer. For the same reason they are a substitute for commercial fertilizers in increasing the general supply of plant food in the soil, though they may be profitably supplemented by light surface dressings of soluble nitrate during the growing season to promote freer leaf growth if the plants should be slow in developing this essential feature of the spinach crop.

Resurrecting Kafir.

To the Editor: I have some kafir corn which has gotten very musty. Is there anything that I can do to make it fit for chicken feed?—Subscriber, Porterville.

It may have become so moldy as to be worthless and possibly dangerous. If only "musty," it can be improved by exposing in a thin layer to air and fall sunshine. The mold can be killed by dipping or sprinkling thoroughly in formaldehyde solution (one pint of 40 per cent formaldehyde to 40 gallons of water), using one gallon to one bushel of grain. When sprinkling, mix the grain well and cover for ten hours and then dry thoroughly, but we doubt if bad kafir is worth the cost of labor and materials.

Two of a Kind.

To the Editor: Your reply to "Investor" in the Rural Press of October 12 is "smart," but I fail to see logic in advising a man to frame up a bunk game for another "sucker." Do you think it honorable, or is it all right as long as it is business?—Disgusted Subscriber.

The logic is all right, but we do not guarantee the morals. We hoped that little iniquity might be overlooked—forgetting the old proverb: "set a thief to catch a thief." We consider ourselves under arrest.

Bonds or Lime?

To the Editor: Kindly tell me which is the more patriotic—to buy a Liberty Bond or invest the money in much-needed lime for the soil? We have not the money to buy both.—S. S. F., Santa Rosa.

Patriotism and Profit

You can combine them by joining us in our campaign to help farmers raise more and better crops. We need more men to attend to our renewals and present the paper to those who are not already subscribers. If you have an automobile, can give us your whole time, and think you can present the merits of the paper in a convincing way, let us hear from you. We have an attractive proposition. Pleasant work; straight salary; permanent, with advancement.

Don't let this opportunity pass by.

Buy the bond: do not try to whitewash the Huns. Buy the bond and put it up as security for the lime. It is a concrete illustration of the fact that contribution now to a complete victory which is in sight will be the security for every other good thing!

What Hope for Defective Prunes?

To the Editor: I have some prunes which got wet and are in bad shape and will not dry. Can I do anything to make them dry and will the Government accept them for any use when dried?—A. C., Ione.

We know no way to make things dry except to subject them to a blast of hot air. If the amount is not large you can treat them to a good hot fire from the kitchen stove—just as the housewife treats her washing on a wet Monday. Perhaps you will get a hot norther to help you out, unless fermentation and decay have set in already. The Government cannot do anything with defective prunes. Their conditions of long shipment and storage require that the fruit shall be perfectly cured and so far as possible indestructible. The local market may perhaps do more. If the fruit is not soured or moldy and is of good flavor, it is possible that scarcity may help people to eat prunes with their eyes shut until the next crop comes in. If, however, the prunes are off flavor, there is no hope for them except for hog feed, and they must not be too bad if used even for that.

Comparative Values of Animal Manures.

To the Editor: What is the comparative value of horse and cow manures?—W. L., Penryn.

In particular cases the value of the manure depends more upon the feeding than upon the kind of animal producing it. For particular uses the value depends more upon the nature of the manure than upon the plant food contained. For these reasons it is impossible to make direct comparisons of values. However, Dr. Van Slyke in his excellent treatise on "Fertilizers and Crops" (which every farmer should have at hand for frequent consultation), after considering all the variables involved, compiles the following table, as showing the closest approximation to relative value, viz.: Value of plant food per ton of average manure: Horse, $2.50; cow, $2.20; pig, $2; sheep, $3.20; steer, $2.20; hen, $4.40. This calculation includes the variation in the amounts of water usually contained.

Japanese Quince Wholesome.

To the Editor: One of our residents thinks he was made sick through eating preserves of the flowering quince. I have not considered this quince poisonous, but would like your opinion.—Reader, Auburn.

The fruit of the flowering quince, commonly called the Japanese quince, is edible and wholesome. It is quite largely used in making jelly, preserves, etc.

Bad Grapes Need Not Be Picked.

To the Editor: Will it harm the vines to leave unpicked grapes on them? I was unable to pick any of my Sultanas on account of the rain.—W. L., Yuba City.

Let them hang until pruning time. Don't waste sweet money on sour grapes. Wild grapes are never picked and the vines are healthy!

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 15, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.26	2.45	2.52	68	48
Red Bluff	.02	7.87	1.44	86	56
Sacramento	.08	3.96	.78	84	52
San Francisco	.01	2.67	.75	85	54
San Jose	.01	6.45	.74	88	50
Fresno	.00	.59	.28	82	62
San Luis Obispo	.03	1.50	.83	98	58
Los Angeles	.00	.67	.29	98	64
San Diego	.05	.59	.59	94	58

Pruning to Rejuvenate the Almond

Written for Pacific Rural Press by John J. Fox

AS THIS is the third article in succession on deciduous tree pruning, it is not necessary to go into many details relative to the building of the young tree. The vase system will be the foundation, and we will assume that the trees are 28 or 30 feet apart. In planting, the tree is headed back to 15 or 18 inches. It will be pruned back at the end of the first year to three or four leaders. The second year cut back half or more of the new growth and thin out, but leave small fruiting wood. The third year leave as many leaders as the tree can carry comfortably and cut back to half the growth again. After this the young almond should be allowed to go and not be pruned back till it comes into bearing. Down growing and crossing branches will have to be cut off and all suckers kept out of the inside of the tree. The almond is most persistent in trying to grow sucker wood, especially when it is young and vigorous. They can be ripped out any time through the summer, but must be kept cut out every year religiously, even if they are let go till the winter.

Deciduous trees should be pruned to produce good crops of good fruit with regularity, and to distribute fruit and leaves so as to insure the maximum exposure to sunlight and air. Picture above shows a carefully pruned young almond orchard in Butte county.

LITTLE PRUNING AFTER THE BEARING PERIOD.

After the almond tree comes into bearing the only pruning necessary, probably for a number of years, is a little thinning out, always cutting back to a fork if possible. The almond is such a strong grower that it is likely to become too dense if allowed to go entirely, and this results, in course of time, in a lot of small nuts and a lot of dead suffocated wood. On the other hand, if you prune too hard, a lot of sucker wood will be started and it will just keep you busy every year. Therefore, the pruning of almonds, like all other pruning, is a matter of individual judgment. And in addition to its sucker-producing proclivities the character of the different varieties have to be considered, some being upright and others drooping in nature. In any case, those "water sprouts" are no use to the tree, except where one is wanted to renew a broken or damaged limb. In thinning a mature tree it is essential that all cuts be made to a sufficiently strong fork to carry on the functions of the limb. A stub cut (which has to be made sometimes) results in a drying out of the limb to some extent, and a regular irruption of water sprouts. Also, in thinning, the tree must not be laid too open, or the younger branches will be subject to "sun scald" as in other fruit trees.

REJUVENATING AN OLD TREE.

When almonds have been allowed to go a long time without pruning, the tree gets full of long dead whips and other undesirable wood, half dead and in all stages of uselessness. Many of the end branches have been starved by this inside growth and are dead at the tips. Shothole borers finish up the work of destruction in many cases. The nuts are mostly on the outside and branches are small in size, poorly filled and often a very light setting. This is because the circulation is poor and unthrifty and the buds weak and spindling. Old trees like this can often be brought back into profitable bearing for many years by clearing out all dead and dying wood and cutting back to a strong lateral. A good sucker can be encouraged to fill out hollow places and it must be given space to grow into a limb without having to push up 10 or 15 feet without a lateral. If the sucker does this before it is given space, then cut it back on the second-year wood. We have seen old almond trees that had become wholly unprofitable, by reason of their worn-out condition, headed back to stubs and reheaded from the abundance of shoots produced. Many of these sprouts will die out from crowding. The rest will need a lot of work in thinning down the second year when the best of them will be bearing nuts again.

The orchard can be done altogether, or one-half of the trees done one year and the other half the year following. In certain sections where there are old orchards of Languedocs small seedlings or little paper-shells, the trees could be top-worked into commercial varieties if not too old. So many of the old orchards were set too close (20 feet) that unless every alternate row were taken out even this would not be profitable.

TO SUMMARIZE.

First, the trees must be "built" by proper pruning, and not headed high. Second, after the third pruning they should be allowed to come into bearing, only removing undesirable growth—undesirable from its location or the direction of its growth. Third, keep suckers out unless there is a specific purpose in keeping a few for renewal. Fourth, keep the mature tree open by thinning, and remove all weakly growth by cutting back to a strong lateral.

CARE OF LARGE CUTS.

When making large cuts and when beheading or top-working an old orchard, it is essential that those cuts be thoroughly covered to keep out the spores of fungus that produce the spongy, rotten condition of the inside wood. Paint checks; grafting wax hardens and chips off and besides it is too expensive. Use asphaltum (D grade). This is the stuff that is used to cap the highways with and it can only be put on warm. But it is well worth the trouble expended.

Tree Planting and Care of Nursery Stock

Written for Pacific Rural Press by John J. Fox

As the season for planting out young orchards approaches a few timely reminders will be in order. California nurserymen do not defoliate their young deciduous stock in order to ship early, therefore the wood is always matured before the trees are dug.

THE TREES ARE RIGIDLY INSPECTED.

After digging, the trees are carefully inspected by experts to see that they are in good condition. They are then inspected and passed (or rejected) by the County Horticultural Commissioner or one of his inspectors again before the buyer receives them. The nurseryman, for the protection of his own property, takes the greatest pains in handling and caring for the stock so that it arrives at its destination in the best possible condition. Here is its critical period. Directly after the trees have been inspected they should be heeled in—and heeled in right. It is dangerous to store them away in your cellar for very long, so the best way is to heel them in as soon as you can. Dig a good deep trench in a well-drained spot, where the soil turns up nice and friable, set them close together in an upright position and shovel the earth in so that it sifts down between the roots and firm the earth fairly well around the top so that a drying wind cannot penetrate and injure the roots. It is a mistake to run a lot of water onto them, especially on ground that is at all heavy. Also it is a mistake to stick them into a tub of water or a cold spring or stream and leave them there. It is all right to freshen them up with a dip if they need it and then heel them in, but that is all. Many trees have been injured by a sort of damping off in the trench that is apparently due to poor heeling and an unsuitable place for trenching.

> The critical period in the life of a fruit tree is when it has reached its destination after leaving the nursery. The utmost care should be taken of the stock from the moment of its delivery.

PLANTING OUT THE TREES.

Trees should never be planted out in a north wind or any other drying wind. No more should be removed from the trench than can be planted promptly. And it is always well to keep them covered with a wet sack until they are planted.

We have seen trees laid out one by one right across a large field in the wind and early March sun waiting to be planted some time later in the day. This is not giving the young trees a chance.

At planting time each young tree is carefully examined before it is planted, the large roots cut back if necessary with a pair of hand shears, always making an oblique cut instead of butting it off square, as the healing over is more rapid and complete. Also any roots that may have been badly broken should be sheared off behind the break so as to avoid any possible ground infection. It pays to dig a good big hole and the tree should not be planted any deeper than it was in the nursery. Generally speaking, the bud or graft will then be about level with the top of the ground. It is very common among men who have been vineyardists all their lives to bury the union 8 or 10 inches below the surface, "so as to have the roots down where they can get plenty of moisture." Those trees, if they live, will never make much growth. It pays a prospective orchardist to supervise the planting of every tree himself, or have men upon whom he can rely to do as they are told.

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

PROPER CONDITION OF SOIL NECESSARY.

The soil should be in nice friable condition when the trees are planted—neither too wet nor too dry—and the earth firmed down when they are in to prevent drying out. The earlier young trees are planted on black adobe the better the soil settles around the roots with the rains. In planting young pears or prunes on adobe it always pays to go around with the water wagon in May and give the young trees 5 or 10 gallons apiece (even where irrigation is not practised) and another dose later if they seem to need it. Indeed, we think that all young trees are benefited by this encouragement the first year. They become established more firmly by this attention. Let the belly of the tree face the northeast and the hollow towards the southwest.

The summary of the foregoing notes is "care" in the handling of valuable nursery stock from the time it is delivered.

PEACH BLIGHT AND SHOTHOLE OF APRICOT.

[Written for Pacific Rural Press.]

By the time this reminder appears it will be approaching the period when the spray outfit will have to be put in shape for work and the materials bought ready to use.

THE FIRST SPRAY.

For the first spray for these diseases is as important as the second. Spray the first time during November and not later than the second week in December with Bordeaux mixture, 5-6-50; i. e., bluestone (copper sulphate), 5 pounds; quick-lime, 6 pounds; water, 50 gallons. The beginner must be cautioned against dissolving the bluestone in a metal vessel. It must be dissolved by itself in a wooden or earthenware receiver and the lime slaked separately. The two ingredients will keep in this way, but must not be mixed till they are ready for use, and they should be well diluted before mixing. If the weather be rainy, a few pounds more bluestone can be used.

THE SECOND SPRAY.

The second spray is done in the spring with lime-sulphur solution (winter strength) just as the buds swell, of which we shall give notice when the time arrives. Should rains or the wet condition of ground delay this spraying until the buds break, then the strength of the lime-sulphur solution must be reduced or Bordeaux mixture used. The former is preferable, however, if possible, as it will also get the peach twig borer, curl leaf, the early hatches of red spider and thrips, as well as the blight, also any scale except the brown apricot and similar scales that are mature.

In peach blight the livid spots appearing on the bark and around the buds die out during the winter and much of the fruiting wood and young growth may be killed. During the rainy season a sort of jelly exudes from the dead and diseased areas. Everybody who has had shothole fungus on apricots and had their fruit spotted and buds killed from the effect knows this disease without having it described again.

SPRAY IN NOVEMBER WITH BORDEAUX.

Is anyone going to try spraying their apricots for "blackheart" this year by using the same methods as the above, where they lost twigs and small branches? Professor William T. Horne, University of California, says this is entirely distinct from the gum disease in the trunk and saw no reason, when I asked him, why this should not be tried. Frank Gordon of Gordon Valley, Napa county, says they had an outbreak of blackheart years ago in his apricot trees, but it finally disappeared.

Henry Markarian, a prominent fig grower of Fresno, found considerable land available for Calimyrna figs in Madera county last week. California is the only State in which these figs can be grown with commercial success and within the State in limited sections only. Mr. Markarian realized $75,000 for only a fourth of a crop from his 160-acre sixteen-year-old orchard this year.

The recent rains have made possible at least one extra crop of alfalfa in a large part of the State, and while some hay was spoiled in the fields the net result will be decidedly beneficial, as there will be many thousands of tons of hog and cattle feed grown because the rains came early.

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" Humus	5.07 to 5.70%	" Humus	7.42 to 8.12%

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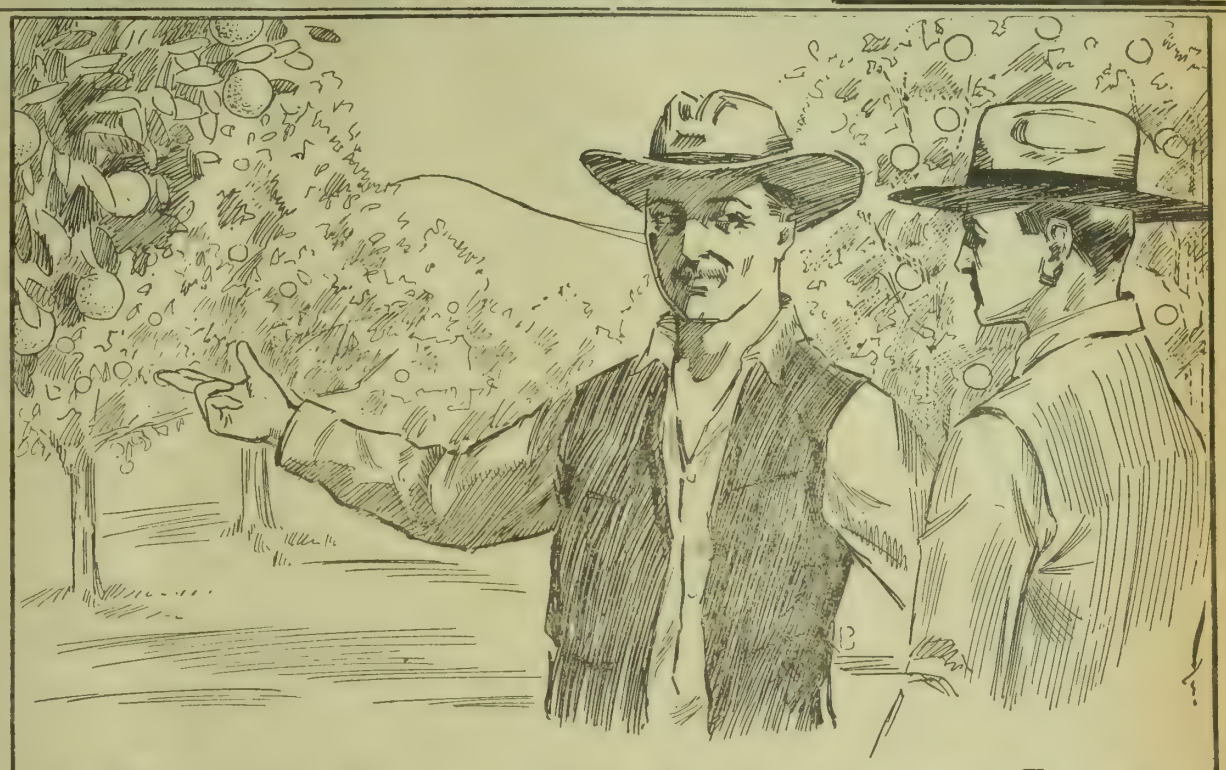

"Planted Four Years Ago, and Look At Them Now"

"Hello Fred—Do you remember when we planted this orchard? Remember how I laughed when you wanted me to try dynamite and blast out the holes instead of digging them, and how you finally talked me into it? Well—I'm laughing another way now, Fred,—and you can bet your boots I thank you for telling me about

HERCULES DYNAMITE

"I never planted an orchard with less labor in my life;—I never had one that grew so fast nor where fewer trees died. And it's bearing a full year ahead of my neighbor's trees that were planted at the same time, in spade dug holes."

"My this-year's crop will pay twenty times over for the dynamite that we use, and it makes me smile to think how easy it was to plant those trees!"

"There are a good many people using dynamite in their orchards around here now. They're finding out that the easiest way is the best way when it comes to planting trees."

"They say, too, that blasting between the rows is a good way to keep your bearing orchards in good shape; it loosens the earth deep around them and gives their roots a chance to spread. I'm going to try it next spring."

"I want to thank you again, Fred, for lending me your copy of 'Progressive Cultivation'. I've got one myself now—the Hercules Powder Co. sends it to you free, if you write them for it. I wouldn't part with my copy for the world!"

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A Capri Which Will Not Caprify

[Written for Pacific Rural Press.]

To the Editor: Will you please look into the question of the vitality of the pollen of the Pseudocarica Capri fig? There were comments in the Press a few years ago, favorable. I tried one thousand of them in my orchard last May and the Smyrna figs all dropped off as usual. Prof. Rixford says that there is a female of the Pseudocarica that ripens? This Pseudocarica gave off wasps for several days.—G. C. A., San Francisco.

[Answer by G. P. Rixford, United States Department of Agriculture.]

The Ficus pseudocarica is a native of northeastern Africa, in Abyssinia and the Italian colony of Eritrea. It was introduced into California from Italy by Dr. Franceschi of Santa Barbara. Five or six years ago Walter T. Swingle of the United States Department of Agriculture, called attention to the fact the mamme (over winter) crop contained stamens and that it might furnish pollen sufficiently early to caprify the first crop of Smyrna figs. This discovery attracted attention for the reason that the mamme crop of the Smyrna capri does not, except very rarely, contain stamens, and that the Smyrna profichi crop is too late for the purpose and therefore the first Smyrna crop, for lack of pollination, was always lost.

Attempts to use the mamme of F. pseudocarica have met with so many failures during the past season that the question of the viability of the pollen of the mamme of the species has been raised. Besides the failure mentioned by your correspondent, others have been called to my attention. I have not yet had an opportunity to test the vitality of that pollen, but propose to do so when the next crop becomes available.

The female of the species is now established in California and is bearing in the Maslin orchard at Loomis. It is evident that the fruits secured were pollenized by insects from the Smyrna profichi. This raises the interesting question, which is sometimes met with by plant breeders, that one species may refuse to take the pollen of another of the same genus, but that the reciprocal pollenation is sometimes successful. A striking instance of this has developed in the wonderful work Dr. Frederick V. Coville, botanist of the United States Department of Agriculture, has done in breeding blueberries until he has increased the fruit to three or four times its normal size. In his efforts to get a cross of our California Vaccinium ovatum and the eastern Vaccinium corymbosum he found that he could not secure a setting of fruit on V. corymbosum with the pollen of V. ovatum, but succeeded with the reciprocal pollinations of corymbosum pollen on ovatum.

California Walnut Growers' Association

[Written for Pacific Rural Press.]

It is expected that the walnut crop of this year will exceed the 1917 crop in tonnage. The quality of the nuts will be unusually fine, being larger and more uniform. Last year's crop averaged 42 per cent of No. 2s; this year the No. 2s will not average over 4 per cent of the crop. We published the advanced prices last week. Owing to the scarcity of burlap bags, association shipments will go forward this year about half in burlap bags and the rest in saxolin bags. Saxolin is a strong paper, open weave. It is said to be tougher than burlap, more attractive in appearance and shows the nuts through the weave, but will not withstand a heavy wetting.

The import situation is at present complicated and uncertain. The United States War Trade Board has prohibited the importation of all nuts without license, except coconuts. It is said that licenses for the importation of walnuts from China have been uniformly refused. Even if granted, the prevailing freight rates would make importation almost prohibitive. All recent shipments of the French crop of 1917 have gone to Great Britain, and it is said the old French crop is now exhausted. The French Government has prohibited entirely the exportation of walnuts in the shell, but this embargo may be lifted at any time. A normal crop of good quality is reported in the French walnut districts. It seems practically certain that the California output will have to be depended upon in the United States for the holiday trade, which is normally about 45,000,000 pounds.

State Land Settlement at Durham

[Written for Pacific Rural Press.]

Dr. Ellwood Meade of the University of California announces that the farms of the remaining unit are open for inspection and applications for settlement from October 15 to November 15 at noon. There are 28 farms and five laborers' allotments, and anyone interested in securing one of these farms should write to the Land Settlement Board, room 101, Agricultural Hall, U. of C., Berkeley. Owing to war conditions and the consequent high prices of labor and materials, Dr. Meade suggests that prospective settlers defer building operations on the new holdings, except such as are immediately necessary.

Word just received from the U. S. Forestry Service says that in the allotment of privileges in the national forests for cutting timber and grazing stock preference will be given to buyers, in reasonable amounts, of Liberty Bonds.

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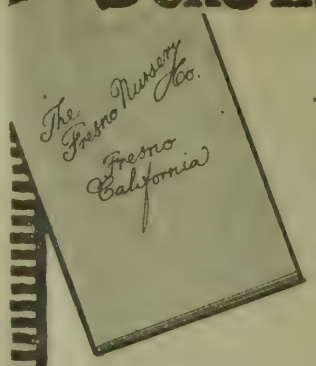

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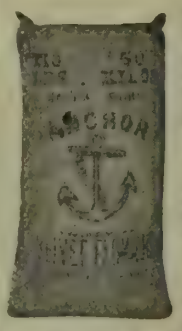

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Alfalfa Growers Fully Organized

Growers representing nearly 30,000 acres of alfalfa have signed up in the "Alfalfa Growers of California, Inc." The directors, at a meeting August 30, passed a resolution unanimously declaring that enough acreage had at that time been signed to justify permanent organization. Subscriptions have been steadily coming in since then, many of them without solicitation, according to Secretary Fred N. Bigelow, who is also secretary of the State Market Commission. Incorporation papers have been filed with the Secretary of State and the association is now fully organized as a growers' co-operative non-profit corporation, with one director appointed by the State Market Director to insure business safety. At an executive committee meeting, October 4, J. W. Thomas of Porterville was appointed general manager. Mr. Thomas has had almost nation-wide experience on the marketing end in both the West and the East. Headquarters will be in the Central Building in Los Angeles. Sales offices will also be established in San Francisco and with the "California Alfalfa Growers' Association" at Riverside. J. L. Farrar of Riverside and his helpers will continue an active campaign for new membership. Details of establishment and financing will be completed as soon as possible and the new association expects to be actually selling hay within two months. Reports of people plowing out alfalfa have been exaggerated, thinks Mr. Bigelow. The writer has personally met many farmers in various parts of the State who intended planting increased acreage this fall and next spring. Considerable alfalfa hay was spoiled by the rains, but the increase in feed due to the rains counterbalanced any effect the spoilage might have had on general prices.

Potatoes in the Weed Patch

[Written for Pacific Rural Press by R. E. Hodges.]

"I live in the Weed Patch and I'm proud of it," we can imagine George H. Peters saying; for the Weed Patch is one of the most fertile districts in the southern San Joaquin Valley, having been built up during the ages past by overflow from Caliente Creek at the foot of the Tehachapis. In the early days, it is said by persons more or less truthfully inclined, a man on horseback might easily get lost in the great weeds of this area, but he could travel as well by night as by day, for the tall weeds were mostly sunflowers. Mr. Peters is not responsible for any such wild tales and we believe that he tells nothing but the truth, which he can prove by next spring's crop, when he says that he harvested 15,000 bags of White Rose potatoes and shipped 11,000 of them to the East from 130 acres planted last spring. One 40-acre piece averaged 225 sacks per acre marketed. These reached the Middle West before their early potatoes were ready. Another crop is growing this fall from seed reserved from second sizes of the spring crop. These will be dug in mid-winter.

EXPERIENCE SHOWS BEST WAY.

Mr. Peters, according to Farm Adviser Myron A. Rice, is the pioneer and largest potato grower of the district. He recently sold his home place in the Weed Patch at 250 per acre, partly on the strength of the potato profits, and invested last fall in a new farm on the edge of the cultivated part of that district.

The field is plowed about mid-January at least eight inches deep and worked down ready to plant about February 1, depending on winter rains for initial moisture. The first irrigation comes about April 1, when the plants are three or four inches tall. The machine planter ridges dirt slightly over the seed pieces and a furrow is made between rows for the water. There is 15 feet fall in a half mile, the land being otherwise uniformly level, so there is no flooding of the plants. Flooding is to be avoided because soil would harden around the plants, where it could not be easily loosened. Irrigation and cultivation follow each other every seven to ten days even until a week before digging the spring-summer crop. Sometimes five irrigations are given. The vines should be kept a light green color. When they turn darker they need water. Mr. Peters was irrigating one end of his field last summer while digging the other. This was necessary because otherwise the vines would die down and the hot sun would injure potatoes in the ground if vine protection were thus removed. The spring-summer crop is dug with the vines entirely green, but the skins of the tubers are partially set and do not loosen badly. Two or three machine diggers are used and they have been found eminently satisfactory. One man with four horses and a machine digs about four acres per day, leaving the spuds on top of the ground uninjured. Vines were so thick on part of the place last spring that they had to be raked off ahead of the digger, which would have clogged up. Mexicans pick up the potatoes at 15 cents per sack. The cost was 10 cents last year.

POTATO GRADING PAYS.

They sack only the No. 1s, leaving the seconds and culls to be hauled to the shade and sorted later. The No. 1s go direct to the cars, which were shipped to the Middle West by the California Vegetable Union.

Grading is the hardest job to get done right under recent labor conditions; but Mr. Peters has always graded better than Government grades and has not lost at the market end. One man lost $400 on a car of ungraded potatoes which had to be separated from rots at the eastern end and graded there.

Land to be planted for the fall crop is furrowed as close together as convenient, irrigated so water goes down three or four feet, worked down with harrows and clod smasher. The working kills lots of weeds that sprout in the hot weather during and shortly after this irrigation. As soon as possible during the first 25 days of August the seed are planted by machines, each operated by two men with four horses. Right after planting another irrigation comes to keep the ground cool and bring the plants up. Not over three irrigations are given the fall crop, and October 15 is the final safe date.

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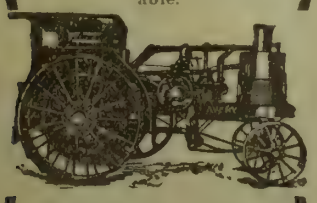

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Address _____

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Government Rule for Hay.

To the Editor: What is the Government rule for estimating weight of hay in the stack?—Subscriber, San Francisco.

[Circular 131 of the Bureau of Plant Industry, Washington, D. C., discusses this subject. A postal card will bring it to you. The cubic feet per ton will vary according to the kind of hay, its moisture content when stacked, how high the stack is, how long it has stood, how dry the atmosphere has been, etc. An average to figure from is 450 feet per ton. Alfalfa thirty days after stacking may weigh a ton per eight-foot cube. To find the cubic contents of a stack, the old Government rule is to subtract the width from the overthrow (distance over the top from the ground on one side to the ground on the other), divide by two, multiply by the width and then by the length. This is only approximate, as the cubic contents vary with the shape or relative height and width.]

Early Baart in Madera.

One hundred acres of Early Baart wheat on deep sandy loam summer fallow near Madera yielded six sacks per acre last summer for J. L. Davis. This had been plowed in winter and again in spring after rains were over and planted last fall at the rate of 75 pounds per acre under the lap of furrows from a Stockton gang plow, without any disking or other preparation. What came up early made a good crop, but much of the seed rotted in the ground from the early showers. Mr. Davis also planted 700 acres of fallow seventeen miles east of Madera in a similar way, Early Baart being used, as it is quite generally in his neighborhood; but in that community the yield was only 2½ sacks per acre this season. It was seven sacks per acre last year on a different part of the same ranch, while Sonora yielded only five. This is a light soil over hardpan.

Wheat Prices.

Argentina has a greatly enlarged wheat acreage, stimulated by the recent but unguaranteed price of $1.55 to $1.65 per bushel. The State Government of Australia has guaranteed 83 cents per bushel for wheat and the Commonwealth Government has allowed an additional 12 cents, making a total of 95 cents per bushel for their 1918-1919 harvest. The surplus from several harvests still on hand is estimated at more than 200,000,000 bushels, and the Commonwealth would like to sell at a price netting farmers $1.10 to $1.20 per bushel. Uncle Sam is guaranteeing $2.20 per bushel at terminals for No. 1 hard white wheat of the 1919 American crop, and there is a movement on to induce him to make it $2.50. Australia has probably sent a larger proportion of her men to war than we have. Let's plant some more!

Inoculated Vetch with Barley.

Two hundred sacks of barley were threshed from seven acres by S. W. Turner of Manteca last summer. He had broadcasted 216 pounds of barley on the piece right after the first rains, which soaked about six inches deep. He inoculated 300 pounds of vetch seed and broadcasted on top of the barley before harrowing it in. There was a good stand of both, but the barley stooled so freely (as many as 29 stalks on one root) and grew so high (about four feet) that the vetch was finally smothered out. In one place where barley seemed thinner both it and the vetch grew three to three and a half feet tall and was cut for hay. About one-third of the seven acres threshed had lodged on account of wind and only two-thirds of the grain on that part could be harvested. Mr. Turner is an enthusiast on inoculation of vetch and mixing it with grain for greater growth of both.

Delta Onion Acreage.

Stockton is the largest shipping point for onions (except the Bermuda varieties) of any place in the United States, according to the U. S. Bureau of Markets. Acreage in the Delta for 1917 was estimated as 5935 in San Joaquin county and 2133 in Contra Costa county, while the 1918 acreage, according to R. G. Risser of the Bureau of Crop Estimates is 7765 in San Joaquin county and 2133 in Contra Costa.

No Beets in Bermuda Grass.

It is out of the question to plant sugar beets where Johnson grass or Bermuda has a stand, according to J. C. Wood, a beet grower of wide experience in Tulare county. They would have to be hoed all the time, and enough labor is not to be obtained. Digging beets out of Bermuda is like digging them out of prairie sod.

All-Year-'Round Drying Plant.

After being closed for several weeks to make improvements, the drying plant of the E. Clemens Horst Co. at Wheatland reopened on the 7th to resume operations on potatoes. Two hundred people will be employed during the winter on drying vegetables, most of which will be taken by the Government.

Against Dry Seeding of Grain.

"We can't sow grain before the rains in most of Salinas Valley," said a grain grower recently. "Tocolote would be it, and anyhow, if weather turns bright after the first rain, a surface crust bakes so hard that the seedlings can't come through enough to make a stand."

Rye Cover-Crop for Potatoes.

Rye is being planted on sandy sediment soil as a cover-crop to be plowed under before planting spring potatoes, by George H. Peters of Kern county. He irrigated thoroughly through furrows. Leveling them down was all the cultivation needed before planting.

Names of Fertilizer Dealers.

"Commercial Fertilizer," by P. L. Hibbard, gives the list of fertilizer dealers of California, together with an analysis of various brands. Send to the University of California for Bulletin No. 286.

Guarantees for the 1919 Wheat Crop

To the Editor: Does the Government guarantee to buy what wheat we raise in 1918-19? What is the guaranteed price f. o. b. Turlock? What variety would you plant?—A. G. C., Turlock.

[The Government guarantees to buy your 1919 wheat crop if you do not sell it to a grain buyer or a miller and if you will ship it to a warehouse located on San Francisco Bay. It cannot be sold to the Government f. o. b. Turlock. If your wheat grades No. 1 hard white, the U. S. Food Administration Grain Corporation will pay $3.66½ per cwt., less 1 per cent administration fee. They will allow 15 cents per cwt. additional for the sacks if used only this time, but will deduct ¾ pound from the total weight to cover weight of sack. You must pay the freight from Turlock to the terminal warehouse, to be designated by the Grain Corporation. The wheat will be sampled and graded by a Federal grain inspector and payment made as soon as possible. Your wheat may belong to one of nine grades or it may be so smutty or mixed that it falls below any of them and will be valued according to sample. Club and Sonora bring lower prices than soft white grades. Hard white grades are highest priced. Variations are between $3.48 1-3 and $3.66 2-3 per cwt. Try Early Baart or Bluestem in your district unless it is too dry for anything but Sonora or Club.]

Increase Your Alfalfa Tonnage—Plant Germain's Hairy Peruvian Alfalfa Seed.

Germain's HAIRY PERUVIAN

Why not plant the kind of alfalfa that will give you the maximum yield? It is the patriotic duty of every farmer during these critical times to make each acre produce to the extreme limit. Hay prices are destined to soar sky high, according to the best authorities.

Germain's Hairy Peruvian is the *heaviest producer* known. It grows vigorously in all climates—does well at 5000 feet or at sea level.

Our limited supply is rapidly being sold out. Your order should be placed at once.

Edward Richmond of Wilmington, Cal., says: "I cut Hairy Peruvian alfalfa five times in six months from planting. Reserve 200 pounds more for me."

To be on the safe side order only Germain's Hairy Peruvian—sold only in sealed and stenciled sacks.

Before planting, inoculate seed with FARMOGERM and get larger and better crops, which mature earlier than crops from untreated seeds.

When you write please mention this magazine.

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Save money and harness for war

Leather is scarce and harness expensive because of the war. Make your harness last longer with Eureka Harness Oil. Gives new life to leather. Replaces natural oils dried out and protects leather fiber from dust, sweat and moisture, which cause rot. Keeps harness strong, flexible and jet black. No animal oils in "Eureka"; rodents dislike it and won't gnaw harness dressed with

EUREKA HARNESS OIL

MADE BY STANDARD OIL COMPANY (CALIFORNIA)

THE 1919 WHEAT CROP WILL BE INCREASED.

(Continued from first page.)

NEW VARIETIES.

It was expected that the Sperry field experiments with Australian and other wheats near Farmington might prove certain new varieties superior to our common sorts. It proved many of the varieties inferior, but at least two showed notable superiority in the tests there. Seed of these are not available for general distribution, but a few remarks will be interesting. The Sperry No. 1 or Bunyip variety yields as heavy as Early Baart, and has slightly better milling quality. It is as early, but is smooth headed. The grain weighed 64 pounds per bushel as against 63½ for locally grown Early Baart. The kernels are shorter, plumper, equally uniform in all qualities. This is the result of several hybrids made by the Australian plant breeder, Farrer, and fixed in type by selection several generations before being put on the market. Dart's Imperial is another smooth-headed variety yielding heavier than the two others mentioned, but it matures eight or ten days later, and flour from it makes a slight yellowish tinge in the bread, and the loaf is not quite so large due to the quality of its gluten.

EARLY SEEDING.

Whether the yield of wheat will be best from early or later seeding depends on the soil, other things being equal. The object of early seeding is to get winter growth of roots to be ready for vigorous spring growth of the tops. But too rank a growth of straw yields less than a moderate amount, and is liable to lodge, especially if spring winds or rains are heavy. The lodging and the rank leafy growth are more favorable to rust. Early planting on good strong land is likely to give too much leafage and straw, but on most grain land with a tolerable season wheat may well be sown as early as possible. Let us go ahead expecting enough rain at the right times.

HOW 1919 CROP WILL INCREASE.

We give below the seven ways in which the 1919 wheat crop may be increased as outlined by the Farm Bureaus: (1) One-tenth of the barley land if planted to wheat would alone make the needed increase; (2) new land formerly idle or used for pasture will be planted; (3) some land formerly dry farmed to wheat may be irrigated; (4) some fields could be fertilized; (5) smut can and certainly should be largely prevented; (6) early thorough seedbed preparation is needed; (7) best seed of varieties adapted to each locality will add to the average acre-yield. Shoot the wheat to the Boys Over There!

A LARGE UNDERTAKING.

G. A. Nehrhood of Paso Robles asks: "Should war conditions prevent the planting of fruit trees?" We confidently answer: "No." The chief industry of California next to livestock is horticulture. Our fruits and nuts go to every corner of the world. We must not stop the wheels of productive industry. In young orchards, on good ground, intercropping is practiced anyway. Mr. Nehrhood has bought 46,500 fruit trees, 80 per cent of which are almonds and 20 per cent French prunes, which he will plant out on the El Pomar Ranch, northeast of Atascadero. He has 2100 acres already bearing or coming in. Two-thirds of his almonds are Nonpareils, the rest are Drakes Seedlings and Texas Prolific. He claims to be raising more food (beans) per acre among the young trees, without irrigation, than the average grain grower produces in the open. And the trees are growing well.

Specialists in bee disease will be interested in Bulletin 671, "The Diagnosis of Bee Diseases by Laboratory Methods," just issued by the United States Department of Agriculture.

Get These Tractor Plow Advantages

in the

JOHN DEERE TRACTOR PLOW

Specially Adapted for Plowing in California

There is special satisfaction for you in using the John Deere No. 5 or No. 6 Tractor Plow because these plows are built to meet the particular plowing requirements of California.

They are unusually steady running. Controlled by the wheels at all times because the axles are rigidly fastened to the beams. Land wheel is set back, balancing the weight of the plow over all of the wheels and insuring even depth of plowing in uneven ground. The plows get down to position quickly and stay in the ground while plowing.

Exceptionally strong in every part. Beams warranted not to bend or break. Beam braces have extra long lap. Large bolts and lock washers hold all parts rigidly to place.

Simplest and most dependable power lift ever designed. No chains or sprockets. Powerful clutch engages positively, raising bottoms high and level.

Location of land wheel and front furrow wheel permits plowing close to trees or vines in throwing either to or from the row. Both levers out of the way of limbs while plow is at work.

Unusual clearance for unhindered work in trashy land or in deep plowing.

Quick Detachable Shares save time and labor without sacrificing strength or close fit. Loosen one nut to take a share off. Tighten the same nut and share is on tight.

Genuine John Deere bottoms wear, scour and pulverize to best advantage.

Hitch adjustable for any standard tractor. Two, three and four-bottoms sizes, 10, 12 or 14 inch cut per bottom.

You will find these plows especially dependable for better and longer service. Investigate them at your first opportunity. Your John Deere dealer will show them to you.

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To get these books, mention the implements in which you are interested and ask for package Pt. 22

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Plows, harrows, cultivates and drives a pump

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Leading motor car distributors praise ZEROLENE, correctly refined from selected California asphalt-base crude, because it maintains its lubricating body at cylinder heat and gives perfect lubrication with less wear and less carbon deposit. Get our lubrication chart showing the correct consistency for your car.

At dealers everywhere and Standard Oil Service Stations

STANDARD OIL COMPANY
(California)

Engines are either water-cooled or air-cooled. This, the air-cooled type, like all *internal combustion engines*, requires an oil that holds its full lubricating qualities at cylinder heat, burns clean in the combustion chambers and goes out with exhaust. ZEROLENE fills these requirements perfectly, *because it is correctly refined from selected California asphalt-base crude.*

The production of honey in California this year will approximate 12,000,000 pounds, it is estimated. On an average season price of 20c a pound, this would bring the apiarists of California about $2,400,000.

The California Tomato Growers' Association is taking action to compel members to fulfill their contracts in the face of a rising market.

General Agricultural Review

Field Crops.

The forecast for corn in California this year indicates a production of 2,644,000 bushels.

Stanislaus county has 32,513 acres of wheat this year as compared with 5043 acres last year.

Pumpkins, squash, persimmons and other "winter" stuff are beginning to arrive on the San Francisco market.

The California rice crop is an exceptionally good one this season, notwithstanding the damage done by wild ducks.

Fall sown potatoes in California have made excellent growth. The condition is 2 per cent better than a month ago.

On account of the long drouth in California this year, the oats yield suffered slightly in both quality and quantity.

The San Joaquin Valley Sugar Company is considering the expediency of moving its Visalia sugar factory to Corcoran.

Owing to the high price of beans this year, many of the threshed-over fields are being gleaned by women and children at a good profit.

Barley suffered severely from the late heavy rains. The yield this year is three bushels below 1917 and the quality 7 per cent lower.

The Clemens Horst drying plant at Wheatland has resumed operations on the desiccation of potatoes after being closed for some weeks to permit of improvements. It is thought the plant will be running all winter.

The cotton crop of California and Arizona, with its by-products, this season will reach a total valuation of more than $16,000,000, according to Food Administration officials who recently held a conference on the subject in Los Angeles.

Farmers in the Natomas district report that the prospect for a bean crop surpasses all estimates made some three weeks ago when damp weather threatened to cut the yield heavily. Harvesting there is now under way and yields are running around 80 per cent of the 1917 yield.

A Rural Press subscriber who visited the office this week showed the editor some very fine specimens of long staple Egyptian cotton grown this season on land near Wasco, Kern county, by Goertz & Unrah. It was planted May 10 and picking is expected to begin the latter part of this month. At this writing the stand looks good for a bale or more to the acre. It will be ginned at Bakersfield. The subscriber intends to increase his planting fifteen-fold next year.

Deciduous Fruits and Nuts.

The Newcastle Fruit Exchange is building a new structure for its shipping accommodations.

Greece expects to have a dried currant crop of 180,000 tons available for foreign export this year.

At the Goleta walnut house this year 70 girls are employed in separating the meats of the nuts. The quality of the nuts in that district is good.

Apple growers of Tuolumne and other mountainous sections of the State are urged by State Commissioner G. H. Hecke to organize and concentrate on standard varieties only.

County Horticultural Commissioner D. F. Norton of Nevada county says that 57,341 boxes of pears were shipped from that county during the season now closing up to October 1. The variety was mostly Bartletts.

The Sebastopol section in Sonoma county is said to be the most highly specialized of any early-apple district, although limited in extent. Gravensteins comprise 50 per cent of all apples grown in that section.

An emergency freight rate of $1.10 on this season's crop of apples from points of origin in Washington, Oregon and Idaho to the East has been agreed upon by representatives of the Railway Commissions of the three States, shippers and the Railroad Administration before the Interstate Commerce Commission. It is agreed that proposed 25 per cent increases be established on all other fruit, and same increase apply to apples where it would not put the rate above $1.10.

Grapes.

Shipments of grapes from California for 1918 to date almost double the amount shipped for the corresponding period in 1917.

The War Industries Board has been appealed to to allow the wineries to be opened to make some commercial product of the sugar and alcohol of damaged fruit, to save growers from heavy losses.

Citrus and Semi-Tropical.

Some Woodlake (Tulare county) lemons recently shipped brought $7 a box on the Philadelphia market, it is reported.

A 15-acre grove near Riverside will supply this year a large part of the citrons used in America in the celebration of the Jewish Feast of the Tabernacles. The citron is a close relative to the lemon.

Valencia shipments this season from Redlands have totaled less than 20 per cent of a normal crop. High prices, however, have materially consoled the growers for the small yield.

The Valencia orange season in Spain was the most disastrous in its history. The shipments were 660,788 cases, as compared with 5,000,-

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Blood, Bone and Tankage properly applied will increase your crop production. It's your patriotic duty to do this for bumper crops are necessary in Our Country's program of winning the War.

"Hauser's Organic Fertilizers are high-grade plant foods from the best organic sources. We have the right material and equipment to prepare Fertilizers to give best results under California conditions.

"Our Service Department will help you with your Fertilizer problems. Write for our booklet Fertilizer Efficiency."

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Partridge Peas

FOR COVER CROPS

Makes also a splendid crop for hog and cattle food. Splendid substitute for vetch seed, which is very costly this season and practically out of the market. Partridge Peas are sown broadcast 40 to 50 pounds per acre.

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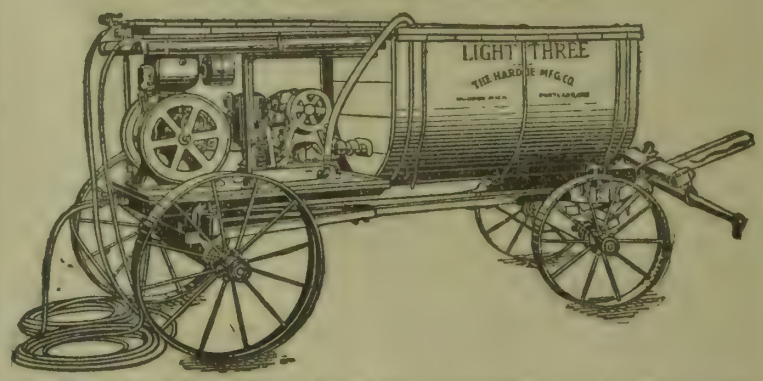

You don't buy a sprayer simply for the sake of owning it. It is not the possession that appeals to you. It is the service the sprayer gives you. We could do things at less cost, but what would we have gained? A cheap sprayer never satisfies. It gives trouble, requires repairs, fails when you need it most, and wears out quickly

The Hardie Quality Is Like Paying Less

Saving money is the same as making money, therefore every HARDIE SPRAYER pays dividends to you through its low upkeep cost and its greater durability. High pressure, light weight, large capacity, powerful engine, perfect agitation, simple construction, and the tank rebuilder. The HARDIE SPRAYERS have features that are valuable in correct spraying, and not found in others. Send for the spray catalog, it is worth your time; the truth is there, backed by the largest exclusive spray pump manufacturer. Place your confidence in a Hardie and your spraying will be a success.

THE HARDIE ORCHARD GUN GUARANTEED OR YOUR MONEY REFUNDED.

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Money In Stump Land

UNCLE SAM says the "K" Hand Power Stump Puller is O. K. Uncle Sam also says turn your stump land into valuable land and produce more. Stump land can be turned into profitable land at a small expense which means more money to you. You are paying taxes on stump land. WHY?

Now is your opportunity

One man or woman singled handed with a "K" Stump Puller can pull from 50 to 150 stumps per day at a cost less than ½ the cost of a horse power machine and about ¼ the cost of dynamite.

NO STUMP TOO BIG FOR THE

HAND POWER K Stump Puller

Simple as rowing a boat. No up-keep. Works on hillsides or marshes where horses cannot work. Weighs 171 pounds—easily moved from place to place. Absolutely guaranteed against breakage. Endorsed by the United States Government.

IMPORTANT—To one man in each locality I will make a special money saving offer. Write for it today.

FREE BOOKLET—Simply send your name and address for my free booklet on Land Clearing. It tells many things you should know.

Walter J. Fitzpatrick Box 12, 182 Fifth St. San Francisco, Cal.

000 cases before the war. England and Norway were the only accessible markets.

Lemon picking is now in active progress in the Porterville district. Shipments from this section promise to fully double those of last year. The fruit is of a high quality and price conditions in the Eastern markets are improving rapidly.

ANNUAL MEETING CONTRA COSTA CO. FARM BUREAU.

The first annual meeting of the Contra Costa County Farm Bureau was held at Martinez, Saturday, October 12, which brought out an attendance of about 700 farmers. Frank T. Swett, the president, reviewed the work of the bureau and its adviser, Carl Nichols, telling of the successful fire-fighting apparatus installed seed wheat introduced, new silos built, and other work started. Other speakers were Col. John P. Irish, on the Liberty Loan, Food Commissioner Miller of Fresno, and C. G. Johnson, State Sealer of Weights and Measures.

In connection with the meeting an exhibit of products grown in the county was made and eight tractors gave demonstrations in field work.

THE SPIRIT WHICH WILL WIN THE WAR.

To the Editor: I have received your letter in relation to farmers buying Liberty Bonds and would say I cannot buy any more now until the first of next month. I have three sons in the army and you can depend on me to do all I can for the boys. And with the help of God we shall win this war.—T. R. Harper, Sr., Fallon, Nevada.

DEATH OF E. WIGHTMAN.

E. Wightman of the Chico Nurseries died last Thursday, October 10. T. E. Harlan, his partner, is reported to be a very sick man. F. X. Bouillard, president of the company, is running its affairs for the present.

American Bean Crops

[Written for Pacific Rural Press.]

Eastern bean crops occupied much less acreage this year than last, and damage to the growing fields has been severe. Rain, frost, and disease last year reduced this season's acreage in Michigan and New York, which are the chief producing States in the East. Drouth cut this year's Michigan crop so their total will be under 3,000,000 bushels. The New York acreage was reduced about 25 per cent and that will yield only about 50 per cent of a good crop. The Colorado acreage was increased, but the total crop is estimated at about 90 per cent of last year. This reduction is largely due to 30 to 40 per cent damage in Weld county, which produced half of Colorado's crop last year. California, which in 1917 produced more than twice as many beans as any other State, has a greater acreage this year, but drouth and red spider reduced the prospects for a total crop to about 90 per cent of last year, and the recent rains have reduced the estimate to about 60 per cent of last year. Loss has been more from shelling out from the pods onto the ground than in reduced quality of those remaining to be threshed. Large quantities of beans exposed to the weather have sprouted and are no good for anything.

MARKETS.

Some foreign beans are held on the Eastern seaboard this fall, and pressure for the marketing of poor quality left-over stuff of last year's Michigan and New York crops combined to depress prices temporarily. But there is every reason to expect the market to strengthen. While bean prices for Government requirements have not been set, Lompoc dealers sold some small whites at 10½ cents before the rains. The high price here last year was $12.75 per cwt., but the Government price was $11.50. The California Bean Growers' Association figures that the cost of producing this year's crop has been 20 per cent greater than last. This is expected to influence the Government price for 1918 beans, along with the scarcity due to short Eastern crops and rain damage in the West, so prices ought to be higher.

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1 It requires less power than other pumps
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Why use a centrifugal pump when you can purchase a Wonder pump at the same price

IMMEDIATE DELIVERY GUARANTEED

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Valley Seed Company

Sacramento, California
(THE FIELD SEED HOUSE)

COVER CROP SEED

If you're planning to put in a cover-crop, we have the following varieties of seed that should interest you:

Melilotus Indica	$ 9.00 per 100 lbs.
Melilotus Alba	32.50 per 100 lbs.
Canadian Peas	10.00 per 100 lbs.
Vetch	11.00 per 100 lbs.
Rye, "Rosen" Type	6.00 per 100 lbs.

With orders for Vetch and Canadian Peas we offer **without extra charge** bacteria sufficient for inoculating whatever quantity of seed that is required.

Our "ROSEN" type of Seed Rye is an improved strain, grown in Minnesota, and very much superior to the Rye that is generally offered. Get a sample of this and compare it with common Rye.

ALFALFA

Don't buy any until you get our samples and prices. No one can clean seed as we do; our separating machinery is positively the most modern, and if you will order our CALIFLORA Brand you will receive stock that is as free from impurities as it is possible to get seed.

CALIFLORA Brand ALFALFA
$22.00 per 100 Lbs.

We have grades like others offer for less money than you pay elsewhere.

WE PAY THE FREIGHT
To your Railroad Station
at Prices above Quoted

Valley Seed Company
506 J STREET, SACRAMENTO, CAL.

State Farms for Settlers

Thirty-one Farms and five Farm Laborer's Allotments in the State Land Settlement at Durham are now open to the inspection of intending settlers. Applications will be received up to noon, November 20, 1918. For particulars regarding prices, terms of payment.

Address GEORGE C. KREUTZER, Superintendent DURHAM, CALIFORNIA

Your Soil Needs Amboy GYPSUM

California citrus soils are extremely deficient in limes, sulphates. Amboy Gypsum furnishes these—makes available other necessary elements. Increases crop yield. GYPSUM BOOKLET FREE.

Consolidated Pac. Cement Plaster Co.,
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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

OPPORTUNITIES FOR POWER INSTRUCTION.

[Written for Pacific Rural Press.]

When so many people are buying motor trucks, automobiles, and tractors, and when so many of our mechanics have gone to war industries, woe betide the operator who gets into trouble. Repairs are likely to be made by someone who knows little about the machine but is an expert at charging prices. A man may learn well by experience how to keep his machine going, but it will be stopped a lot while he is learning, and the time lost is worth far more than repairs cost. Now, when steel for all kinds of tractors, trucks, automobiles, and farm machinery is being reduced, it all the more behooves every operator to give his machines the longest life possible. He cannot do this unless he knows how. To know how is more or less expensive—but we believe it is less expensive if learned at one of the many tractor schools and short courses now available. The University Farm Agricultural Engineering Department has been holding such short courses and will continue to do so. Several of the tractor companies have staged local short courses of great value. Several regular commercial schools are making a business of training men and women for the most intelligent and therefore profitable use of machines. We were recently privileged to inspect the National Automotive School at Los Angeles. This includes a large two-story building for shops, lecture rooms, and practice work. It also includes a ten-acre farm on which several tractors of both wheel and track types are operated, disassembled, and repaired by students. In the school building the garage part is always well filled with automobiles, trucks, and other machines of every make that has troubles, brought here by the public for students to work on at a much lower price per hour than is charged in commercial garages. Their work is done well, however, for it is under the close personal supervision of experts who act as instructors. The students on graduation are fitted for commercial garage work of a better nature than is commonly available now, but there are not enough of them. About 100 students were at work when we looked over the school. They were so distributed that none were in others' way. Some were hearing a lecture on carburation. Others were remodeling, rebuilding, and recharging batteries of various makes that had been sent in for repairs. One room has magnetos of all makes, more or less disassembled, to be rebuilt by students, placed on engines and operated right there. Carbureter adjustment is also learned by use of all the carbureters made. Wiring and timing and all other operations are learned in the class rooms with real machines before students are put onto commercial work. Pouring babbit, fitting bearings, grinding valves, tightening connecting rods, winding armatures, oxyacetylene welding, vulcanizing, lathe work, drilling, cylinder boring, practice and study of every make of self-starters, study of lubricating systems, gear shift systems, air and water cooling—these are a few of the complete list of studies combined with actual work that the students get in the various courses. Just now the school keeps a list of people about town who will furnish board and room for help at house work or odd chores.

With other schools of a similar nature, with all the short courses and opportunities to learn, a farm boy, old or young, who does not learn the operation of power machinery where he can get the learning in condensed form with least expense and least loss of time—such a one is not on the road to the front.

CLASS LEARNING TO OPERATE A TRACTOR.
The cheapest way to learn to drive tractors, trucks, automobiles, and engines is to take instruction in condensed form from those who know.

CHARGE FOR TRACTOR WORK.

To the Editor: I have an S.25 tractor and on account of labor shortage some neighbors want to exchange team work for tractor work, they to furnish engineer, oil, and distillate. On what basis per eight-hour day could this be done?—Subscriber.

[Your tractor is guaranteed to do the work of eight horses. Therefore it is worth to your neighbors as much as the use of eight horses would cost them in your locality, plus the difference in wages of several horse drivers and one engineer, plus the amount they save by buying oil instead of horse feed, and plus the advantage of getting their work done properly and timely. See our issue of September 28.]

RAIN AUGMENTS ELECTRICAL POWER.

Recent rains have added so much water for power and irrigation from mountain reservoirs, and the demand for electric power for irrigation has let up so much, that on September 30 State Power Administrator H. G. Butler removed restrictions which were imposed the middle of July on use of electricity by gold dredgers, cement plants, and sand, gravel, and crushed rock plants. The restrictions may be reimposed if no additional rains come in October. Gold dredgers are pronounced essential industries, and the other plants named have been reduced to a minimum by Government restrictions on building.

ALLIES IN THE FIGHT

Model S-25

Samson

GMC TRACTORS SIEVE-GRIP GMC TRACTORS

Tractor

The "Sammies" at the front and the "Samsons" on the farm have proven their effectiveness. Both have been tried and found not wanting. Both are doing their parts successfully in their respective fields of effort, the result of careful selection approved by rigid tests.

In the "Sammie" is crystallized all the dominant features of the ideal soldier. In like measure, we have embodied in the **GMC SAMSON SIEVE-GRIP TRACTOR** all the features of the ideal tractor,—simplicity, strength and endurance, coupled with economy in operation and ability to meet the most exacting demands day after day, fair weather or foul.

The **GMC SAMSON SIEVE-GRIP TRACTOR** stands on a sure foundation,—a record of nearly two decades of service.

The **GMC SAMSON SIEVE-GRIP TRACTOR** displaces ten horses on the farm and is adapted for countless uses, stationary and otherwise, for many of which horses are not suitable. These labors it performs quicker, cheaper and better than any other power.

The strength of its working parts and its dust-proof motor assure long life and low-up-keep cost. By reason of its simplicity, a skilled mechanic is not required for its successful operation. Its steering device makes operation easy for the driver, without strain on operator or machine. Its lubricated roller pinions deliver maximum power to the drawbar with least friction loss.

Let us send you our latest booklet, Better Farming.

Samson Sieve-Grip Tractor Co.

DIVISION OF

GENERAL MOTORS CORPORATION

STOCKTON, CAL.

Added protection with Mica Axle Grease. Powdered mica—a mineral lubricant, practically wear- and heat-proof—mixed by special process with highest-quality petroleum grease, keeps spindles smooth and cool—no hot boxes, resists wear and pressure and makes the grease last twice as long. Get a can from your dealer today.

STANDARD OIL COMPANY (California)

CARBON UNDER TOP PISTON RING.

[Written for Pacific Rural Press.]

The principal complaints from tractor users that E .S. Herman, engineer on the road for the Standard Oil Co., encounters are overheating and carbonizing. Mr. Herman's business is to see that troubles do not arise from use of Standard Oils. But in carbonizing, especially, the oil is often incorrectly blamed. The commonest carbon trouble, except on spark plugs, is found under the top piston rings. Mr. Herman has found complaints from this cause more numerous in winter than in summer.

To understand the reason for the trouble, it is well to remember that the piston rings are designed to have about three times as much clearance at the top as on the skirt. In a 7½-inch piston the clearance of the top ring is intended to be about .02 of an inch when cold, while the third ring down has only .0075 clearance. The reason for this is the greater heat experienced by the upper part of the piston and its consequently greater expansion. Due to the 2700 to 3000 degree of heat and to the top ring getting the first full force of the explosion and transmitting the force to the piston via its groove, the groove tends to become worn. This wearing adds to the extra space around the ring. Now when the engine is primed with liquid gasoline, these spaces make an ideal trap for the excess. And it is often some excess, too! Some tractor drivers think that if a little is good more is better and they give each cylinder a good dose. There cannot be enough air in the explosion chamber to vaporize such a charge in the right proportion for complete combustion. Occasionally also the engine is primed as many as five or six times. The unburned or partially burned gasoline which has been trapped around the first piston ring bakes and accumulates, tending to stick the engine. More priming is generally used in winter than in summer.

A tractor driver, hearing Mr. Herman tell of this trouble, volunteered the suggestion that part of the carbon under the upper ring is due to lubricating oil pushed up by the tighter rings below and then burned due to the high heat, leaving carbon deposit.

Mr. Herman stated, however, that only four or five per cent of the carbon under the upper ring comes from lubricating oil, while the rest is fuel carbon and dust. P. R. Melchert, also of the Standard Oil Co., mentions engines in which the priming cocks are on one side. The heaviest carbon is found in an arc of about 40 degrees on that side. The way to avoid most of this trouble is to prime judiciously or use another means of warming up the engine. With zero weather in Nevada a few years ago Mr. Herman found the best way was to heat the manifold with a gas torch.

SCALE IN WATERJACKETS.

Steam-engine men must keep scale out of their boilers. They use a compound. Tractor drivers must keep scale out of the waterjackets and radiators. Dissolve seven or eight pounds of sal soda in hot water and fill the radiator. Operate all day and flush out at night. It takes the scales, but if they are bad the operation may have to be repeated. This will not hurt hose or canvas.

POWER NOTES.

A public utility must deal courteously with consumers and avoid arbitrary practices, as ordered in a recent decision of the State Railroad Commission in a water service case.

A steam tractor cable outfit is used for digging sugar beets at King City, Monterey county. A big tractor at each end of long rows winds on a drum the cable which pulls the digger across and back as the engines move ahead for each pull.

Unlock The Soil!

Get big yields. Go down deep to the root of things and unharness the energy that shallow cultivation fails to reach.

Clark "CUTAWAY" DOUBLE ACTION DISK HARROWS

increase the acreage yield

The rigid frame gives double cultivation, mellows and *levels* the land. This is important to *you*—saves teams, time, labor. Learn about it.

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It is full of valuable information about proper soil cultivation. Accompanied by our complete Implement Catalog and your nearest dealers' names.

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Full Power From Every Drop of Kerosene—No Waste

WATERLOO BOY

Original Kerosene Tractor

Waterloo Boy tractors are unfailingly successful in operating on inexpensive kerosene. The short superheated Waterloo Boy manifold distills kerosene into fuel of great volatile force—carries every particle of gas in the cylinders without loss of explosive power through condensation.

That's why the ***Waterloo Boy*** three-plow, one-man tractor plows 8 to 12 acres per day on less than 2 gallons fuel per acre. Every drop of fuel is turned into practical, tangible power for use in field work or on belt jobs.

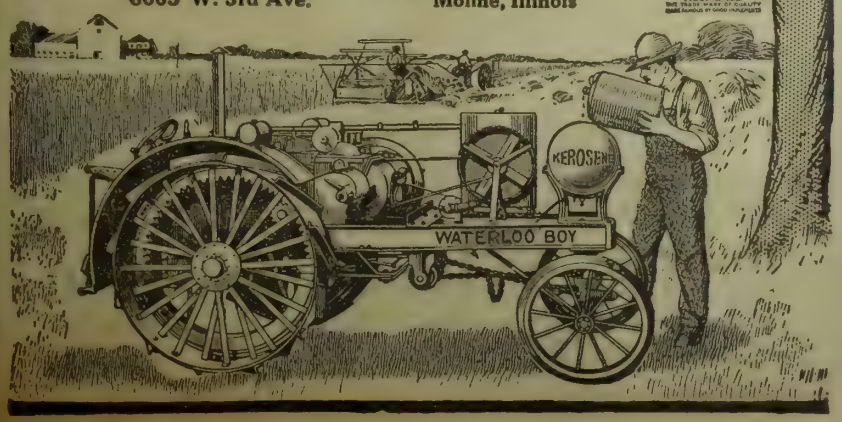
Mechanical Excellence Backs Up Power Ability

We purposely built this tractor strong for the strain you are likely to put upon it, and stand behind it with a positive quality guarantee.

Dust proof gear construction, perfect automatic lubrication, complete and easy accessibility of gears and bearings, easy control, make it trouble proof in inexperienced hands.

There are other reasons why thousands of farmers are satisfied with their ***Waterloo Boys.*** Many of these users' testimony is presented in our catalog—accompanied by actual photographs of the ***Waterloo Boy*** in action. Write for it.

JOHN DEERE
6005 W. 3rd Ave. Moline, Illinois



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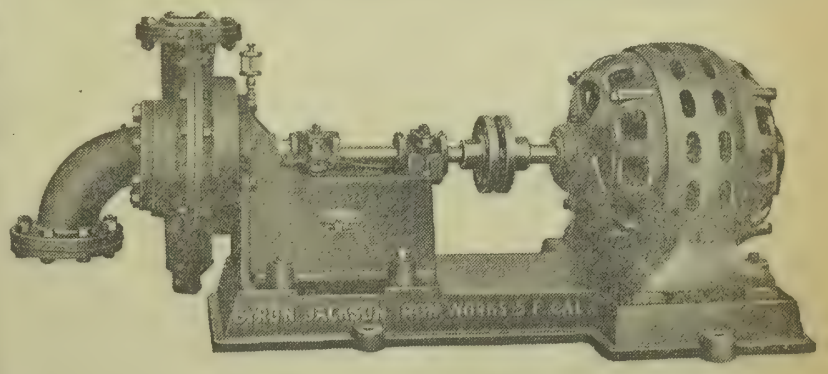
Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



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New Catalog No. 60-A for the asking.

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Cleveland Tractor

$1600 f. o. b. Los Angeles
F. T. Briles, S. Cal. Distributor
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Avery 8-16 H. P. Tractor; has only plowed 80 acres. First-class condition. Owner could not meet payments on account of loss of bean crop.

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Sizes 2 to 30H-P.—Select Your Own Terms—Direct-from-Factory prices. Write your own order—Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE—by return mail, Postpaid.

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Money Back if not satisfied on my New 90 Day Engine Offer

CALIFORNIA HOG BOOK, $2. By W. S. Guilford
Pacific Rural Press, San Francisco.

Shall We Put in Milking Machines?

Written for Pacific Rural Press by R. H. Whitten

One day a woman called on her physician and told him that she felt wretched. "Let me see," reflectively remarked the doctor after his usual preliminary examination, "have you been eating anything before going to bed?"

"No, doctor," responded the patient, "not a thing."

"That's the trouble," returned the physician. "Just keep a glass of milk and some crackers in your room and every night eat a light meal before retiring."

"Why, doctor," exclaimed the patient in a surprised voice, "you told me never under any circumstances to eat anything just before retiring."

"Quite true," rejoined the physician, "but that was several weeks ago. Medical science has made enormous strides since then."

Enormous strides have been made along other lines, too, and perhaps in no other field has there been greater progress than in the making of milking machines. Not many years ago these machines were thrown out about as fast as they were installed, and generally for good reasons. In fact, I know of one case where a dairyman sued the manufacturers of the machine he had been using, claiming that it had ruined his cows, and he won his case.

But it was no more than natural that when these machines were first put on the market they should have a number of serious imperfections. However, through the aggressiveness of the dairymen who have taken up the mechanical milker, criticised its performance and suggested improvements, it has rapidly approached perfection and may now be considered not only a machine that will give satisfactory results, but also an essential part of the equipment of almost every progressive dairyman.

Progress! Efficiency! These are the watchwords of successful farmers nowadays. There is not a farmer who would think of cutting his wheat with a cradle, threshing it with a flail and grinding it between stone burrs. These methods were once very satisfactory, but they are out of date now. They had to give way to the modern binder, thresher and flour mill. Everywhere machinery is taking the place of hand labor and is doing the work more uniformly, rapidly and economically—in short, more efficiently.

But there is one branch of farming that until recently has been inefficient, and that branch is dairying. For centuries farmers had "harvested" milk by hand, but the clinging to this old method has brought many trials and has involved many labor difficulties. The demand for dairy products has increased constantly, yet each year has brought more serious discouragements in the way of high-priced help; in fact, in many cases it has been impossible to secure steady, dependable hand milkers at any price on account of the drudgery of the work.

So, many dairymen have been forced to turn to milking machines by adversity and absolute necessity, and not only have had their labor problems solved, but have been convinced that for real efficiency and general satisfactory results machine milking is as far ahead of hand milking as the modern binder and thresher are ahead of the cradle and flail.

It is true that even now we have some cases of apparent failure of the milking machine to do satisfactory work, and dairymen give them up in disgust, but when they are traced down to the bare facts it is usually found that the machine has fallen into the hands of an inefficient operator.

MAN THE DETERMINING FACTOR.

Any of the standard makes of milking machines now on the market will prove satisfactory in the hands of a competent operator, but it will not give satisfactory results if not intelligently operated. In other words, the results will depend more upon the operator than upon the machine used. No matter how efficient the latter may be, it is only a machine, and the human factor is important, not only in operating it but also in taking care of it.

This article is not written to help dealers make sales. Instead, we have the interests of our subscribers at heart first, last and always. Consequently we feel that we should criticise the claims made by some manufacturers that their machines can be successfully operated by a ten-year-old boy or girl—that such a child can take the place of two hand milkers.

Prof. Larsen of South Dakota sums up this matter well in his explanation of why the milking machine is successful with one man, and yet his neighbor, with the same kind of a machine, does not secure similar results. He says: "The man, the cow, and the machine—all three factors must work harmoniously and understandingly together, otherwise the milking machine is not going to be a success. If anybody thinks that he can buy a machine and just hitch it onto his cow and start his machine as though he were tapping a barrel, he is mistaken. He must remember that the cow is a living individual; that the person operating the machine must not only understand the machine but also the cow. If a man has a sympathetic understanding of a cow and a good understanding of the machine, and is able to work these three things together, the milking machine cannot help but be a success."

"Them's our sentiments," and instead of making you believe that an infant in its swaddling clothes can run a milking machine we want to impress upon you that it will require more intelligence and judgment to operate and care for it properly than is displayed by the average hand milker. So don't put in a machine until you have, or can get, the right kind of a man to operate it.

GREATEST SAVING IN LARGE HERDS.

Also, we differ from manufacturers in their statements that milking machines will pay on all farms where there are six or more cows. Considering the cost of installing an outfit, the upkeep and depreciation, and the way labor is generally used on farms having such small herds, we doubt if mechanical milkers would be practicable. We would not advise them for herds of less than fifteen or twenty cows.

In herds of fifteen or more cows they will reduce the labor cost considerably—the larger the herd the more the saving. The Department of Agriculture made investigations in dairies of different sizes, with the following results, the first column of yearly cost figures being for machine milking and the second for hand milking.

15 cows or less	$7.39	$10.91
16 to 30 cows	7.31	10.26
31 to 50 cows	6.03	10.11
51 cows or more	4.47	10.45

These figures were compiled in 1916 and the differences would be far greater now, so there is no question about the saving in labor by the use of mechanical milkers in herds of fair size.

COWS TAKE KINDLY TO MACHINES.

The first question that is generally asked by an investigator is: "Do the cows object to the machine?" No! The milking machine imitates nature so closely that cows very quickly adapt themselves to it; in fact, judging by the quiet way most of them stand, you would swear that the machine had fooled them into thinking that their calves were doing the work.

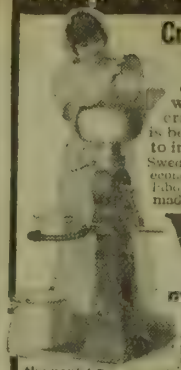
Occasionally a cow—usually an old one—objects, but for that matter it often takes cows several days to get used to a new hand milker, and if a reasonable amount of kindness and patience is used practically

Women are making good as milking machin e operators. This up-to-date milkmaid milks 55 cows twice a day, thus allowing her father to spend his entire time in the field.

WANTED

HONEST, competent milker wants job. Not subject to draft. Quiet, courteous, and contented. Does not booze, never sick, always on hand. Never abuses cows or strikes for higher wages. All it asks is to be kept clean and treated decently. Inquire of any dealer handling milking machines. He can tell you all about this faithful helper and solve your labor problem.

Stop Cream Waste!



Cream Means Dollars

IT is like throwing dollars away to waste cream these days. It is worse than waste—it is a crime. Yet good, rich cream is being fed to the pigs owing to inferior separation.

Sweden has perfected the most economical, fastest and easiest labor-saving cream separator ever made. This is world-famed

VIKING CREAM SEPARATOR

OVER ONE MILLION IN USE
Guaranteed for a Lifetime

You, too, can save all your cream with the Viking. It will pay you to investigate. Look up the Viking dealer the next time you are in town. See the Viking in action

Get These Two Free Books

They are packed full of profit-making ideas, methods, systems for the dairy farmer. Write for them right now.

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FUIMUS FARMS

JERSEYS

HAVE BOTH TYPE AND PRODUCTION.

We exhibited four calves at the California State Fair, 1918. We were awarded—

Reserve Grand Champion Cow
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First Senior Bull Calf
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Third Get of Sire

If you want our kind write or call.

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Consider for your next Herd Sire
a Son of
Colantha Sir Pontiac Aaggie
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who has two daughters with records above 32 pounds; 20 other daughters that all have outstanding records as heifers.

Our offering this fall in young sires you will find particularly attractive.

GOTSHALL & MAGRUDER
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RIVERVIEW FARM

Offers the 17-month-old Holstein-Friesian bull

'SEQUOIA ZOZO PIETERTJE'

This bull's dam, who is also the sire's dam, is a cow of outstanding size and type with a semi-official record of 20252.4 lbs. of milk containing 735.69 lbs. fat, or 919.6 lbs. of 80% butter. Record at age of nine years. **Price $250.00.**

For photos and pedigree apply,

R. F. FISHER, Carlotta, California.

We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly —mail you a copy free if you request it.

BREEDING DATE BOOK — HERE

California Breeders Sales & PedigreeCo.,
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22 REGISTERED HOLSTEINS

FOR SALE

TWO GREAT HERD SIRES

One a son of King of the Pontiacs and out of a daughter of King Segis Pontiac, the other out of the great cow, Alba Sadie Cornucopia Cutia, 34.14 lbs. Cows all young, ten milking and eight to freshen soon. Ten of them granddaughters of the King of the Pontiacs.

Tuberculin Tested. Priced Right.

E. O. McCLURE - - Santa Ana, Cal.

THIS BULL Will Increase Your Butterfat

He is out of a daughter of Prince Riverside Walker and is a typey son of Model Francis Glista. Both of the above bulls are out of great producing families. Write or come and see him and other Holstein stock we have for sale.

C. C. SLATER, Pacheco, Contra Costa County.

LibertyFair Postponed

The opening date for the California Liberty Fair at Los Angeles has been postponed from October 12 to October 26. However, the Livestock Show was not to have begun until the 20th, so there will be a delay of only one week. All barns are now ready and exhibitors who desire to ship earlier may do so. Let's all get together and make the fair all the better because of this unavoidable postponement.

every cow can be made to stand for machine milking and to give down her milk freely and fully. Records show that in many herds the production has been increased, and the cows have held up even better toward the end of the milking period, thus increasing the yield for the year.

This probably is because the mechanical milker is not subject to the physical strain of the hand milker and milks exactly the same at every milking. There is a limit to human endurance, and no man can milk the last cow in a string of thirty as well as the first. Furthermore, he may have his off days; he may hate certain cows; he may not be able to do good work with cows having small teats, and so on. But mechanical milkers are self-adjusting. All cows look alike to them, and they get good results whether the cows are hard or easy milkers, have large or small teats, are nervous or calm.

We have heard considerable about milking machines injuring udders, but if they are properly adjusted this cannot be proved of any modern make. The teat cup is even more gentle than the human hand, and machine milking will tend to put an end to udder troubles instead of increasing them.

MORE SANITARY MILK.

We hear constantly that milking should be done in small topped pails, or those protected by strainer cloths, but the milking machine beats any of these processes because there is no opening at all for stable dust and dirt to get into the milk. Consequently milk with very low bacteria count can be produced if the machine is properly cared for, but if it is not kept well cleaned it is far from sanitary, and the milk is not in as good condition as that drawn by hand. However, the modern machines are easily cleaned, and with a reasonable amount of common sense and painstaking care a superior grade of milk can be turned out.

FASTER THAN HAND MILKING.

Investigations carried on at both intensive dairy plants and mixed dairying and farming enterprises showed that the average time required for hand milking was about 7 minutes and for machine milking 4.15 minutes. Consequently, figuring that machine operators handle one double, three single or two double units at a time, it will be seen that a herd can be milked much more rapidly and with less help than by hand.

It is generally figured that one man can milk from twenty to twenty-five cows an hour. Often a boy is employed to carry the milk, and in such a case the number can be increased to about thirty by working more units at a time. All cows must be stripped by hand, not only because the strippings represent the richest part of a milking, but also because a cow will dry off to a certain extent unless she is milked clean at each milking.

HOW TO BUY A MACHINE.

Use the same business judgment in buying a milking machine that you would in buying a purebred cow. You are interested in other things besides the looks of a cow; you want to know about her pedigree and her record. Buy a milking machine the same way. Investigate its past record. Be sure that it has been on the market long enough to prove its worth. Find out which machines are standing up best under years of service. Get the different dealers to give you the names of users, and inquire into the effects of the machines on the herds—milk production, udder troubles, effect on lactation periods, etc.

Don't buy an outfit unless a guarantee accompanies it; and if the makers maintain a service department near at hand so much the better. A milking machine wouldn't be a machine if it didn't break down once in awhile, and if there is a local agent upon whom you can rely at all times for service it will save you many delays, losses and cuss words.

Don't wait to investigate until after your milkers have quit and you are right up against it and are forced to make the change. It is much better to investigate at your leisure and to give a machine a trial when you have plenty of help, and the necessary time can be taken to learn how to adjust and operate the machine properly.

Properly handled, a milking machine will convert a dairy ranch into a place of everlasting bliss. Without it, the place will be one of everlasting blister.

NAPA COW STILL GOING STRONG.

To stand and look at Raphaella Johanna Aaggie 3rd, quietly grazing in the alfalfa field on the State Farm at Napa, you would hardly suspect that you were looking at perhaps the most wonderful cow in the world. But such she is proving herself to be from these records, furnished by V. L. Heath, manager:

Record for seven days, 33.4 lbs. butter, 930.2 lbs. milk; best day's milk, 137.4 lbs. Thirty-day record, 129.6 lbs. butter, 3790.6 lbs. milk. Holds world milk record for 157 days by a margin of 290 lbs. Made an average of 96.4 lbs. milk per day for the entire 265 days on test. Best seven-day butter record, eight months after calving, 21.9 lbs.

Suppose you had a few cows in your herd even half as good as this one. There would be some increase in the size of your cream check, wouldn't there?

1918 GUARANTY HOLSTEIN SALE.

Following the annual meeting in September, President Fred W. Kiesel of the California Holstein-Friesian Association was empowered to appoint a committee of selection to pick out cattle for the 1918 Guaranty Sale. The committee, composed of H. V. Bridgford, James W. McAlister, Jr., Frank L. Morris and C. L. Hughes, has already begun its work and is reported to have secured the highest record Holsteins ever offered on the Pacific Coast.

The sale will be held at the State Fair Grounds, Sacramento, Thursday, December 5, and will be under the management of the California Breeders Sales and Pedigree Company. Fuller announcement will be made later.

THE NAPA COUNTY FAIR.

The Napa County Fair, postponed from August 23-25, was held last week. Difficulty in securing help affected the livestock show, so there was practically no competition. Fred Johnson and H. E. Boudier showed some good Durocs; Maplewoode Farm a few good Berkshires, including the junior champion at the State Fair. R. Frisbie showed Poland-Chinas. The Napa Hospital showed Holsteins and Wm. Mitchell, Jerseys. Philip Duffy showed Shropshire sheep. The poultry show was small but of good quality.

The following districts contributed to the agricultural and horticultural exhibits: Pope Valley, Oak Knoll, Coombsville, Fly, Carneros, Brown's Valley, Salvador and Soda Canyon.

Recently the California Central Creameries Company of El Centro introduced a new plan of issuing cream checks weekly. The plan has met with the hearty approval of dairymen and is already being considered in other sections.

Don't Miss

the exhibit of Beef Cattle at the California International Livestock Show.

Practical patriotism—if nothing else—should prompt you to come and see what is being done—what *you* can do—to improve the livestock production of the nation.

There will be REAL Competition

not only in the Beef classes but in the Dairy Breeds, Hogs, Sheep, Horses, Poultry, etc. $38,000 in Premiums.

Special features: Night Horse Show, Band Concerts, Military Spectacles, etc. Every possible comfort for exhibits, exhibitors and spectators. You'll be welcome!

Special railroad rates from all points

For detailed information address Joseph E. Painter, Manager, 1205 Merchants Exchange, San Francisco.

(4)

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

SAN FRANCISCO - NOV. 2-10, 1918

—Litter Carriers
—Feed Carriers
—Sanitary Steel Stalls
—Hay Tools
—Bird-proof Door Hangers
—And other labor-saving equipment

MAKE YOUR WINTER BARN WORK EASY

You can no more afford to clean out your barn with a wheelbarrow than to cut your wheat with a cradle. One cuts into your legitimate profits just as surely and as deeply as the other—**it robs you of money** which should be in the bank, and of luxuries which should be in your home.

LOUDEN'S LITTER CARRIER OUTFIT

stops the waste. Makes work lighter and life pleasanter—*especially in winter.* Saves daily many hours of the hard disagreeable work—*barn cleaning with a wheelbarrow in cold, wet weather.*

Catalog, barn plans, and full information FREE. Write today.

California Hydraulic Engineering and Supply Co.

68 Fremont, San Francisco — 424E Third, Los Angeles

The Cost of Feed is NOT HIGH

when you mix your rations with COPRO, the economical COPRO. For nourishing cattle and conditioning poultry it has no superior.

Copro

is rich in fats and protein. It makes hens lay more eggs; it increases butter fat in milk; it makes hogs fat with clean flesh.

Mix COPRO with your rations and watch the results.

FREE SAMPLE and a copy of our booklet containing valuable information on the subject of "SUCCESSFUL FEEDING" gladly sent on request. Write today.

If your DEALER can't quote prices write us direct.

PACIFIC OIL & LEAD WORKS
Manufacturers
155 Townsend St., San Francisco, Cal.

The World's Greatest Swine Show

[Written for Pacific Rural Press.]

The third National Swine Show and Exposition, held at Cedar Rapids, Iowa, September 30 to October 5, proved to be the greatest swine show the world has ever seen. In numbers the exhibits were nearly identical with those of the two previous shows held at Omaha, but the quality far exceeded that of either. The judging found some of the greatest specimens of hog perfection that we have had in the swine rings of America, and the crowds were much impressed with the great size and the high excellence of the exhibits.

The exposition features of the show were a splendid success. The Hog Chautauqua, which presented a number of very high-class features of entertainment and swine husbandry instruction, was undoubtedly the most talked of part in the exposition. The ham and bacon show created a great deal of favorable comment, and the corn show was excellent.

The display of hog farm equipment proved a real feature. There were many commercial firms with exhibits of improved hog farm equipment, serums and the like that found the crowds greatly interested in the products they had to exhibit.

There have been many swine shows in the past, but never before has one been so well attended and never before did the spectators seem so eager to learn. They took many valuable lessons home with them.

The grand champions were as follows: Poland-China — Boar, Black Prince, W. J. Graham, Howard Lake, Minn.; sow, Josephine 1st, Charles E. Lyden, Manning, Ia. Berkshires —Boar, Royal Superbus 2nd, W. S. Corsa, White Hall, Ill.; sow, Superb Premier Princess, Piping Brook Farm, Greenwich, Conn. Duroc-Jerseys—Boar, Great Orion, E. M. Kern, Stanton, Neb.; sow, Orion Lady, Pine Crest Farm & Jackson, Charleston, Miss. Chester Whites—Boar, Wildwood Prince, Maurice F. Black, Scribner, Neb.; sow, Miss Lenora 4th, W. T. Barr, Ames, Ia. Hampshires—Boar, DeKalb's King 160th, H. D. DeKalb, DeKalb, Ia.; sow, Trixie Lookout, Wickfield Farms, Cantril, Ia. Yorkshires—Boar, Oak Lodge Sardis 31, B. F. Davidson, Menlo, Ia.; sow, Deer Creek Bonnie, B. F. Davidson, Menlo, Ia. Tamworths—Boar, owned by Maynard Thomas, Iowa City, Ia.; sow, owned by Geo. I. & P. Owen Morris, Aledo, Ill.

Hanford Sale a Grand Success

[Written for Pacific Rural Press.]

The sixth semi-annual sale of the Kings County Poland-China Breeders' Association, held at Hanford, October 9, brought out a large crowd and a goodly number of buyers. They were real farmers, who bought conservatively and got big value for their money.

The stock consigned by John M. Bernstein topped the sale with five animals averaging $143. M. Bassett & Son were next with seventeen head averaging $110. Two head consigned by H. D. McCune averaged $107.50; five head by W. L. Haag & Son averaged $101.80, and ten head of young stock by W. Bernstein averaged $91.

The top animal of the sale was a wonderful sow, Hadley Queen, consigned by W. L. Haag & Son, which brought $265. The entire 73 head averaged $90. A Red Cross sow donated by W. L. Haag & Son sold to D. C. Johnson, Stratford, for $150.

The heaviest buyer was G. A. Ritchie of Hanford, who bought fifteen head and used exceptionally good judgment in his selections. Several new buyers were noticed, among them the W. S. T. Co. of Madera, which purchased ten head of good ones. Other prominent buyers included Thomas Caesar, Reedley; Frank Johnson, Hardwick; Goodman Bros., A. J. Elliot, J. H. Hanschaldt and C. O. Riley, all of Tulare; J. F. McSwain, E. L. Morley and M. Cross, Merced; J. T. Wilkinson, Grangeville; J. C. Sorrick, C. G. DeRaad, Lemoore; G. B. Martin, Visalia; Claud Richardson, McFarland; H. Jorgenson, Kingburg; E. S. Myer, Riverdale; B. Smith and G. W. Pfost, Laton; F. E. Fay, Tipton; and W. Bernstein, W. L. Haag & Son, A. R. Waltz, S. D. Vanbeck, T. B. Hooker and C. A. Vaughn, all of Hanford.

DRASTIC DAIRY PRODUCT RULINGS.

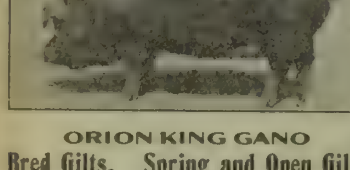
Food Commissioner Ralph P. Merritt announces that to stabilize butter prices the San Francisco and Los Angeles dairy produce exchanges have agreed to trade in butter only once a week, instead of every day, for a period of thirty days. The purpose is to stabilize the price for each week, in order that the retailer who is allowed a margin of 5c and 6c a pound may sell butter at a stable price for the week, and thereby avoid uncertainties and frequent fluctuations.

The present high price reflects an increasing return to the producer. The Food Administration does not wish to decrease this return to the dairyman, who is having great difficulty in maintaining his herd because of high prices of feed and scarcity of labor, and it is possible that the present price may go even higher, due to the increasing scarcity of butterfat and the larger demand for butter for army and navy uses. The army has recently taken 60 per cent of the entire butter stock in the United States.

To help relieve the butter shortage the U. S. Food Administration has issued orders prohibiting licensed distributors from selling cream containing more than 20 per cent butterfat. This order constitutes the first direct blow toward the elimination of table luxuries. Homes, public eating places, clubs and hospitals will be affected by the order, which automatically abolishes whipped cream and "double cream." Experts say cream containing only 20 per cent butterfat cannot be whipped without the addition of white of egg. The ordinary table cream sold in California contains between 30 and 32 per cent butterfat, while that used for whipping and similar uses contains between 37 and 38 per cent butterfat.

It is expected that this ruling will release for butter making a great quantity of butterfat now going into the sweet cream trade.

Orion Cherry King and Colonel
Strains of
DUROCS



ORION KING GANO
Bred Gilts. Spring and Open Gilts
February and April Boars
DONALD GRAHAM
Lancaster, - Cal.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM.
W. O. Pearson, Prop. Woodland, Cal.

calco troughs for watering & feeding hogs

Water and feed your hogs with Calco Sanitary Troughs—don't risk the loss from deadly disease germs.

Calco troughs—with smooth metal sides and round bottoms—are absolutely sanitary. Made of rust-resisting Armco Iron and cast iron—they are strong and rigid—yet light.

Many sizes—all low priced.

Size	Depth	Length	Price
10¼ inch	5 5/16 inch	40 inch	$3.70
10¼ inch	5 5/16 inch	60 inch	4.50
14 inch	7 3/16 inch	24 inch	4.55
14 inch	7 3/16 inch	60 inch	6.55

Other models from 24 inches to 120 inches, priced from $2.95 up.

Your check attached to this advertisement, with name, address and size wanted will bring immediate shipment. Circular on request.

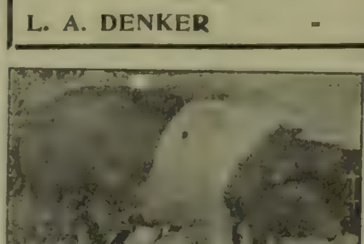
California Corrugated Culvert Co.
Los Angeles 417 Leroy St. Berkeley 406 Parker St.

Grand Champion
Herd of Hampshires
FOR SALE.
Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.
Best families.
Finest individuality and clean-cut markings.
Call or write.

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

DIRECTOR JUNIOR,
Grand Champion.

BOQUET CANYON HERD
HAMPSHIRES
Won Grand Champion on a six-months-old pig—something unusual. Also Reserve Senior Champion Sow, Junior Champion Boar and Reserve Junior Champion Sow.
7 FIRSTS, 6 SECONDS, 4 THIRDS.
We offer choice bred sows and open March gilts that we will breed to any boar in our herd. Also brothers and half-brothers to our Grand Champion boar, Director Junior.
EVERY HOG GUARANTEED TO PLEASE.
L. A. DENKER - - Saugus, Cal.



THE POPLARS RANCH
Registered
Hampshire Swine
A limited number of three-months-old weanlings for sale. Am booking orders for future delivery of youngsters by Gen. Tipton. Have a few young boars sired by Duke's Allen, Grand Champion, 1917, Sacramento.
C. J. GILBERT, Lancaster, Cal.

CHESTER WHITES FOR PROFIT
We Have For Sale 5 Exceptionally Fine MARCH BOARS
They are the selection of all our pigs farrowed in March and give excellent promise.
We offer these five at $50 each—first come first served.
HIGHLANDER, THE $1,000 GRAND CHAMPION BOAR, HEADS OUR HERD.
OAK KNOLL FARM Box 338 LAKEPORT, CAL.
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

NEED LIVESTOCK MEN AT HOME

SERIOUSLY, is it for the best interests of the Government and our State to allow our livestock men to be drafted? The shortage of meat and dairy products is becoming more acute every day. These foods are just as necessary as bullets in winning the war, yet it requires experienced men to raise livestock successfully, and a reduction in herds must result if these men are taken.

It is not a question of loyalty. These men are ready and willing to go; in fact, many have already gone. In some cases expert herdsmen have been taken away; in other cases the owners themselves have been drafted. The result—herds that represent years of constructive breeding are being sold off and our State is being deprived of the services of these men who are needed much more here at home to fight against scrub stock than they are on the European battle front to fight against the Huns.

Livestock breeders, it is up to you to get together so that you may impress upon exemption boards the importance of this matter and, if necessary, take it up direct with headquarters at Washington. You realize the seriousness of the situation, but that is not enough. You must make the authorities realize it. The appeal of an individual will have little influence, but that of a group representing the leading breeders of the State will carry great weight. Get together at the Los Angeles and San Francisco shows. Pass some strong, convincing resolutions. Send them to the exemption boards and to Washington. Give them wide publicity. We'll help you. Don't allow the very life-blood of our livestock industry to be sapped away.

Riverside Fair Brings Out Quality Stock

[Written for Pacific Rural Press.]

The livestock shown at the recent Southern California Fair at Riverside surprised both directors and spectators. It was a quality show, and prominent breeders stated emphatically that had many of these animals from local herds been shown at the State Fair they would have been within the ribbons.

In the dairy classes there were good showings of Holsteins, Jerseys, Guernseys and Ayrshires, and the competition was keen in nearly all rings.

Hogs were there in great numbers, Poland-Chinas, Durocs, Berkshires and Hampshires being represented. There were several Durocs and Poland-Chinas weighing close to 1000 pounds.

The exhibits of beef cattle, horses, mules, jacks and jennets were all good, and a showing of over 125 boats attracted considerable attention. Poultry, rabbits and pigeons were shown in large numbers.

The attendance was large. Elaborate plans had been made for entertaining the spectators, and everyone who attended had an enjoyable, profitable time. Great credit is due the directors for the success of the fair.

ANNUAL MEETING OF CATTLEMEN'S ASSOCIATION.

At the annual meeting of the California Cattlemen's Association, held at the Palace Hotel, San Francisco, on Saturday last, October 12, many interesting matters were discussed. President Nares informed those present of the necessity of consolidating the organization plan approved at the Davis convention, informing his hearers that meetings of all of the county organizations, a total of 43, were to be held prior to October 31 to ratify county constitutions and by-laws and elect delegates to the zone conventions to be held at (Zone 1) Redding, Tuesday, November 5, 10 a. m.; Willows, Thursday, November 7, 10 a. m.; San Francisco, Saturday, November 9, 10 a. m.; Fresno, Saturday, November 2, 10 a. m.; Los Angeles, Wednesday, October 23, 10 a. m.

The amended articles of incorporation and revised by-laws of the California Cattlemen's Association were ratified at the meeting. Secretary Stollery informed the meeting that the association membership now numbered 557, representing 297,350 head of cattle, and that it was contemplated that this would very materially increase as soon as the county and zone meetings were held. Interesting addresses were made by H. A. Jastro and Professor Gordon H. True.

J. H. Cook, Paradise, has sold a fine bunch of Poland-China gilts to Chas. Gatewood & Son, Fresno. Also, in addition to the Caldwell's Big Bob boar that we recently reported sold to C. Roy Marshall, Sebastopol, Mr. Cook has sold Mr. Marshall two very fine gilts.

SECOND SALE OF
SHORTHORNS
FIRST FALL SALE
UNDER AUSPICES OF
California Shorthorn Breeders Association
WILL BE HELD AT THE
SHOW GROUNDS OF THE
California International Livestock Show,
SAN FRANCISCO,
ON
THURSDAY, NOVEMBER 7th, 1918
At the hour of 9:30 o'clock a. m.
30 head Choice Bulls
20 High-Class Females
Earl Gartin of Greensburg, Indiana, Auctioneer
FOR CATALOGUE APPLY TO
California Shorthorn Breeders Ass'n
320 Sharon Building, San Francisco, California

Second Sale of
HEREFORDS
Under the Auspices of
Pacific Coast Hereford Breeders Ass'n
Will Be Held at the
Show Grounds of the
California International Live Stock Show
Friday, Nov. 8, 1918
At the Hour of 9:30 o'Clock A. M.
—50 Heads of Bulls and Females—
Selected from Best Herds in the West
Earl Gartin of Greensburg, Indiana, Auctioneer
For Catalog Apply to W. R. MADDEN, Secretary
Pacific Coast Hereford Breeders Ass'n
DIXON, - - - CALIFORNIA

Choice Herd of
SHORTHORNS
Headed by
Princely Stamp
Grand Champion of the West at Denver, 1918,
—and—
Lothian
Marmion
THE KIND YOU WANT.
See us at Los Angeles Liberty Fair and San Francisco Livestock Show.
Will sell any quantity of stock—from a single animal to a carload.
Maxwell-Miller Cattle Co.
Steamboat Springs, Colorado.

CARRUTHERS FARMS
LIVE OAK, CALIFORNIA
Shorthorns and Berkshires
Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

Shorthorn Bulls
Four Head—Two to three years old.
Six Head—Ten to twelve months old.
BRIGHTON FARM HERDS.
H. L. & E. H. MURPHY PERKINS, CAL.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

LIVESTOCK SALES DATES.

Nov. 7—Shorthorn Association, International Livestock Show, San Francisco, Shorthorns.
Nov. 8—Hereford Association, International Livestock Show, San Francisco, Herefords.
Nov. 12—A. W. Morris & Sons, Woodland, Holsteins.
Nov. 21—Fine Tulare Sale, Tulare, Holsteins.
Dec 5—1918 Guaranty Sale, Sacramento, Holsteins.

The Dairy.

F. A. Zimmerman, Novato, has recently purchased from Gage Bros., Novato, the registered Holstein bull, McCloud Beauty Ormsby, to build up his large herd of grade Holsteins.

At the State Fair J. E. Wherrell of Riverside showed the first four calves sired by You'll Do Oxford and won both junior championship and reserve grand championship and three first prizes. Out of the first twelve calves sired by this bull eleven have been heifers.

The Associated Dairymen of California now have men in the west-side dairy counties of the San Joaquin Valley, from Los Banos to Patterson, to form a Milk Producers' Association similar to those already operating in other parts of the State. Excellent progress is being made.

Gridley will have a milk evaporating plant in the near future, as the Felleman Dried Milk Products Company was recently incorporated, has leased a building in that city and will soon equip it for the evaporation of milk. The officials plan to operate on a large scale, and state that they will pay good prices for milk.

The Northern California Milk Producers' Association is enlarging the recently purchased plant at Orland at a cost of $8,000. The improvements will increase the capacity to 7000 pounds of butterfat daily. In addition to the making of butter, the directors plan to add milk condensing, cheese-making and casein equipment. It is proposed to make this plant a great central one for Northern California.

H. W. Gossard, owner of the noted Indiana Berkshire herd headed by the English boar, Epochal, who has been in the limelight so much recently, has closed a deal whereby he purchased from J. W. Clise, Redmond, Wash., 84 cows in milk, 12 heifers and 4 bulls from the Willowmoor herd of Ayrshires. This transaction is the most notable one ever recorded in Ayrshire history. Mr. Gossard also made an extensive draft from the herd of E. B. McFarland, San Mateo.

Toyon Farms, at Los Altos, has four cows on test at present and more will be started later. Their herdsman, Charles McDonald, says he has good stock to work with and he certainly knows how to get the most out of them. Among the most promising cows are LaConner Pontiac Lass, with a record of 21.2 pounds in seven days with first calf; Valdessa Clarkhurst Pietertje 2nd, with 25.8 pounds in seven days as a junior three-year-old; LaConner Pontiac Helene, first and junior champion at Portland in 1916; LaConner Pontiac Bess, first in her class at Portland; Ormsby Segis Marie, the $12,500 heifer that made 1053 pounds of butter in one year with second calf; Turndale Countess De Kol, thirteen years old, with two 30-pound records already to her credit, and promising to do even better during her next period. We shall watch the results of this testing with great interest.

Beef Cattle.

Reynolds & Son and Lonquist Bros. of Hat Creek are the proud possessors of a fine purebred Red Polled calf sired by the grand champion at the P.-P. I. E. When ten months old he weighed 790 pounds. These same owners have seven other good ones and are developing a fine herd.

The Rancho Del Rio, located eight miles northwest of Oakdale, is owned by Frankenheimer Bros. and consists of 7000 acres. They have it stocked with one of the best herds of grade Shorthorns in the State. They made their start in 1904, and have used registered bulls ever since, maintaining a herd of 22 registered cows for this purpose. Their cattle are range fed but look as good as the average stall-fed stock. They feed from 1500 to 2000 cattle each winter and have everything arranged on a practical, systematic basis.

Swine and Swinemen.

J. E. Thorp of Lockeford has sold his entire Berkshire herd to Sam Elder of Selma.

R. W. Jickling, Elmira, has sold a fine Poland-China herd boar to the American Beet Sugar Factory, Chino.

Dr. J. A. Crawshaw, Hanford, reports the sale of a boar to W. H. Bennett, Porterville, and a bred gilt to Bush & McCready, Graton.

J. P. Mallory of Fresno made several good sales of Durocs during the Fresno Fair. He recently sold the brood sow, Lady Midnight, for $250.

Conejo Ranch, Newbury Park, has sold to F. M. Johnson of Napa a pair of two-year-old Golden Model brood sows that are considered very fine.

B. M. Hargis, Tulare, has added several Poland-Chinas to his already good herd and purchased some fine brood sows at the recent Trewhitt sale.

A. Buckland & Son, Fresno, report the sale of a Poland-China boar and a sow to Wm. Bernstein, Hanford; a boar to E. E. Lapelle, Carruthers, and a boar to Fred Wheaten, Helm.

Ben Desart, who has been herdsman at Maplewood Ranch, Calistoga, has been engaged to take charge of the fine herd of Berkshires being established by H. C. Muddox of Sacramento.

At Corcoran a sale of fat hogs was recently held under the auspices of the County Farm Bureau, at which the hogs offered were guaranteed to be free from disease, including tuberculosis. The top carload brought $17.80 per hundred.

Elmer Lamb of Ceres reports recent sales of registered Durocs as follows: George Wingfield, Reno, Nev., boar; Spreckels Sugar Co., King City, boar; H. K. Stevinson, Merced, boar; Ford Ranch, San Fernando, boar; Chas. Silva, Sacramento, sow; H. K. Nourse, Walnut Creek, sow; Dave Rogers, Gazelle, boar and sow; Lydia G. Wild, Lancaster, sow; S. K. Kelsley, Ceres, sow.

Sheep.

A. Z. Jones of Lower Lake has just sold 700 head of sheep to Mr. Brown of Vallejo for $11.50 per hundred.

J. R. Allen, a leading Cotswold breeder, who attended the Salt Lake ram sale, stated that last year he sold $240,000 worth of registered sheep and that the trade so far this year has been even better.

A campaign has been started in Sonoma county to secure pledges from the farmers that they will raise more sheep. Many signatures have already been obtained. The Food Administration is prompting the action.

Farmers of Stanislaus county have received four carloads of sheep from Sacramento county, purchased by Prof. Miller of the University Farm, in connection with the Liberty Flock Drive started by the Government some months ago. The Farm Adviser has pledges from 43 farmers to keep flocks of sheep, the total being 2391 head.

The last one of the Dimmick brothers of Hanford joined the colors last week. This makes three boys that have been taken. Mr. Dimmick, Sr., will run the farm in the absence of his sons and will try to keep their excellent Poland-China stock in fine shape until their return.

P. E. Mitchell, Atwater, showed eight of his Poland-China hogs at the recent Atwater Fair, and took nine ribbons home with him, including both grand championships, four firsts, two seconds, and one third. This speaks pretty well for Mr. Mitchell's hogs in competition with thirty others.

M. Bassett, Hanford, has sold to D. Evans, Mesa, Ariz., a young Model Fellow boar named Bonita Model, weighing 230 pounds at six months. Mr. Evans has purchased three boars from Mr. Bassett in the last three years and has won three grand championships at the Arizona State Fair with them.

At a meeting of the directors of the fifteen Farm Centers of Shasta county it was decided to adopt the plan of having auction sales of hogs which has proved such a success in Kern, Kings, Tulare and other counties. The first sale will be held at Bartle in October and the second at Cottonwood in December.

R. J. Merrill & Son, Morgan Hill, have recently made the following sales of registered Berkshires: One gilt to A. H. Mofatt, Los Altos; one boar to G. P. Spotorno, Pleasanton; one bred gilt to F. U. Lefever, Marysville; one boar to J. W. McClay, San Jose; one boar and two bred sows to Sam Martin, San Jose.

Howard C. Peterson, the live-wire Poland-China breeder of Reedley, writes us that the Rural Press certainly gets the business and that he has recently made the following sales through the paper: Brood sows to W. Bernstein, Hanford; G. T. Duerksen, Dinuba; Wm. Stohl, Reedley; gilt to C. B. Jensen, Parlier; sow pigs to G. T. Duerksen, Dinuba, and Gilbert Hoskins, Parlier; two sow pigs each to C. B. Jensen, Parlier; A. D. Keisler, Esparto; W. Bernstein, Hanford; boar pigs to Peter Miller, Reedley; G. T. Duerksen, Dinuba; Gilbert Hoskins, Parlier; two boar pigs to C. B. Jensen, Parlier.

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

REGISTERED JACK
Mealy nose and black points, about 15½ hands high; 4 years old.
PERCHERON STALLION
3-year-old, from an imported registered stallion that weighed 2000 lbs.
Both animals are first-class and for sale.
L. E. RUDY, Rt. D, Box 79, Modesto.

Imported and American Bred Stallions
Percherons - Belgians - Shires

My Fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.
The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.
Correspondence invited and visitors always welcome.
N. W. THOMPSON, Patterson, Stanislaus County, California

CLOSING OUT . . DUROCS
Owing to ill health and scarcity of labor, I am offering my entire herd of Durocs for sale. They consist of 13 tried sows, 8 fall yearling gilts not bred, 2 bred gilts, 42 March gilts, 3 March boars, 2 aged boars, 1 yearling boar and 10 July pigs. These are all high-class hogs, smooth, easy feeders and either registered or eligible to register. Many are high prize winners at the different fairs of the State. Anyone who can handle the entire lot can get them for little advance of the market price.
ELMER LAMB, = Ceres, Cal.

The Sheep that bring the Big Prices are the kind to buy
Rambouillets
I purchased at the Salt Lake sale 31 head of the best (Butterfield, Quealy and Bullard strains) to head my breeding ewes. I have about 100 big, smooth, heavy-wooled rams for sale.
J. BIDEGARAY FRESNO, CAL.

FINE WOOL HEAVY LAMBS
Big, smooth-bodied, heavy wooled Rambouillets of the best breeding. I have used only registered rams on my original foundation of purebred ewes and their offspring. A few choice yearling rams for sale. Write for their breeding or come and see them.
E. C. SPEAR, St. Helena

HEREFORD SALE AT SAN FRANCISCO SHOW.

A sale of registered Herefords will be held by the Pacific Coast Hereford Breeders' Association at San Francisco, Friday, November 8, in connection with the California International Livestock Show. About forty head will be offered, made up of consignments from California breeders, together with consignments from John Painter & Sons, Colorado; Hereford Corporation, Wyoming, and Cazier & Sons, Nevada. The largest part of the offering will be two- and three-year-old heifers, many of them bred. An excellent opportunity will be offered California breeders to increase their herds with outside strains of good blood lines.

NEW CALIFORNIA MARKETING ASSOCIATION.

Visalia has been made the headquarters of the new California Farm Bureau Marketing Association for the members of the farm bureaus of Fresno, Tulare, Kings, Kern and Madera counties. This central bureau plans to handle train lots of cattle, hogs and other farm produce for bureau members.

LIVESTOCK DIRECTORY.

SWINE

Poland-Chinas.

I AM IN CLASS 1 IN THE DRAFT, so will sell my 20 head of registered Poland-China hogs. They are of the best blood lines and breeding obtainable, such as the Giantess strain, the Big Jumbo, Big Timm, Big Bone, Young Jumbo, President and Longfellow strains. Will sell entire herd, including one herd boar, several young boars, brood sows and gilts. All are A1 animals. Prices reasonable; satisfaction guaranteed; pedigrees promptly furnished. Howard C. Peterson, Box 396, Reedley, Cal.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

BIG, SMOOTH POLAND-CHINAS — with plenty stretch and bone. Stock for sale—the kind that will make money for you. A son of Gerstdale Jones, the $6600 boar, just arrived. A. Buckland & Son, Fresno, Cal.

BIG TYPE POLAND-CHINAS—President assisted by California's Smooth Jumbo, are the sires of my spring pigs. See them at the State Fair. Jno. M. Bernstein, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows, and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

WATCH FOR OUR AUCTION SALE of great sows bred to Big Bone Leader, grand champion 1918 State Fair. Chas Gatewood & Sons, Fresno, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the state. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, Cal.

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REGISTERED POLAND-CHINAS of choice breeding and careful selection. C. C. Roberts, Rt. A, Box 411, Chico, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

LAUESSEN'S BIG TYPE Poland-Chinas; weanlings for sale. Write me. William G. Lauessen, Van Nuys, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

READAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

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BERKSHIRES—GUERNSEYS GRAPE WILD FARMS

A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

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BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Chester Whites.

"BILLIKEN" CHESTER WHITES—Now is the time to buy the boar you will need this fall. Nice lot to select from and at very reasonable prices. Few bred sows due to farrow in October. Open fall gilts, weaned boar pigs. C. B. Cunningham, Mills, Ca.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

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RANCHO RUBIO DUROCS closing out sale. Tried sows, open and bred gilts, boars all ages, weaned pigs, everything goes at attractive prices. Write what you want and I will sell you the hogs. Elmer Lamb, Ceres, Cal.

ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

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BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

CHERRY CHIEF CRITIC is our herd boar. Good enough to please any one. Stock for sale. Write us. Craig's Ranch, Owensmouth, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

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RANCHO DEL SUR DUROCS are the large, smooth, prolific, easy feeding kind that pay. Donald H. Graham, Lancaster, Cal.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

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CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J. H. Minto, Patterson, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

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STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

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FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

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YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

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EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, Proprietor, Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D Smith, R. D., Berkeley.

FOR SALE—Guernsey Bull Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

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BISHOP BROS., SAN RAMON, CAL. — Breeders and importers Shropshires.

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CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES.

FOR SALE—A few nice young jacks, two years old; also two service jacks, five and six years old; six black jennets, two to five years. H. T. Crow, Modesto.

MAMMOTH JACKS AND JENNETS for sale; good ones; seeing is believing. Write or come and see. A. L. Allen, Perris, Cal.

FOR SALE—Fine team bay mares; splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal.

FOR SALE—50 head of Percheron mares and colts, 2 imported stallions, 2 young Jacks. A. H. Tilton, R. D. Box 164, Madera, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners

MULE FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

FOR SALE—100 head high grade dairy cows, Holstein and Durhams. None old; some fresh springers and dry; 100 head young stock heifers and steers from purebred Holstein and Guernsey bulls. Address, Geo. A. Enos, Box 282, Williams, Cal.

Poultry for Profit

By Susan Swaysgood, Pomona.

ELECTRIC LIGHTING FOR EGG PRODUCTION.

The electric lighting of poultry houses is coming to the front again with increased interest. All who tried it the last two seasons are of the opinion that it pays to furnish the hens with a longer business day during the winter months. The cost of wiring and electricity will depend on locality.

PUT THE LIGHTS IN EARLY.

Those who put the lights in last year about Christmas are of the opinion that, provided one intends putting them in, it pays to get the work done while the nights are comparatively long. Then hens will not be disturbed by starting in with long nights and then changing to short ones. This is a reasonable idea, because laying hens are so temperamental that a very little change out of the natural order of things upsets them. George Newell of Chicago claims to have more than doubled his egg production with hens, a greater part of them one year older than those he kept accounts of the year previous to putting in lights. With feed prices fairly reasonable and eggs soaring, it looks as if it would be a paying investment this winter to make the hens believe in an extended summer season. We have fooled them into doing many stunts their forbears never dreamed of, and it can be done again. All hens that are partially or fully molted can be made to give a good account of themselves.

GIVES LONGER FEEDING TIME.

Now, everybody will not be able to get electric-lighted houses, but everybody can utilize all the daylight we have to the best advantage and get quite an increase of eggs by exercising a little care and forethought. The real purpose of the longer day is to give the hens an opportunity to eat more; so if the poultryman will see to it that from early morning till late at night his hens are kept busy, and so arrange his feeding that the hens will digest the day feed, then by feeding corn at night, all they will eat, his hens will be able to go through a fairly long night without being hungry at all. About noon feed a little warm, moist mash, just enough to last them ten minutes or so, and let it be in a crumbly condition—not wet. This is in addition to what dry mash they will eat; then by feeding corn at night and leaving some grain in the litter where the hens can find it as quick as they get off the perch in the morning your hens will have a fairly long day to eat in.

KEEP THE HENS' FEET DRY.

With the price of feed fairly stabilized and eggs still soaring, it will surely pay to take a little extra trouble to get them. Don't be in a hurry to turn your poultry out on a cold, damp morning. Leghorn hens take cold through the feet more quickly than any other way, and cold feet means slowing up of egg production every time. Keep the feet dry and a Leghorn hen will start the blood into activity in a few minutes.

HENS NEGLECT BUSINESS.

To the Editor: What should I feed my hens and young pullets? They have not laid for the last three months. I have been feeding whole barley and soaked it, too, and bran and midds mash, but they don't seem to know what I want.—Subscriber, Tulare.

[Unless the pullets and hens can get some kind of animal food, you should feed some beef scrap, fish meal or sour milk, it does not matter much which. Another thing that is good to start hens that have forgotten what they are fed for is bone. You can get granulated bone, any size, at feed stores, and if you put it in a box or hopper the hens will soon find it. Provided you feed enough barley, it is likely lack of animal food that is keeping them back.]

THE ELUSIVE CHICKEN MITE.

A few days ago I was invited to look at a neighbor's chickens and was no sooner in the building than I asked point blank, "Haven't you got mites?" "No," the man said, "I have not had a mite on the premises this year." I told him he was surely mistaken, for nothing but mites could cause those fine looking pullets to look so pale about the head; so, with his permission, I went on a tour of inspection and I did not have to travel far to find game. Pretty soon I was scratching and feeling around my own neck, too. Well, Mr. Man was surprised, but he got busy, sprayed everything with distillate, and he tells me he will continue it for a week or more until he gets all of them.

Whenever pullets or hens that are being fed decently take on a pallid appearance and move around as if they had no life in them, you should go on a tour of inspection and find the cause. There is always a cause behind these things, and until you reach it very little can be done in the way of curing it. It never pays to be too sure of anything.

When that man was obliged to look at the hordes of mites he was boarding on his inoffensive chickens, he kept a still tongue in his head and only said "yes" and "no" when asked questions. And the worst of it is that only a few short weeks ago he stopped his Rural Press, saying he "could not afford to take it." He has probably changed his mind by this time.

LIMIT YOUR YARDS AND VARIETIES.

To get the best results from layers, winter or summer, don't have too many in one house or yard. Fifty Leghorns or any of the small breeds do much better than a larger number, and 25 do better still. Twenty-five hens given the room and two-thirds the feed of 50 will produce quite as many eggs as the 50, and you can have the money for the rest to use in your business. Fifteen of the heavier breeds do better than 25, though the latter number do well; but more should never be run together. A fad of mine when I bred nothing but Orpingtons was to have small matings. Never more than eight or ten in one house and yard—ten was the limit. And for months together my hens would give me all the way from eight to ten eggs from the ten-hen yards and from six to eight from the smaller number. When a hen got broody I simply changed her from one yard to the other, and as the old residents picked on the newcomer she soon broke up and could be returned to her own yard.

When more than one or two varieties are kept it means much more work to keep things moving and still have the pure strains; it means a much larger capacity of house and yard room, and unless one has it the average farmer had better content himself with one good breed.

THE GREEN FEED PATCH.

There is not any limit to the green feed that can be grown in counties that have been favored with rains. Our rain has not more than laid the dust, but we can always irrigate, and the growing of green feed is not much of a problem to those who have land and water. And it is a sure thing that a good patch of green feed lightens the feed bills and keeps the flock healthy, not to speak of the larger egg production.

Hens should eat at least four times the quantity of greens as of all other foods combined. Feed the green mash liberally in the morning and at noon. Hens will eat with avidity greens coated generously with middlings, and will make a record as layers.

A PRACTICAL EDUCATION IN POULTRY BREEDING.

Farmers will find a means of practical education in poultry breeding at the Poultry Division of the San Francisco Livestock Show, November 2-10. In response to special requests by the Food Administration and the U. S. Department of Agriculture, George H. Croley, the show secretary of the San Francisco Poultry Association, is striving to make the show—particularly from an educational point of view—the best ever held in San Francisco, not excepting that held at the Panama-Pacific Exposition.

Poultry Breeders' Directory

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BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

PRIZE WINNING Rouen and colored Muscovy ducks for sale. Choice Light Brahma cockerels, $4 to $10 each. Muscovy eggs, $2 per 15. Emma Miller, Farmington, Cal.

WHITE ORPINGTON, Barred Rock and White Houdan cockerels; stock bred to win and lay. Prices reasonable. R. P. Lutzi, 1217 Twentieth avenue, San Francisco.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BABY CHICKS and hatching eggs from our selected purebred S. C. White Leghorn hens. Tupman Poultry Farm, Ceres, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B 144D, Pomona, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

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HOME CIRCLE

FROM DAY TO DAY—MIRAGE.

The sun beats through the noonday's calm
And, deep in the desert's glare,
Mirage of sea and sails and palm
Quivers and floats in air.
Dissolves and shifts, descends and lifts,
Now indistinct, now plain,
As in glamour of dream forever I seem
To see my Home again.

Our ordered tents are row on row—
(The Mirage flickers anew)
Are these camps or Syrian hills in snow
White peaks that stab the blue?
Are the sails on the seas of the Hebrides
And the trees from a Highland glen
In this blinding glare? Yes, surely there
I see my Home again.

And my heart is far in the Rossshire hills
Swathed scarf on scarf in mist,
Where a tawny burn its tribute spills
Through the heather's amethyst.
And the breath of the moor is keen and pure
As the clouds blow past and the rain—
Dear God! let me stand in my own clean land
And see my Home again.
—Member Egyptian Expeditionary Force, in London Observer.

GREAT-GRANDMOTHER'S BISCUIT PARTY.

"Grandmother, you said you'd tell me a story." Beata patted great-grandmother's hand persuasively. "Please, grandmother, tell me about the old frying-pan I found in the attic yesterday, and—Oh, wait a minute; let's measure it. Why, grandmother, it's most as big as the top of mother's stove, and the handle's taller than you are when you're sitting down!"

"It certainly is a huge pan," laughed grandmother. "When I was a little girl like you there were no stoves in this part of the country, and my mother—your great-great-grandmother—did all her cooking with this frying-pan and a tea-kettle in a big fireplace.

"This old frying-pan was kept pretty busy when I was a child, and I'm going to tell you how it once helped save the material for a dress for me.

"The first winter after we came to Ohio was very cold. Our house was a log cabin with only one room. Across one end of the room were two beds curtained with sheets; at the other end was a big fireplace. We had no trouble keeping warm, but sometimes we had very little to eat. All winter we had for bread only cornmeal mush or johnny-cake, and frequently very little of that. Our neighbors were no better off than we were. Father had a little wheat that he brought from the East, so, in the spring, when the heavy snow melted, he took it to the nearest mill—fifteen miles away—and had it ground.

"In those days people shared their good things with their neighbors. Any kind of bread made from white flour was a great luxury, so mother invited the nearest family to spend the evening and eat biscuits with us."

"Grandmother!" cried Beata, with much concern, "didn't you have anything to eat but biscuits?"

"Yes, dear, we had bear meat roasted before the fire and potatoes baked in the ashes and hickory nuts and walnuts in place of fruit. We thought that was quite a spread. You may be sure that it was an event for us youngsters. Biscuits were as great a treat to us as candy or ice-cream is to children now; and we could hardly wait until they were ready. It was slow work, too, for we had only this frying-pan to bake them in. A few biscuits were put into the pan and placed before the fire; as soon as they were baked, another batch was put in, and so on until enough were baked to serve the company. We children had to wait until the second table, and while the grown people were eating, Sister Sarah baked biscuits for us. I was the youngest of the children, and although I was very hungry, I was also very sleepy; so I quietly slipped over to one of the beds, crawled behind the curtains, and went sound asleep.

"When the children's supper was ready, I was nowhere to be found. We had no candles then; our lights were sticks of hickory bark. Mother picked up one of these sticks and came to the bed—I think she knew where to find me. Just above the bed hung a 'head' or bunch of flax ready to weave into dresses for sister and me. Mother held the torch a little too high, and in an instant the flax was ablaze! Then there was plenty of excitement. I got out of that bed in a hurry. Father grabbed the burning flax and threw it outdoors, and Sarah, who had just finished baking the last batch of biscuits, ran out with the frying-pan in her hand and began to beat the blaze with all her might, sending the biscuits flying in every direction."

Beata's eyes were dark with sympathy. "I'm sorry you lost those biscuits, grandmother."

"Well," replied grandmother, "it was a loss, but Sarah saved the flax, and we thought we were very lucky to have that, even if we did lose a few biscuits."—R. E. Farley.

TOMATO PASTE.

Boil the tomatoes until soft. Crush thoroughly and put through a fine sieve. Place the pulp and juice in a shallow pan and boil gently over a slow fire until thick. Then place over hot water or in a slow oven, where it should evaporate until it reaches the consistency of peanut butter. While still hot, add two ounces of salt to a gallon of the paste and pack into hot scalded jars or bottles. Sterilize in wash boiler from half hour to an hour.

To make dried paste, spread the paste in thin sheets on plates or pans and dry thoroughly in a very slow oven, until it can be cut in squares or rolled in sheets. Store in moisture-proof containers.

Flavored tomato paste should have added to one gallon of pulp two sliced onions, two buttons of garlic, one bay leaf and two or three Chili peppers. After cooked down to a paste, beat in olive oil and salt to taste and sterilize as directed.

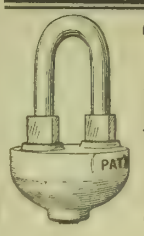
Tomato paste may be bottled in any size or shape jar and is a great time saver for use in soup and sauces.

UNCERTAINTY.

"Are you engaged in a useless occupation?"

"Sometimes I is," replied Mr. Erastus Pinkley, "an' sometimes I isn't. It all depends on how dis mule I's drivin' happens to be feelin' 'bout de matter."—Washington Star.

Say what you will—if the shipyard workers worked as long and as faithfully as the farmers do the shipping question would be settled.



"A Man's Work Is From Sun to Sun"
But Mothers?—Is It Ever Done?

Of course someone must saw and split the wood and carry it in, but then mother, bless her heart, must begin to everlastingly poke it in, clean up the muss and while she is "resting" carry a good portion of it out in the shape of ashes—more muss.

All to what end? Heat, of course. But, aside from that, all her work results in dirt, smoke and soot—a tremendous loss in itself, as well as the heat that has to be permitted to go up the chimney in order to get the semblance of a clean fire—one continuous loss from start to finish—and the finish is not at the moment heat is no longer needed, but when the fuel has burned itself out.

All this is so easily changed in the making of clean gas from coal oil with a "Premier" burner—in the same stove, with no alterations or changes. It's economy and conservation from start to finish. A clean, even heat all of the time up to the moment fire is extinguished, then it is out immediately—the expense has been stopped.

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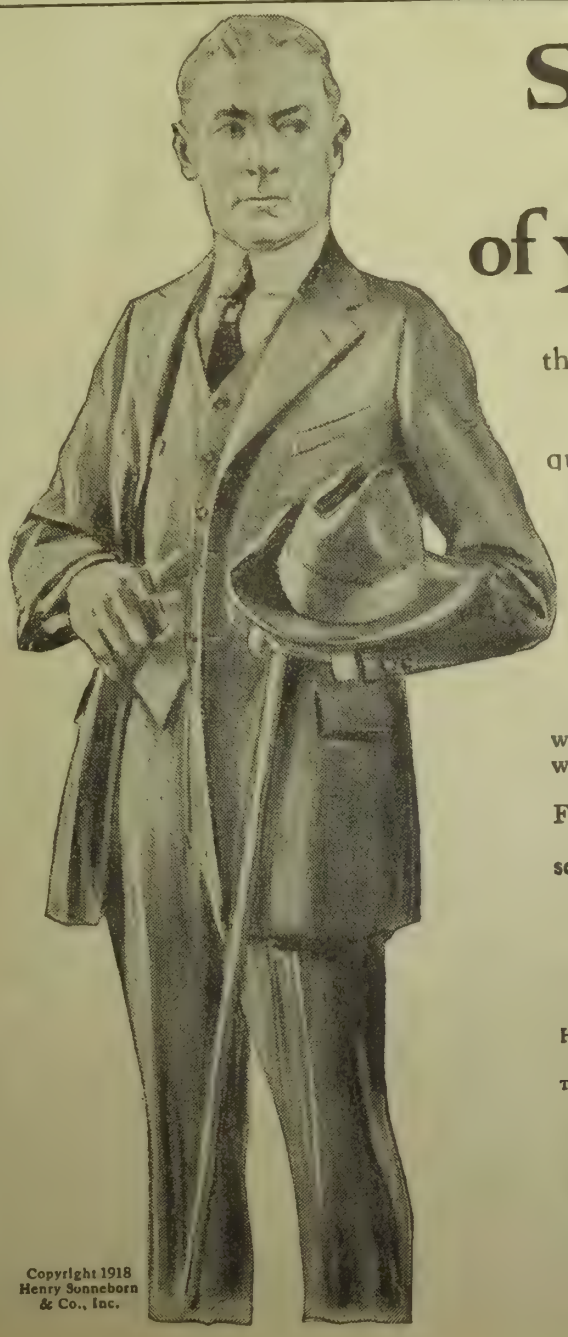

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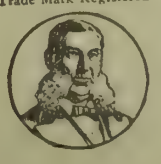

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Agricultural Summary

Berry Growers State Their Case.

In view of some adverse comment in the public press reflecting on the marketing methods of the Berry Growers' Association, these facts were recently submitted: The present season opened with a very strong demand on their products for canning and preserving purposes and as early as April they sold to various canners a certain percentage of their estimated crop of strawberries at 7c per pound, net the grower. Later in the season this price was voluntarily advanced to 9c by a number of the canners. The minimum selling price per chest of $7 was not fixed arbitrarily by the association, but was based on the terms of this sale. The berry growers take the stand that they could not afford to sell selected berries, packed in baskets, at a price which would net the grower less than the canners are paying for field run berries. It is also contended that the minimum price of $7 per chest does not regulate the actual selling price of berries.

Retail Egg Dealers on the Grill.

There has been no little complaint that some retail dealers around the bay have been selling storage eggs as fresh and at fresh egg quotations. To make this matter clear to all concerned, the Food Administration defines a cold storage egg as follows: "For the purposes of the regulations governing wholesalers, retailers and all other dealers in cold storage eggs, cold storage eggs are eggs that have been held in a cold storage warehouse for thirty days or more at any temperature, whether above or below 45 degrees Fahrenheit." It is also complained that retailers have a careless habit of mixing up their pullet eggs with their full-size ranch eggs and charging customers full quotations for the latter class.

Dairy Activities.

The San Francisco Produce Exchange has closed its books for its fiscal year ending September 30. Its annual statement shows that during the preceding year it recorded a total of 14,785 sales on the floor of the exchange. This total is divided into 2859 for butter, 11,029 for eggs and 897 for cheese. Of these sales the heaviest number of transactions were in June of this year, when 1918 were scored, and the lightest in November of last year, when the count stood 693.

Increased Rates for Grain Storage.

Increased rates for grain storage in sacks were recently granted by the State Railroad Commission to the State Warehouse Co., which operates warehouses at Stockton, Marysville, Chico and South Vallejo. The new schedule is 50 cents per ton for one month, 75 cents for two months or fraction over one month, $1 for over two months, including season; weighing and delivering to craft, 20 cents; weighing and loading into cars, 25 cents.

Meat Markets in East Stagnant.

There has been a very severe curtailment of purchases of meats at the retail establishments in Eastern cities and it is surmised that the public is thus showing resentment at the attempted profiteering practices of the proprietors. Complaints of extortionate charges are also heard on the Pacific Coast — not only against retail butchers but purveyors of meat dishes in restaurants and other public eating places.

California's Raisin Crop.

It is estimated by the California Associated Raisin Co. that the State's raisin crop this year will total 130,000 tons or over. The crop last year totaled 163,000 tons. With the permission of the association, some few members disposed of their grapes to independent packers, on a basis of $60 to $70 per ton of dried raisins.

Stabilization of Hog Prices.

An effort to stabilize hog prices for the winter has been considered by the Food Administration at Washington.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, October 16, 1918.

WHEAT.

The following prices of wheat are fixed as the minimum at which the farmers should sell in carload lots. It is understood that some farmers have been selling at a less figure and this is discouraged by the Government, which stands ready to buy at a minimum of $2 per bushel in carload lots f. o. b. at shipping point. The mills generally have been paying about these prices, which are quoted for the grain f. o. b. San Francisco, Los Angeles, Seattle, Tacoma, and Portland, carload lots. The price of sacks and sacking is not included. The price of wheat varies somewhat at different points more or less distant from the cities mentioned, but the Government guarantees not less than $2 as stated.

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 2	2.09

BARLEY.

There is no change in the barley situation. The Federal Grain Corporation has requested exporters to make offers of barley for shipment from Port Costa at $2.28 per cental for Superior No. 1 and $2.25 for Standard. These prices are for sacked grain, sacks to be in good condition.

Choice feed, per ctl	$2.10@2.15

OATS.

Oats are quiet. There is little grain of feed and little apparent demand.

Red feed, per ctl	$2.40@2.55
Red seed	2.90@3.10

CORN.

There were no developments in the corn market this week. Prices are nominal (First-hand prices on strictly first-class grain, San Francisco.)

California sacked	$3.90@4.00
Milo maize	3.95@4.05
Egyptian	4.05@4.10

HAY.

The receipts of hay for the past week were only 553 tons, compared with 761 the previous week. Most of the receipts were of hay which had been out in the weather and therefore damaged. It was sold at the best prices possible, but they ranged below the market in most cases. Hay out of warehouses is beginning to arrive in a small way. The few cars brought in to date were held at higher prices when sold, as accrued storage charges had to be met. Therefore quotations were higher this week on this class of hay.

Wheat, No. 1	$26.00@28.00
do, No. 2	22.00@24.00
Choice tame oat	25.00@27.50
Wild oat, new	22.00@24.00
Barley, new	22.00@24.00
Alfalfa	22.00@25.00
Stock	18.00@21.00
Barley straw	50@80c

FEEDSTUFFS.

There were no changes in prices for feedstuffs this week. The demand is only fair, as grass is having a wonderful growth practically throughout the entire State. Volunteer barley in some sections is as thick on the ground as if it were sown and up as high as a foot and a half at the present time. This is having its effect upon feedstuffs.

New alfalfa meal, per ton	$34.00@35.00
Coconut cake or meal	45.50
Cracked corn	86.00@88.00
Oilcake	78.00
Rolled barley	46.00@47.00
Rolled oats	56.00@57.00
Bran, carload lots in S. F.	23.75
Mixed feed, do, do	25.00
Middlings, do, do	25.75

POTATOES, ONIONS, ETC.

Potatoes continued on their downward track this week, the top price being only $1.90. Onions are without demand and receded in price. Reports from other sections of the country show that potatoes are still higher in the San Francisco market than in any other section and the tendency seems to be downward. According to best information the crop is way above the average for the past five years and the predicted high price for potatoes for next January and February will probably not materialize. Tomatoes are lower. Some fancy sold at a good figure. Sweet potatoes are more plentiful and sold at 50 cents a hundred lower. Garlic is strong and some fancy is reported sold as high as 20 cents, but the bulk went at quotations.

String beans	4@5c
Garden beans	6@7c
Wax beans, per lb	4@5c
Carrots, per sack	85c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
Summer squash	50@75c
Pumpkins	$1.00
Cucumbers, Alameda, lugs	75c@$1.25
Eggplant, per box	75c@$1.00
Lettuce, Sacramento, doz	15c
Celery, bunch	20@25c
Tomatoes, per crate—	
Bay	$1.00@1.50
Potatoes—	
Garnet Chile, on street	None
Whites	$1.85@1.90
Sweets, per sack	3.25@3.50
Onions—	
River Reds	None
Yellows	75c@$1.00
Australian Browns	75c@$1.00
Garlic, new	13@15c
Green corn, Alameda, per sack	Nominal
Okra	5@7c

BEANS.

The new crop of small whites made its appearance on the market this week. It is reported that the Government may not take many beans from California this year. It is now taking beans from Michigan and Idaho, where large crops were raised. According to dealers, there will be plenty of beans for Californians this year and the prices are more moderate than last year. Owing to Government restrictions on prices, there is practically no speculation in the commodity.

Bayos, per ctl	$ 7.75@ 7.90
Blackeyes, new crop	6.90@ 7.00
Cranberry beans	10.25@10.50
Limas (south, recleaned), new crop	11.50@11.60
Pinks	7.40@ 7.60
Red kidneys	Nominal
Mexican Reds	7.25@ 7.40
Tepary beans	6.25@ 6.50
Garbanzos	8.00@ 8.75
Large whites, new crop	9.25@ 9.40
Small whites, new crop	11.00@11.25

POULTRY.

Local receipts have been below the normal, but the arrival of two carloads from the East has furnished a supply which kept the market well supplied. A good demand is reported, and if Eastern shipments are not continued the scant local supply will cause higher prices.

Turkeys, live, young spring, lb	38@40c
do, old	35@36c
do, dressed, old	42@44c
Broilers, 1½ to 2 lbs	39@42c
do, 1¼ lbs	45c
do, ¾ to 1¼ lbs	47c
Fryers	32c
Hens, extra, per lb., colored	34c
do, Leghorn	30@31c
Smooth young roosters, per lb. (3 lbs. and over)	33c
Old roosters, colored, per lb	24c
Geese, young, per lb	27@28c
do, old, per lb	25c
Squabs, per lb	55@60c
Ducks	29@30c
do, old	25@27c
Belgian hares	18@20c
Jack rabbits	$2.50@3.00

BUTTER.

Under mutual agreement between the Federal Food Administration and the San Francisco and Los Angeles Dairy Produce Exchanges, the market "call" on butter will be confined to one session a week, and commencing Monday of this week, October 14, a price was established for butter at which all sales on the exchange for one week must be made. This agreement was reached in an effort to stabilize the price of butter and to eliminate speculation. It is stated that a real shortage of butter exists on account of purchases for the army and navy.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	63	62	—	62½	62½	62½
Prime first	62	Nom.	—	61	61	61
Firsts	Nominal					

EGGS.

Eggs are skyrocketing in a rather remarkable manner. The receipts are showing a decided falling off, and the shortage is given as the legitimate reason for the steady advance.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	60	68	—	72½	72½	71½
Extra 1sts	Nominal					
Firsts	Nominal					
Extra pullets	60	59½	—	62	62½	63

CHEESE.

Cheese has been steady, with no changes in prices this week. Receipts have been normal and the demand is reported as only fair.

California Cheddar, flats, fancy	30½c
Fancy California flats, per lb	30c
First California flats, per lb	27c
California Y. A. fancy	Nominal
Oregon triplets, fancy	30c
Oregon Y. A. fancy	Nominal
Monterey cheese	24@27c

FRESH FRUITS.

Peaches are becoming scarce and are quoted at higher prices, and alligator pears showed an advance of from $1 to $1.50. There are still plenty of grapes, but the market is now practically confined to Tokays and Muscats.

Apples	$1.50@2.50
Peaches, 1 box crate	1.25@1.75
Figs, black, per box	None
do, double layer	75c@$1.00
do, Single Row Whites	75c@$1.00
Strawberries, per chest	$8.00@10.00
Raspberries, per chest	$8.00@10.00
Plums	Nominal
Cantaloupes, flats	None
do, ponies	Nominal
do, standard	Nominal
Watermelons, per lb	Nominal
Pears, Bartlett, per box	$1.50@2.50
Grapes, Tokay	$1.50@2.50
do, Muscat	1.50@2.50
Persimmons	1.00@1.50
Alligator Pears	4.00@5.00
Pomegranates, per box	$1.50

CITRUS FRUITS.

Valencias are nearing the end of their season and have been advanced in price to $9 and $10. There is little grapefruit on the market, but the new crop is expected to come in about the end of next week. Lemons were somewhat higher, especially fancy lemons, which were quoted at a dollar above last week.

Oranges	$9.00@10.00
Lemons, fancy	5.00@ 6.50
do, choice	4.00@ 5.00
do, standard	3.50@4.00
Grapefruit	5.50@7.00

DRIED FRUITS.

There is little that can be said of dried fruits this week. Apples are quieter than other descriptions, as the local dealers cannot buy in quantities as long as the Eastern prices are 2c or 3c less than California prices. However, the taking over of the prune crop by the Government has added great strength to other fruits.

DRIED FRUITS

Apples	14@15c
Pears	12@15c
Prunes, graded, price to growers:	
gain in dip	11c
Prunes, graded, prices to growers:	
20-30, inclusive, per lb	15c
31-41, inclusive, basis	10c
42-51, inclusive, basis	9½c
52-61, inclusive, basis	8½c
62-71, inclusive, basis	8½c
82-91, inclusive, basis	8c
92-101, inclusive, basis	8c
102-121, inclusive, per lb	4½c
122 and up, per lb	4c
Apricots	12@15c
Figs	13@17c
Raisins—	
Muscats	7½c
Thompsons	6½c
Sultanas	6½c

RICE.

The first sales of paddy will probably be postponed until next week on account of October 12 being a legal holiday.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop, at mill	7.00

HONEY.

There are no changes in the honey market. The opinion is expressed that the present holders of honey in this city will have difficulty in disposing of their stock at a profit

HIDES.

Wet Salted Hides Per lb taken off from August 1 to September 1, all weights: No. 1, 19c; No. 2, 17c; No. 3, 16c.

Horse—Dry, per lb.: No. 7, large, $2.25@2.50; medium $1.75@2.25; small $1.00@1.50; salted, $3.00@5.00; colts, 25@75c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, October 14, 1918.

There is little to add to what was said last week regarding conditions in all markets, as the comparison of sales and prices this week rule about the same, weak stock selling for little better than freight charges and sound fruit meeting with a very active demand and a strong market.

Most of the Emperor stock that is moving and that has been shipped is going into storage and very little of this variety is being offered on the auctions. If the weather does not interfere, later shipments of Emperors will bring unusually high prices. Malagas and Tokays have first call, but shipments of these latter two varieties will probably clean up within the next two weeks.

Averages for the week:

New York: Peaches—Levi, $1.70. Pears—Bartlett, $3.80; Easter Buerre, $2.70; Winter Nellis, $2.95; B. Hardy, $2.80; B. Clairgeau, $3.45; Morceau, $3.47; B. Bosc, $4.25. Grapes—Tokay, $1.86; Malaga, $2.02; Alicante Bouchet, $2.50; Mission, $1.94; Cornichon, $2.16; Muscat, $1.84; Zinfandel, 1.75; Emperor, $2.30.

Boston: Grapes—Tokay, $2.27; Muscat, $1.58; Cornichon, $2.38; Malaga, $1.80; Mission, $1.86; Emperor, $1.82. Pears—Comice, $4.25; B. Bosc, $2.97; B. Clairgeau, 4.50; B. Hardy, $3.85. Peaches—Levi, $1.75; Salway, $1.70.

Chicago: Grapes—Emperor, $2.11; Malaga, $1.81; Tokay, $1.58; Zinfandel, $1.34; Cornichon, $1.90; Muscat, $1.46. Peaches—Levi, $1.20. Pears—Bartlett, $3.10.

Shipments from October 3 to 10, inclusive: 74 cars pears, 2002 cars grapes. Shipments to date, 1918-19, 19,895 cars; shipments to date, 1917, 18,433 cars.

Special Citrus Market Report

Los Angeles, October 14, 1918.

Boston offered the high market in the East for Valencias last week and paid the highest prices for a carload of this fruit ever recorded in the history of California's citrus industry. This car averaged $16.40 per box for firsts, $14.95 for seconds, and $13.25 for thirds. It is reported that the car netted the growers $12.68 a box on the trees. There are now less than 100 carloads to go forward, which will likely be entirely cleaned up by the time the navels come in. Florida shippers are withholding quotations. They will probably get $5 per box f. o. b. this month and $4 next for fancy fruit.

The lemon market is growing stronger at all points, the prevalence of the influenza accentuating the demand. Quotations are on a basis of $4.50 to $5 f. o. b. and California is in a position to supply the demands of the entire country for this fruit.

Total shipments for the season are: Oranges, 14,602 cars; last season, same date, 39,246; lemons, 5690 cars; last season to date, 7579.

LOS ANGELES

Los Angeles, October 15, 1918.

BUTTER.

A higher market was had the past week under scarcity and what offering on 'change found quick sale. Receipts for the week only 217,800 pounds, against 270,800 pounds the same week last year. To make up this shortage there was withdrawn from cold storage 83,574 pounds, leaving the cold storage holdings now only 277,741 pounds.

We quote:

California extra creamery	60c
do, prime first	58c
do, first	57c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	60	60	60	60	60	60
1917—						
Extra	47	47	47	47	47	47

EGGS.

Receipts of the past week were the lightest of the year. Of fresh ranch by rail only 380 cases, against 566 cases the same week last year. The receipts for the week were 1900 cases, against 2830 cases the same week last year. In the absence of fresh stock, cold storage eggs were drawn on more freely to make up the shortage. What few fresh ranch offered on 'change were snapped up at higher prices. Fresh were advanced during the week 6c all 'round and closed Monday firm at this advance.

Daily quotations:

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	60	61	63	65	63	66
Case count	54	54	54	54	54	60
Pullets	49	50	53	53	53	55
1917—						
Extra	52	52	52	54	55	56
Case count	49	49	51	53	54	54
Pullets	42	42	42	43	43	43

POULTRY.

A fair but unsettled market was had the past week. Broilers and fryers were in light supply and higher and sold very well. Hens moving less freely and 1c lower. Roasters were slow sale and lower. Turkeys were down 2@3c. Too many coming in for so early in the season. Ducks slow sale and geese not wanted.

The following prices were agreed upon last Friday, October 11, and hold good until the coming Friday:

Broilers, 1@1¼ lbs	39c
Broilers, 1½@1¾ lbs	39c
Fryers, 2@3 lbs	32c
Roasters (soft bone), 3 lbs. and up	30c
Stags and old roosters, per lb	20c
Hens	26@30c
Tom turkeys	30@32c
Ducks	22@28c
Geese	15c

VEGETABLES.

Offerings pretty good and sales slow. Potatoes came in with a rush and market prices were forced down 25c a cwt. But at this decline there was a very good movement, the lower prices causing many to anticipate their future wants.

Bell peppers, per lb	2½@3c
Chile peppers, per lb	2½@3c
String beans, per lb	4@4½c
Lima beans	3½@4c
Potatoes, local, per lug	75c@$1.00
do, do, per cwt	$1.75@2.00
do, northern, per cwt	2.00@2.30
Sweet potatoes, per lb	2½@3c
Garlic, per lb	8@9c
Onions—Stockton Yellow Danvers, cwt	$1.40@1.50
Onions, White Globe, per cwt	1.75@2.00
Cabbage, per 100 lbs	1.25
Celery, crate	3.00@3.25
Tomatoes, No. 1 lug	50@60c
do, No. 2 lug	25@35c

FRUITS.

Apples are coming in more freely and showed more life. Peaches and pears are still coming in in fair quantities, the best bringing good prices. Grapes continue to hold steady and sell well. Quinces slow sale and weak. Japanese persimmons coming in more freely and selling fairly well.

Figs, Black Spanish, 7-lb. box	30@40c
do, White, 7-lb. box	30@40c
Peaches, freestone, per lug	$1.00@1.25
do, clings, per lug	1.25@1.50
Pears, local, per lb	2@3c
Pears, Mountain	3½@5c
Grapes—	
Malagas, per lb	2½@3c
do, Muscat, per lb	2@2½c
do, Liberty, per lb	2½@3c
do, Rose Peru, per lb	2½@3c
do, Tokay, per lb	4@5c
do, Cornichon	4@4½c
do, Black Morocco, lb	4@4½c
Apples—	
King Davids, 4-tier	$2.75
Black Twigs, 4-tier	2.75
Baldwins, 4-tier	2.00
Red Pearmains, 4-tier	1.75
White Pearmains, 4-tier	1.75
Rhode Island Greenings, 4-tier	1.50
Yellow Newtown Pippins, 4-tier	1.75
Apples, Bellefleur, 4-tier	$1.65@1.75
do, 3½-tier	1.70@1.80
do, Gravenstein, 4-tier	2.25
do, do, 4½-tier	2.00
do, Bellefleurs, local, per lb	2½@3c

WALNUTS.

The California Walnut Association is now delivering about 25 cars of walnuts a day and have sold out. Manager C. Thorp says the association has not a pound for sale. There are some walnuts held by independent growers and they have been advanced another cent the past week. The market now is:

	1918	1917
Fancy budded	34½c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

BERRIES.

Receipts were not heavy, but at the high prices asked sales were slow. Too much other and cheaper fruit on the market.

Strawberries—	
Fancy, per 30-basket crate	$3.50@3.75
Poor to choice, 30-basket crate	1.50@1.65
Blackberries, 30-basket crate	2.50@3.00
Raspberries, 30-basket crate	3.50@4.00

MELONS.

Watermelons and casabas were in fair supply the past week, but quality falling off and sales slow. Some few Honeydew melons continue to come in, but they are selling slowly at old prices.

We quote from growers:

Casabas, per lb	1@1½
Watermelons, per 100 lbs	75c@$1.00
Honeydew melons, 16-inch crate	75c@$1.00
do, jumbo crate	$2.75@3.00

BEANS.

Buyers continue to hold back. There were more offerings the past week and limas, large whites and teparies are all lower. There was a fair movement in limas and small whites.

We quote from growers:

Limas, per cwt	$11.00
Large white, per cwt	9.00
Small white, per cwt	10.00
Pink, per cwt	7.50
Blackeye, per cwt	6.25
Tepary, per cwt	6.25

HAY.

Receipts somewhat better, but the market was dull. Some little alfalfa is being taken by the dairy people, but there is no demand for horse hay. Dealers find it impossible to make clearances, the close of each day finding more or less hay on track unsold.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$23.00@24.00
Oat hay, per ton	25.00@27.00
Alfalfa, northern, per ton	20.00@21.00
Alfalfa, local, per ton	21.00@23.00
Straw, per ton	9.00@10.00

COTTON.

An irregular and weak market was had the past week. Liverpool was a steady seller most of the week and the South also sold more freely upon peace prospects. Monday opened the current week a little firmer, with fair buying under less favorable peace prospects, and some of the weakness of the early part of the week was regained. October closed in New York at 30.00c and December 29.68c. No New Orleans market reported.

What for Next Issue?

There are about 90,000 regular readers of the Pacific Rural Press, and probably each one has his own pet ideas as to what an ideal farm paper should contain. Of course, we can't incorporate all of these ideas, but the more we know about them the nearer we can come to pleasing everybody.

Recently we sent out several thousand renewal coupons and asked subscribers to use the backs in making suggestions for improvement. A large number stated that the paper could hardly be improved upon, but several very kindly mentioned subjects that they wanted treated, and we certainly shall comply with their requests as soon as possible.

How about you? Are we covering the problems that are giving you the most concern? Have you been able to profit by the strong, helpful articles we have been publishing lately? One subscriber who had derived a great deal of benefit from them wrote us: "You have put the Rural Press so far ahead of all other farm papers that I should think you would be lonesome."

Yes, we do feel a little lonesome at times, but this will not cause us to rest on our laurels. We shall continue in our endeavor to make each issue better than the last. In this issue, for instance, Mr. Hodges gives a forecast of the 1919 wheat situation and makes some valuable suggestions for seeding; Mr. Fox comes up with two splendid articles, one on tree planting and the care of nursery stock, and the other on pruning to rejuvenate the almond; Mr. Whitten gives some sound advice about putting in milking machines. Be sure to read all of these articles.

Next week we shall get out a special issue for the International Livestock Show at San Francisco, but besides telling you all about the plans for this great show we shall make an exclusive announcement which will mean millions of dollars to the stockmen of this State. You can't afford to miss this issue; it will be a corker.

You will always find our paper in the front line trenches fighting the farmers' battles for them, and whenever any big "capture" is made you will see the first account of it in the Rural Press—the paper that goes "over the top."

Special Livestock Market Report

San Francisco, October 16, 1918.

CATTLE—The cattle market is steady. Shipments from Oregon still continue, though the end of these shipments is now in sight. Heavyweight are scarcer and in good demand. The market is over-supplied with cow stuff.

Grass steers—	
No. 1, weighing 1000 to 1200 lbs.	11½@12c
No. 1, weighing 1200 to 1400 lbs.	11½@11¾c
Second quality	10@10½c
Thin	8@9c
Cows and heifers—	
No. 1	7½@8c
Second quality	6½@7c
Common to thin	4@5c
Bulls and stags—	
Good	6@7c
Fair	5@6c
Thin	4@5c
Calves—	
Lightweight	11c
Heavy	8½c
Medium	10c

SHEEP—Mutton sheep are somewhat scarce, but lambs are being shipped in in sufficient numbers to take care of the trade.

Lambs—	
Yearlings	12@12½c
Milk	14@14½c
Sheep—	
Wethers	11½@12c
Ewes	9@9½c

HOGS—Hogs are coming in faster than packers can take care of them. They are badly handicapped in their operations by difficulty in getting an adequate supply of labor to replace a number of employees laid up with the influenza.

Hogs—	
Hard, grain fed, 100@140	17½c
do, do, 140@300	18c
do, do, 300@400	17½c

Los Angeles, October 15, 1918.

CATTLE—There continues a scarcity of choice fed cattle and they are in very good demand and the market for them firm. Choice cows and heifers are higher. Low and medium grades dull at unchanged prices.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs.	$9.00@12.00
Prime cows and heifers	8.00@9.00
Good cows and heifers	7.00@ 7.50
Canners, per cwt	5.50
Calves, per cwt	8.50@ 9.50

HOGS—With cooler weather the market has brightened up a little. Offerings not heavy and the best are still bringing old prices, notwithstanding the declining markets East.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs.	$15.50@16.50
Mixed, 225x275 lbs	16.00@17.00
Light, 175@220 lbs	16.50@18.00

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—Not many coming in and under scarcity prices remain unchanged and demand fair for all fleshy lots, both sheep and lambs. Thin and medium, however, are dull and weak.

Per cwt. f. o. b. Los Angeles—

Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	15.00@16.00

Portland, Ore., October 15, 1918.

CATTLE—Receipts, 249; market strong. Prime steers, $12@13; good to choice, $11@$12; medium to good, $9.75@11.00; fair to medium, $8.25@9.25; common to fair, $5.75@8.25; choice cows and heifers, $8@9; medium to good, $5.75@7.25; fair to medium, $4.75@5.75; canners, $3@4; bulls, $5@7; calves, $9@12; stockers and feeders, $6@8.

HOGS—Receipts, 732; lower. Prime mixed, $17.75@17.85; medium, $17.35@17.60; rough heavies, $15.75@15.85; pigs, $14.50@15.50; bulk of sales, $17.65@17.75.

SHEEP—Receipts, 310; steady. Prime lambs, $12@13.50; fair to medium, $9@11; yearlings, $10@11; wethers, $9@10; ewes, $6.50@9.

Classified Advertisements

Rates 3 cents per word per week

MISCELLANEOUS.

FOR SALE—Number 11 Acme De Laval feed cutter, mounted on truck, and silo chute and hopper, almost new; 6-h. p. Alpha De Laval gas engine, equipped with 20-inch friction clutch pulley, mounted on truck; used very little; P & O power lift tractor plow, three 12-inch bottoms; Kentucky grain drill, shoe type. J. H. M., 440 Montgomery street, San Francisco.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets San Francisco, Cal.

FOR SALE—8-h. p. engine, 4-inch centrifugal pump, 160 feet 6-inch, 550 feet 7-inch surface pipe. Plant can be seen in operation any time. G. W. Heer, Santa Ynez, Santa Barbara, Cal.

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All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works,** 160 Eleventh street, San Francisco.

APPLES FROM GROWER, bulk pack, Newtowns and Bellflowers; first grade, $1.25; second, $1 per box. Edward A. Hall, R. F. D. 1, Box 39, Watsonville, Cal.

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TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

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COUNTRY LANDS.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dep't., Chico, California.

WANTED—To hear from owner of good farm for sale; state cash price, full description. D. F. Bush, Minneapolis, Minn.

WANTED.

FARM SUPERINTENDENT WANTED—Experienced in cereal, bean, beet, alfalfa culture, to advise and supervise tenant farmers; also familiar with and to have charge over pumps, motors and irrigation. Must be industrious, affable and good mixer. House and auto furnished. State experience, references and salary. Address E. M. G., 414 Clay St., Monterey, Cal.

POSITION WANTED to take charge of a hog ranch by a single man, experienced in handling registered stock. Hans Duveneck, Ukiah, Cal.

WANTED—Single man to take charge of and break horses on large ranch; good wages to competent man. Address Box 1039, Chico, Cal.

WANTED—Foreman for large ranch; must understand farming and be able to advise tenants; must have good references as to reliability, honesty, experience, etc.; state salary, experience. Address Box 1260, Pacific Rural Press.

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Seven Models—¾ ton to 5 ton.

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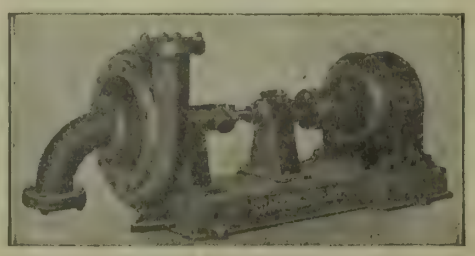

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THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO OCTOBER 26, 1918 LOS ANGELES

U. C. AGRIC. LIBRARY

Will This Grass Restore California's Pristine Pasturage?

Written for Pacific Rural Press by Professor P. B. Kennedy, University of California

A PIONEER'S PLAINT AND PROPHECY ABOUT GRASS

California's indigenous grasses, once so abundant as to pasture thousands of animals where only hundreds are able to subsist now, are fast disappearing. Whether any forage plant can be found that will grow upon our hills and plains and become a profitable substitute for the original grasses, remains for the future to bring forth. There must be a remedy in nature, but who will discover it? He who succeeds in making the discovery will be a benefactor of his race and deserve the lasting gratitude of his country. Till this can be accomplished it becomes us to be careful of the grazing capacity of our land; otherwise we destroy what cannot be replaced.—Gen. John Bidwell in his address at the State Fair of 1864.

Will Phalaris stenoptera answer this demand?

SELDOM does it come to the lot of California to find a forage that will maintain itself year after year and produce abundant and palatable pasturage or hay without irrigation. A perennial grass that will withstand the winter temperatures as well as the long dry season in the great central valleys will be of particular value to the livestock industry of the State. Recent investigations have now progressed far enough for us to announce that we have found such a grass and are willing to recommend it. It is known as "Harding grass"—Phalaris stenoptera.

The origin of the grass is obscure, and, strange to say, it has not been found wild in any country. The first record concerning it comes from R. R. Harding, Curator of the Botanic Gardens at Toowamba, Queensland. He received a small packet of the seed from Italy, and on growing it soon recognized its value and distributed it in small amounts to different countries, including South Africa.

It stools out rapidly and profusely.

Four years ago an illustration of a grass in a trial plot, in a seedman's catalogue from South Africa, attracted my attention. The report of its behavior under conditions of heavy frosts and long droughts made it appear that it might prove valuable under California conditions. Sufficient seed was purchased to sow only one-twentieth of an acre, as it was too costly to be considered in larger quantities. We have found it under the conditions which exist at the University Farm at Davis to be extremely drought- and frost-resistant during a period of at least two dry years. The grass has had no irrigation whatever and has made good with the rainfall at Davis, which normally averages 16.54 inches, and for the last two years practically only half this amount.

How Phalaris Grows.

The grass grows rapidly, stooling profusely, and produces large clumps the first season. During the first period of its existence it devotes all its energies to the production of numerous leafy shoots from the base, with a comparatively small number of flower-bearing stems which grow only to a height of about two feet. If the rainfall has been normal, it remains green throughout the hot summer, but makes little growth. If, however, the rainfall is short, as has been the case at Davis during the last two seasons, it turns brown, but the roots remain alive. With the advent of rain, as has recently occurred, we find the entire brown area a mass of luscious green leaves. The rapid growth of this grass during the last three weeks is truly marvelous.

During the second winter the plants spread out so as to occupy every available space and produce by spring a dense leafy mass three feet high. This leafage is devoid of hairy coverings of any kind, thus tending towards a clean hay and palatable pasturage. So far we have not found it to be attacked by insect pests or fungous disease.

During the month of April or later, according to the season, the strong, vigorous flowering stems shoot up from below, reaching a height of 5 feet and terminating in heads somewhat resembling those of timothy. By the middle of May it is in full flower and ready to cut for hay. We estimate the yield to be about 20 tons of green stuff or three tons of cured hay per acre.

In addition there remains below the cut surface a dense mass of leaves, which would furnish excellent pasturage. If left to be harvested for seed, we would expect about 200 pounds of seed per acre the second year. As previously intimated, the crop of seed the first year of the plant's growth from seed is very light. Unlike most cultivated grasses, the stems or straw is still quite palatable after a crop of seed has been obtained.

Its root system is similar to that of Indian corn or sorghum and not like Johnson or Bermuda grass, and therefore it is not likely to become a pest.

(Continued on page 453.)

A growth like this will arrest the attention of all stockmen on both range and farm. It looks well worth a trial.

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E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - - - - Agriculture
R. H. WHITTEN - - - - - - Livestock
JNO. J. FOX - - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

MORE BUNK FROM BERLIN.

AS WE write on Tuesday there comes from Berlin another installment of Germany's effort to get a peace without confessing her crimes and paying for them and without giving the world guarantees that she will not run amuck again as soon as our soldiers are recalled to engage in nobler business than hunting Huns. In her last peace note Germany tries to make the world believe that her atrocities on land and sea were committed by wicked soldiers and sailors in spite of orders to be humane; that her cruelty and exactions in the countries she has desolated were only such as authorized by the laws in such cases made and provided: that she now wants peace and has a government by the people which ought to suit "his lordship Mr. Wilson" because it has just been handed down by the me-und-gott combination which in Germany is the place whence all blessings flow. Of course President Wilson is in no danger of being fooled by such bunk and will probably tell them that Marshal Foch has the key to their padlock—but still we rather like a proposition made in Congress yesterday in the form of a joint resolution proposing that Congress forbid further negotiations by the United States with Germany looking to the granting of an armistice or peace until the German military forces have surrendered unconditionally. It is possible that if the Congress of the United States should pass such a resolution the German people might realize just where they are at: make their overlords stop writing fairy tales and really do something for themselves which might give them a chance to square themselves with the world!

UNCLE SAM'S RUMMAGE SALE.

WE HAVE previously manifested much interest in Secretary Lane's undertaking to have the country searched through from end to end to discover what forsaken parts of Uncle Sam's geography can be reclaimed for farm homes to be properly fitted up and sold to returning soldiers and sailors who may wish them, on such long terms and small payments that their surplus earnings will pay for them. As we understand it, it is not a plan to give returning soldiers and sailors land whether they desire it or not: it is to help them to get land for their own and to live the land-life—not to endow them with claims or script which can be sold to land sharks for their speculative purposes. We have had enough of that. We have had more than enough of floating titles which have been gathered in booms and anchored down finally on dukedoms of land—thus closing many excellent regions to actual settlement and development for half a century already and the Lord knows for how much longer. This is a plan to sell land by the Government in small parcels to those who have served their country—land already fitted to grow crops—and to accompany such a sale with an obligation on the part of the Government to guide and advise the settler how to grow crops and to dispose of them to such advantage that he can live comfortably and ultimately pay for the land entrusted to him. As he has served his country well, so his country proposes to serve him to the end of his life. It is a patriotic policy worthy of a country which loves worthy sons. And this is true not only because of love-requital for past services but because such a country can only live in the return-love and service of its citizenship.

There is also another feature of the enterprise initiated by Secretary Lane which commends it to us. It is not a plan to handle only land in the arid region, where public lands now lie under a blanket of problems of reclamation utilization and social development. Such lands will, no doubt, be a part of the resources to be employed, but they are not all and perhaps not even a large part of it. The plan proposes to hunt up unused lands in all States and to dispose of and populate them to the extent of their producing capacity and to undertake such reasonable improvement of their natural conditions that such producing capacity shall become available. It is, therefore, a plan to take up lands which are too wet as well as too dry, lands which have been cut over for their commercial lumber product and abandoned, and lands which need some form of general improvement to make them arable and productive of crops. Probably all States have such lands. The first movement is to find them, map them and determine what it is necessary to do to make farms of them. This is the rummage which the plan proposes to set forth in shape to be useful to somebody and to add its aggregate worth to the national resources.

WHY TRENCHES LEAD TO FURROWS.

ALL WHO have written or spoken from the fronts agree that the boys we sent abroad to rescue the world from the Huns will not return to us as we sent them forth. They will not only return as men but men with loftier and more serious purposes than they had in their kitbags when embarking. This fact not only indicates that they will have new ideas of human life as a God-given opportunity but they will have new demands for ways of living. We approve Secretary Lane's plan because we believe that it will, if properly administered, meet the needs and desires of many thousands who, having lived for months or years under the sky in the strenuous open-air activities on the fronts, will never be content again to grovel in the shadows of the skyscrapers or tenements of our great cities.

Our boys, having fought the Huns under conditions which have developed their utmost in dash and endurance, will never be content to creep again from windowless boudoirs to dug-out lunch counters and to spend their lives in city occupations which afford only such environment. To move people from such activities and environments directly to star-lit vacancy and batrachian orchestration produces homesickness and desperate longing for return to the clang of the street-car gong and the glare of the picture-palace foyers, and therefore direct back-to-the-land movements from city turmoil to country solitudes have usually disgusted all who have participated in them, both as promoters and promoted. But the movement of men from the trenches and from ship-decks to rural life which will answer their longing for free action and open-air adventure is a very different thing, for it is full of opportunities for initiative and for struggle with difficulties, for which war experience has developed not only force to win but joy in the effort to win. It is just those qualities which the progress and improvement of our rural life demands. They are the same qualities which sent the soldiers of both northern and southern armies at the close of the Civil War half a century ago into the then newly opened lands of the farther west. They, too, had seen visions of great undertakings while they struggled toward the great merging of visions at Gettysburg and the development of the farther west was largely their achievement. Now we are in sight of another great onward push in this country and every State may share in it—the shoulder to shoulder push of a generation of Americans who are not merely squeezed out from cities but who will choose the country because it will better answer their burning aspiration to be men of freedom and action and not merely convict-numbers on urban pay rolls.

CONGRESS FAVORS THE PLAN.

AS THE idea of ruralizing returning soldiers and sailors is a great one and the nature of it such that its benefits will be distributed to all States, it is natural that it should receive wide public support. We have just seen a dispatch from Secretary Lane which speaks of the progress of the plan in these words:

"The committee on public lands of the Senate has unanimously reported in favor of a bill appropriating a million dollars to make surveys of farms for returning soldiers. In this report the committee says the proposed legislation is for the purpose of providing an opportunity to procure homes for those of our returning soldiers and sailors who may wish them as well as giving opportunity to thousands of workers in munition factories and other war industries, who at the conclusion of the war will be out of employment, to promote a 'back-to-the-land' movement.

"It is recognized that one of the great evils of the times in our country is the overcrowding and congestion of people in the cities, many of whom are utterly unfitted for city life and not adapted to the application thereof, and after the war this undesirable condition will be greatly intensified. It is the object of this proposed legislation to provide them with a chance to get on the land."

The preliminary work which is now in good prospect of being provided for by Congress is already in progress and Californians are rendering important service in connection with it. Dr. Elwood Meade is assisting Secretary Lane in the development of the general plan and H. T. Cory is one of those who are looking over the States for unused lands which may be subsequently more carefully considered—as we roughly intimated in our issue of August 17 and September 14 last.

THE COUNTRY NEEDS SUCH MEN.

TO SECURE the progress of this country and to insure the prosperity and comfort of our multiplying millions, the return of our soldiers to the arts and industries of peace as soon as their foreign work is complete is essential. We blamed the labor unions last week for tolerating the claim that they should be kept abroad to prevent crowding in American labor procession toward higher wages and shorter hours. Beyond the reasons urged against such an ill-begotten scheme last week there are considerations which remove all reasonableness from it, and they are involved in the plan to ruralize all the returning soldiers and sailors who have any desire for such life—and because of the facts of their changed ideals and temperaments already cited we believe there will be very many such. To colonize such men on unused lands well prepared for them will add to the available rural labor in all States. As their enterprises will not be large they will have day's work to exchange among themselves and they will have also a large aggregate force to turn into ready cash while the peak-loads are on the labor power-wires in their districts. It would be vastly more humane, patriotic and reasonable for the labor unions to utterly reject the wild idea of keeping the boys marking time in the ranks abroad and take up enthusiastically the present plan of returning them as soon as their work is done to rural activities in this country. Of course unemployment in the cities is deplorable—cruelty to the idle men and a curse to the urban communities. There is no menace of unemployment in the country for men who have the quality of coming through and sticking to their jobs which the service has developed in the young Americans who are now on the various fronts on land and sea and in the air. Therefore, let them return as soon as possible. Interest every possible one of them in making rural homes of their own. See that they get no land which is not ready for production. Provide them with instruction and advice as to how their jobs should be done to be safe and profitable. Do this in every State where suitable idle land can be made ready and we shall have an uplift of rural industry in this country which will be commensurate and correlated with the unprecedented development of manufacture, trade and commerce which the return of world peace will bring. It is surely a statesmanlike plan.

FARMING NEEDS MORE STEEL.

IN A VERY vexatious way it is baffling to write of what should be done for the boys and what they should do for the country in farming while one knows of the limitations which are

being put on the 1919 supply of steel for agricultural implements and farm tractors. You can no more do modern farming without plenty of steel than you can make modern warfare without it. And as successful warfare is absolutely dependent upon plenty of food and plenty of food is only attainable by the service of plenty of steel, it looks to us as though steel for farming should be considered as a first and fundamental war need and treated as such. Instead of that the action of the War Industries Board, as of October first last, seems to indicate that that body looks upon farm tools and tractors as in the same category with bicycles, metal beds, baby buggies, burial caskets, passenger automobiles, etc., and therefore subject to a flat cut in allowance of iron and steel for the year ending September 30, 1919. It is fortunately true that the board does discriminate somewhat because farm tools and tractors are only cut off with 25 per cent less metal than they required during the year ending September 30 last, while some of the indispensable things in the category above are cut 50 per cent, and yet it is also true that one had better sleep on the floor than not have any food to hold up his ribs on a metal bed: that the baby might ride pick-a-back like a papoose than go hungry and that when a man gets over being hungry he might better be cremated in a wooden box than shut up under ground in a steel overcoat. From all that is probably truly said about the need of food for our troops and our allies, it would surely seem that farm tools and farm tractors should have all the metal they can use, even if the board should be compelled to absolutely prohibit the production of brass monkeys to give it to them. It is difficult, of course, to determine what are really essential things and to discriminate against all others, and in this country we have suffered mighty little in that direction, but if the production of steel is so limited by labor troubles and coal troubles, which are another form of labor trouble, that 25 per cent has to be cut from the current requirements of crop production, there surely should be an effort made to determine exactly what other uses of metals are essential and whether the labor troubles which limit production are themselves essential or otherwise. If labor will not dig coal or burn coke so that steel mills can roll or cast steel, so that farmers can get tools to grow crops, so that the war can be won and labor need not go hungry, there is surely something unnecessary in the endless chain and it is not in the farmer's link of it. It is our judgment that the War Industries Board should review their schedule of reduced metal allowances and think more of tools for food production as a war need, which should not be balanced against jack-knives and clothes-wringers in their essential reduction categories.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Fruit Planting on Oak Lands.

To the Editor: I have 25 acres of red upland cleared on my ranch in Tehama county, on which I intended to plant French prunes, but have been advised not to do so by a Santa Clara Valley prune man, owing to the fact that the land was originally covered with live oaks. My friend advises me that considerable trouble is caused by what he calls "oak fungus," and which he claims is present in all land in which live oaks have grown. Can you give me any information regarding this "oak fungus," and do you consider I would be taking any great risk in planting such land to prunes? Of course, the land is under irrigation.—L. C., San Francisco.

The danger to fruit trees in oak-cleared land does not lie in the land as a whole but in the chance of contact between the roots of the trees with decaying oak roots remaining in the land. The chance of this is present for many years, but it is not great enough to prevent planting of such land to fruit. If California planters had forsaken fruit planting because the land had oak trees cleared from it, we would not now be growing the amounts of fruit which are being produced. It is not wise now to refrain from planting for that reason, if other conditions are favorable. In breaking up the land deeply keep one or more men busy pulling out and picking off all root pieces disclosed by the plow. In digging holes for the trees get out all possible of all oak roots encountered. For some years trees will encounter root pieces and fail here and there and need to be replaced with new trees, but there is nothing in the outlook to warrant you in changing your plans.

Crops to Follow Sudan.

To the Editor: What grains can successfully follow Sudan grass for winter planting? I understand that barley cannot. Can wheat, and, if so, what variety is best? When should it be planted? How should the soil be treated to get rid of the Sudan stubble and make ready for the wheat planting? How much wheat should be sown to the acre?—E. W. L., Maxwell.

We are not aware of experimental data enough to answer your main question very confidently and would be glad of reports from those who have settled it to their own satisfaction. Wheat and oats are said to be less sensitive about following a sorghum than barley, and a crop with a longer season is said to be less affected than one which tries to come through more quickly. If you choose wheat, we would rake off all the coarse stuff you can and burn it or pile it for rotting. Then disk up the stubble and roots as fine as possible and leave it on the surface rather than plow it under—unless you have a heavy soil and expect plenty of water to settle the land and rot the rubbish. Sow the wheat and harrow it in as soon as the soil is wet deeply enough to carry the growth. It will do better on a firm subsoil than on a loose seed bed, full of trash. Sow the wheat which is chiefly grown in your region, probably White Australian, about 75 pounds to the acre.

Splitting of Peaches.

To the Editor: A great many of my peaches split open on one side clear to the pit: the pit not being split, just the peach. Can you tell me the cause of their splitting, also if there is any remedy for it?—M. R. M., Willits.

This is apparently a very different trouble from split-pit, though we have not demonstrated the cause in either case. It is probable that the splitting of all fruits is due to the same or similar cause, though we do not surely know what it is. There seems to be reason to believe that it has relation to inequality or uneven moisture and quick changes from one condition to another and this may be in the soil or in the air. Some varieties are more subject to it than others and where the trouble frequently occurs all bad-splitting varieties should be rejected in planting or grafted out in older trees. Liability to splitting is particularly variable in the case of plums: some are almost sure to split every year in some localities and others never split. No remedy for such behavior has been demonstrated.

Highway Robbery.

To the Editor: A friend of mine just informed me he knows of a case where a man was fined $25 for picking up two walnuts which had fallen on the county road from a tree which overhung the county road running past a grove near Walnut Creek. In Europe, I believe, the law is that anything overhanging the county road belongs to the community. Will you kindly inform me what the law is in this country?—M. W. F., San Francisco.

We doubt if there is any one law prevailing in European countries. In this country, so far as we know it, the abutting owner owns to the middle of the road—except in towns where charters or ordinances provide for public ownership and control of the roadways. In the case you mention the trespasser was over-punished, if the facts are as stated, but it must be remembered that orchard property is constantly and systematically looted by people who use the highways and exemplary punishment is justified, though we must wish that it had been for a more flagrant transgression—of which there are altogether too many.

Growing Peach Trees.

To the Editor: What is the proper time of year to plant peach pits for nursery stock, also how deep and how far apart in the row? They will be in the same place for two years.—H. G., Santa Margarita.

It is usual to put the pits about this time of the year in a bed where water will not stand,

Field Men Wanted

Are you draft exempt? Have you an automobile? Are you free to travel? Are you convinced that the Rural Press is the best paper of its kind on the Coast and that it should be in every farm home? If so, we need you to take the place of field men who have been drafted. Pleasant work, attending to our renewals and presenting the paper to those not already subscribers.

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putting in about three inches of sand, a layer of pits, then a layer of sand, a layer of pits, etc.—making a sandwich of sand and pits a foot or more thick. The pits are left in the sand during the cold weather and when they begin to sprout and the nursery ground gets warm (say in February or March), the pits which show sprouts are planted about two inches deep and ten inches apart in rows four feet apart. In this way you can get a full stand because you plant only pits which have started to grow. It is not a good plan to leave peach trees in place two years. Seedlings are budded the first summer and allowed one summer's growth on the bud and then planted in orchard.

Budding or Grafting Figs.

To the Editor: How shall I proceed to bud or graft figs?—J. L. S., Ramona.

Small shoots of figs can be budded by what is called ring-budding—that is, take the bud with a circle of bark, splitting it at the side of the ring back of the bud. Remove a similar ring from the stock and put the ring with the bud in its place. A waxed-band has to be used to hold in place tightly and exclude air. It is a difficult process, and needs a good mechanical hand. Fig grafting in old wood is much easier. Do not split the stock. Cut the scion with a slope on one side only and push down inside the bark or take a short spur cut with a plate of bark, cut out a piece of bark of the same size on the side of the stock and plant the scion-plate in its place—fastening down tightly and waxing thoroughly.

Stacking Beans.

To the Editor: Will blackeye beans finish curing in stack after tops, pods and all light straws are dry? I cut these beans some two weeks ago and have left them in windrow to cure. The heavy stems and roots are very slow drying, and as it is getting late I am anxious to get them stacked if I can do so without danger of loss in doing so. I want to have them threshed by machine.—Subscriber, Orange Cove, Fresno county.

If everything is thoroughly dry except thick stems and roots and the beans are hard, they ought to stand stacking without injury. Although stacking is not much done in California, it is a common practice at the north, where there would seem to be more danger of too much moisture than in Fresno. Stacks are built on a foot-depth of straw and covered with straw to shed rain.

Collapse of Chicken Manure.

To the Editor: If chicken manure is taken from the dropping boards and stored in a dry place where the rain does not get on it, and after being stored six months the manure has heated and burned down one-half of its bulk, does the remaining half still contain the fertilizing value of the original bulk?—W. L., Penryn.

It does not. The loss in plant food may be even greater than the decrease in bulk. The fermentation sets free the nitrogen and otherwise destroys the organic matter and these are the chiefly valuable contents. You may have left little more than the ash or mineral contents. The manure should have been thoroughly sun-dried before storage and if thus treated the loss would be very light.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 22, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.56	2.47	3.13	68	44
Red Bluff	.02	7.87	1.88	82	50
Sacramento	.08	3.96	1.08	88	48
San Francisco	.04	2.70	1.12	84	54
San Jose	.03	6.46	.97	82	42
Fresno	.00	.59	.74	82	48
San Luis Obispo	.01	1.50	1.29	[illegible]	48
Los Angeles	.00	.67	.53	84	58
San Diego	.00	.59	.39	78	58

Farm Products Must Increase

If we are to win the war and win it quickly our soldiers and our allies must be well fed. We cannot expect them to do their best to win unless we do our best to back them up. How are you going to make every acre of your farm produce to its utmost? Just as our army must be well fed so your soil must be fed. You must supply it with the elements necessary to produce crops.

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FOR CALIFORNIA SOILS

An Honest Pack of Fruit and Vegetables

[Written for the Pacific Rural Press by Geo. P. Weldon, Chief Deputy, State Commission of Horticulture.]

NO CONSUMER can afford to pay the price of good fruit for the inferior grades; on the other hand, he can better afford to pay a much higher price for good fruit than for worm-eaten, poor fruit, for, after all, it is not the number of fruits in a box that determines its value, but the number of good fruits with little or no waste in preparing for the table.

The State Commissioner of Horticulture, G. H. Hecke, is absolutely responsible for the enforcement of the law relating to the standardization of the apple pack, and indirectly responsible for the enforcement of another law which relates to the packing of other deciduous fruits and, in addition, tomatoes and cantaloupes. For some weeks the activities of at least four members of the State office have been practically confined to an effort to enforce these laws. Some arrests have been made and a decided improvement over last year's pack is noted in the pack of all fruits, as well as cantaloupes and tomatoes.

DECEPTION IN PACKING.

It seems strange that a man who is considered perfectly honest and who would resent with force, if necessary, any implication that he is otherwise, will pack apples or tomatoes or perhaps something else with small, worthless, inedible trash in the bottom of the package and the finest specimens obtainable of the particular fruit or vegetable on the top. This practice has been in vogue so long in California that some people have actually come to believe that it is honest, yet it never was and never can be. The first growers who packed in this manner did so with the idea of making the fine fruit on top of the package sell the trash in the bottom of the package at a figure greater than it was worth. The purpose of such a pack today is no different from what it was in the earliest days of the industry.

RETAILER KEEPS EVEN BY FLEECING THE CONSUMER.

What is the result of the deception practiced in placing poor fruit in the bottom and good fruit on the top of the package? The commission man sells to the retailer the fruit or vegetable in the original package. He knows it to be deceptive and would rather that grading had been carefully done, but since it has not been he trusts to the beautiful top layer and the slightly inferior layer underneath to sell the bottom at a good price, which it usually does. The retailer finds it necessary to sell by the pound, and in order to make his profit he must either discard the worthless fruit and charge a price for the good which represents what it is worth plus what he paid for the fruit he couldn't use, or he must mix a few worthless fruits in each pound which he sells, thus getting for them and the good fruit a like amount. In either case the consumer is paying for something which he does not receive. Who is the chief offender in a transaction of this nature—the packer who first arranged the deceptive pack, the commission man who sold it without rearrangement, or the retailer who charged an exorbitant price in order to be sure of his profit?

TOMATOES A GOOD ILLUSTRATION OF DECEPTIVE PACKING.

Perhaps there could be no better illustration than that of the tomato pack which was found generally in the commission houses of San Francisco recently, when a raid was made to improve its condition. The ordinary lug boxes were packed three layers deep. The top layer consisted of large, uniform, solid, smooth, almost perfect specimens; the second layer consisted of tomatoes that were far inferior; and the lower layer consisted of small, half green, and in some cases half rotten specimens, which by themselves would bring very little money. As an object lesson some of these nicely packed boxes were dumped loose in other empty boxes so that the small and very inferior tomatoes were on top. The attention of the commission man was called to the violation of the "Fresh Fruit Standardization Law," which requires that tomatoes when packed be practically uniform in size, quality and maturity, and that there be practically the same number in the lower as in the top layer. He was told that he could sell them loose in the box after dumping if he liked. The reply plainly illustrated the value to the grower and commission man of a deceptive pack. It was: "We couldn't get 15 cents for them that way, while if left packed with the big ones on top they are worth 75 cents." They were left to wrestle with the question, "Why are they worth only 15 cents when turned upside down, when they are the same tomatoes?" Orders were left among the commission men that after a certain date such tomatoes should be sold loose in boxes after being dumped by the County Horticultural Commissioner, if sold at all, with the result that on the date named there was a decided improvement in the pack and only a very few boxes required dumping.

WORMY APPLES SOLD AT EXORBITANT PRICES.

Practically the same thing holds true in the case of certain other vegetables and fruits. In the case of apples the chief difficulty is worms. In the attempt of the State Commissioner of Horticulture to eliminate wormy fruit from the markets the inspectors are met with the plea that the work that is being done is against the interests of the consumer, especially that class of consumer which is not able to pay the price that the best grade of fruit commands. Those who are in closest touch with the situation can immediately detect the fallacy in the argument. For example, while inspecting in the markets of Los Angeles recently many commission houses were found to be stocked with wormy apples ranging from 25 per cent infestation to more than 90 per cent infestation. Prices for such fruit were quoted usually around 50 cents per box, which was somewhere near the true value. Some of the same apples were seen in one of the uptown retail establishments, advertised with a big placard on the front of a nicely arranged pile at 5 cents per pound or 6 pounds for a quarter. The consumer paid for this fruit the price of the best fruit, and carried away something where the waste would be 25 per cent due to cutting away portions injured by worms.

Standardization is for the benefit of the consumer as well as the producer and the commission man. Wormy, inferior fruit can be utilized to good advantage by by-product factories, and its value for such purposes is much greater than for consumption while fresh. During these times of food shortage there must be no wastage, and in all the standardization work at this time nothing of any value is allowed to go to waste.

ARSENATE FOR CABBAGE WORMS

Spraying cabbage with arsenate of lead for worms within three weeks of harvest is not dangerous to people who eat the cabbage, according to the special field agent of the U. S. Bureau of Entomology at Alhambra. The outer leaves which are poisoned are naturally removed before eating. The spray for cabbage worms is made by dissolving two pounds of common soap in hot water, diluting it to 25 gallons, and stirring in ¾ pound powdered arsenate of lead or 1½ pounds arsenate of lead paste. For one gallon of spray use ½ ounce powdered arsenate of lead and an inch cube of soap.

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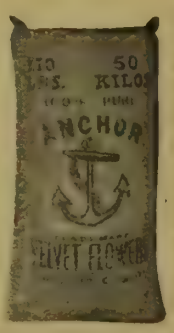

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Right and Wrong Pruning of the Apricot

[Written for Pacific Rural Press by John J. Fox.]

There is probably as much diversity of opinion as to the best method of pruning apricots in the different sections as any tree we know of. But one thing is certain and that is that they must be pruned. Non-pruning of apricots results in a superabundance of poor wood growth, too much fruit, small fruit, split fruit, and sunburned fruit, for it will all be on the outside of the tree. Foliage does not grow strong on spindly wood, and a lot of unnecessary evaporation takes place through superfluous foliage.

QUANTITY VS. QUALITY.

There are still some people who are willing to raise apricots this way in order to get the tonnage. Yet the heads of departments were puzzling their brains more than ever this year wondering how to dispose only the big cuts are made and water-sprouts kept out.

WINTER PRUNING AND SUMMER PRUNING

The later growth is left over to come off with the thinning of fruit wood in winter. It does not pay to lay the tree too open through the summer, but the water-sprouts, surplus large wood, dead limbs and those dying from black-heart or borer should all be cut out after the crop is off, as they all evaporate moisture (even the dead and dying ones), and this moisture must be conserved for the tree's needs. Wounds from gummosis, sunburn or tool injury should all be cleaned up back to sound bark, scraped and covered with asphaltum to prevent infection till they can heal over and to keep them from checking and drying out. One man told us this

The above stand of symmetrical, well-balanced trees shows the result of thoughtful, scientific pruning.

of the quantities of small 'cots produced during the past year.

The young trees are headed low, as in other fruits, in order to protect themselves from sunburn and to facilitate picking. They are built like peach trees, with three or four main leaders, and are cut back to the third year. After this they can be cut back to the first whorl of laterals, and no more forcing of wood growth practised at all. The apricot is such a strong grower that, if the tree is healthy and the orchard well managed, there will always be plenty of wood growth till the tree gets old. If it had not been for the rains this year, many 'cot orchards would have needed a very severe cutting. As things stand now, however, considerably more wood can be left, for the trees are in tiptop condition. We do not know whether the new growth induced by the rains will affect the crop next year, but would say not. The common practice of pruning apricots right after the crop is off seems to be the best, provided year that he left a lot of suckers in his apricot trees when summer-pruning because of the dry season, and they needed more foliage to maintain growth. This is just the year when all unnecessary suckers and superfluous growth should have been removed; for the greater the leaf surface the greater is the evaporation of moisture through that surface.

Where the new fruit wood is very spindly and scant, it is evident that the tree has not the vigor to produce it. There is either (a) lack of moisture in the soil (whether from failure of supply or conservation), (b) too many limbs, (c) too much brush, (d) injury from insect pest. It is for the owner himself to determine which of these (or a combination of them) is responsible. In any case a good stiff pruning is necessary as a first step to promote a more vigorous growth of new wood, and a winter clean-up spray is generally needed at least every second year.

Spray Campaign Against Morning Glory

[Written for Pacific Rural Press.]

The Santa Cruz County Farm Bureau is carrying out a demonstration in and around the Pajaro Valley this week that will be watched with close interest by all who have morning glory to dispose of. Professor George W. Cray of the University of California, who has been working on a control spray for this weed during the past three years, is spraying ten demonstration plots on as many ranches which had been set aside by their respective owners for this purpose. These patches of morning glory had been allowed to grow from the middle of August till now. The material used for the control of this persistent weed is an arsenical spray, which has a more killing effect on mature weeds than on young shoots and which must be sprayed on the plants during foggy weather, when it is absorbed by the plant and taken to the roots, where decay sets in during the following week or ten days. If applied during clear, warm weather, only the tops of the plants are killed. The cost is said to be about $5 an acre. A bulletin is issued by the University describing the treatment.

If the demonstrations are successful there will be joy in the hearts of many owners of very valuable land.

The University of California is offering those who have had experience in farming opportunity to obtain the use of land in many sections of the State for growing wheat and other foodstuffs. About 175,000 acres of land have been listed as available for lease or purchase. Applicants for these lands should write direct to the Division of Agronomy, College of Agriculture, University of California.

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GYPSUM

The Place of the Olive in California

[Written for Pacific Rural Press by John J. Fox.]

The California ripe olive is not simply a relish. It is a food that is coming into favor by leaps and bounds. A piece of bread and a cupful of ripe olives provides not only an appetizing lunch but a satisfying ration. It is also an invaluable remedy in cases of intestinal irritation.

The Californian knows the value of the ripe olive; it is on his table more or less every day. He originated it as it goes to the consumer today. The stranger that enters our gates eats it once and tells all his Eastern friends about it — maybe sends them some as a delicacy. The United States is the largest consumer of ripe pickled olives in the whole world, yet for us the market is only just scratched. Both our pickles and oil have created a name for themselves all over the world as the best the world produces. Yet the amount of both that California produces is quite insignificant compared to what the market can and does use. In 1917 we imported 5,641,759 gallons of olives for our own consumption at the table. The same year we imported 7,533,149 gallons of olive oil for table use and 615,018 gallons for manufacturing and mechanical purposes, of a total value for olives and oil of nearly thirteen millions of dollars. The import duty on the olive oil for consumption is 30c a gallon in bottles and 20c a gallon in casks. Most of the olives we import come from Italy, with France second.

WHAT WE ARE DOING TO COMPETE.

So far we are competing in only one line to any extent and that is with the California ripe olive. Our oil is more in the nature of a by-product, though of excellent quality; i. e., those olives are used for oil making which the pickling factory doesn't need. The chief endeavors of the California grower is to produce a pickling olive that shall be large, firm, shapely, rich and substantial. For the pickling olive is worth about three times the price of an oil olive, as high as $300 being paid this year for pickle and $100 for oil olives. Therefore the endeavor of the grower is to produce as many large olives as possible by (1) planting the best varieties, (2) by thorough pruning, (3) by good cultural methods. Not less than 70 per cent of a crop should be fit for pickling. The sections suitable for the production of the olive have been decided upon and heavy plantings have taken place during the past few years. It will not be long before a large area of young olive orchard will be coming into bearing. Growers' associations as well as private producers are turning out finished manufactures of olives and olive products that will, in course of time, take their rightful places at American tables all over the United States and reduce importations.

VARIETIES.

The leading variety is still the Mission, the best type of which is now chosen and will be adhered to in the future to perpetuate what is known as the Mission olive. Then follow the Manzanilla, Ascolano, Sevillano, Nevadillo Blanco, and Obliza. The trees are no longer planted less than 25 or 30 feet apart. The olive seems to thrive best on well-drained sandy loam soil (especially where there is plenty of lime) and is not deficient in potash. Even rocky places on warm hill slopes grow a good tree provided there is good depth of soil—for the olive is a deep-rooted tree. It can survive a great deal of drought, but to be profitable it demands as much moisture as the average tree—also good cultivation.

The increased demand for the Italian type of olive is, as we reported last week, owing to the impossibility of obtaining transportation for the European article. California will manufacture this type of olive this year to an increased extent to meet the demand, and it is hoped that this will give her an entry to the Latin markets of America. Dried olives are used in Spain and parts of Italy as a staple, just as pink beans are a staple with our own people. Green olives are eaten as a relish before meals as an appetizer. In England they have been used for probably two centuries, at dessert, with wine, to restore the palate. Also as a digestive.

THE OROVILLE SECTION.

Olive trees thrive and bear especially well as border trees and on avenues. The Hammond place at Palermo, one of the largest orange plantations in the north, is completely bordered with olives—all Missions — in addition to the olive groves, and the crop this year will run about 60 per cent, which seems to be the average for the State. We were shown three trees, which stood side by side, that have produced an average of 600 pounds of fruit each for three consecutive years, though they are only 20 feet apart. They are border trees and are, of course, exceptional. This whole place is about half oranges and half olives, splendidly pruned and cared for. One thing that strikes a stranger in this locality is the remarkable freedom of its trees from scale—not one smutty branch did we see, the foliage being silvery and bright. The fruit was exceptionally fine, partly owing to the rains. The trees on this place are 27 years old. On the Elsner place, near by, there is a border of olives equally fine.

NON-CULTIVATION.

The Burt Bros. of Palermo have 60 acres of olives that are only plowed once in several years, an overgrowth of weeds being left to form a perpetual cover-crop. The trees looked thrifty and strong and were carrying about 70 per cent of a crop. A dressing of lime had been given, which Grinnell Burt said would later be disked in. Non-cultivation does not appeal to us as being to the best interest of the soil, though the owners are following this as a deliberate policy and not to save work or expense necessarily. To keep up soil fertility, even if moisture can be furnished in adequate amount, the cover-crop must be thoroughly plowed under and incorporated in the soil to obtain the benefit of all there is in it. Doubtless on some of the lighter soils the ground is sometimes overworked in an excess of zeal and some humus is lost in the effort. We shall be interested in following the results of this system of cover-cropping which has been followed in so many instances in the south in citrus groves.

WYANDOTTE SECTION.

J. H. Bumgarner, in this section, has 22 acres of Mission olives only four years old, from which he took a small crop of fine fruit this year. The land here and the climate is particularly adapted to the olive. The best land throughout this district is gradually being put into shape and planted out chiefly to Missions and Manzanillos. C. H. Mott has 12 acres of Missions, seven years old, bearing a good commercial crop, and has supplemented this with a young planting of Manzanillos—eight acres. Fred Cornell has 60 acres, nine years old, with an average 60 per cent crop on, which is expected to pay him better than his almonds and peaches.

A well-grown olive tree is a delight to the eye and of profit to the grower. It makes a very sightly avenue or border to orchard or vineyard wherever the location and soil is suitable, and is a handsome yard tree. Its venerable and romantic history and setting will always lend interest to this wonderful, virile tree, whose progress as a commercial producer in California is worth watching.

OVER THERE
and
OVER HERE

Thirty-five of our young men, recently graduated from the University of California as dentists, heard duty's call, joined the Army and Navy and are OVER THERE.

In the meantime—

OVER HERE—While the nation is at war Amendment No. 21 has been initiated to open wide the doors of California and let in the riff-raff from every back-woods State to practice as dentists without examination.

Yet, when our boys come back—if they do come back—they must compete with the derelicts and incompetents who would come in without examination—unless this measure is defeated.

There can be but ONE ANSWER.

Vote NO On Amendment No. 21

Joint Committee, California State Dental Associations.

State Farms for Settlers

Thirty-one Farms and five Farm Laborer's Allotments in the State Land Settlement at Durham are now open to the inspection of intending settlers. Applications will be received up to noon, November 20, 1918. For particulars regarding prices, terms of payment.

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Write for samples, prices and particulars today to insure prompt deliveries.
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Phones (65643)
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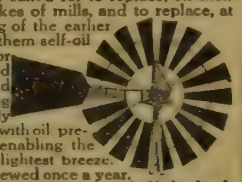
has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load



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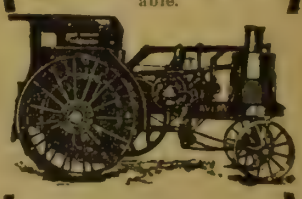

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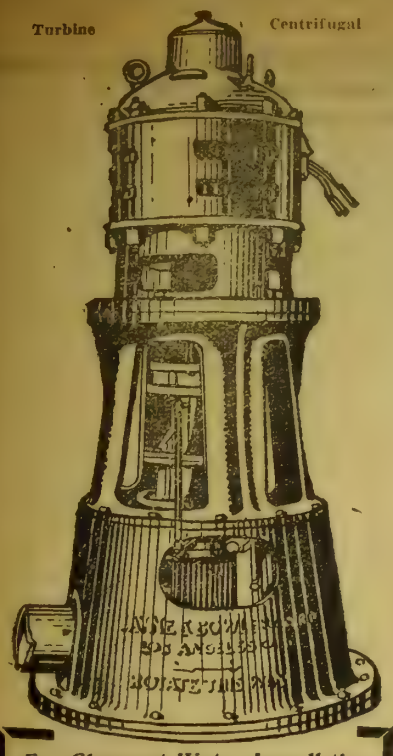

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Horse

THE BATES STEEL MULE does the work of TWELVE horses.

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Whether it be peace or war the demand for food will continue. You cannot produce enough. It is your patriotic duty to plant every tillable acre—to do it economically—not to waste effort or time.

The Yuba 12-20 Tractor is the tool of economy and efficiency. Night and day the Yuba works. It rarely stops for repairs. There are few complicated parts requiring a skilled mechanic. When the Yuba goes to you it is perfect mechanically—built for hard and constant usage, from steel of the finest quality for the purpose.

YUBA
MANUFACTURING COMPANY
MARYSVILLE, CALIFORNIA

PEARS IN FAVOR IN THE NEW PLANTING.

[Written for Pacific Rural Press.]

J. E. Bergtholdt of the Silva-Bergtholdt Nursery Co. (Newcastle) will plant 10,000 Bartlett pears on his ranch in the Mt. Pleasant district this year, probably interplanting with Beurre d'Anjou for pollination. This firm now has 900 acres in orchard. Their pears are on both Japan and French root and both seem to look equally well. One plantation of Formosa plums he is interplanting with pears with the object of removing the plums later for the reason that plums in this particular section are liable to injury by frost.

The plum trees are vigorous and about six years old, but the pear seems to come right along as an interplanted tree—probably better than any other deciduous fruit. There is said to be no blight in this section; at least, it hasn't showed up so far. A good growth of grass shows everywhere in this section and a heavy growth will be ready to turn under in the spring. Provided the weather is not so mild as to induce premature blooming, there is a good promise all around Auburn and Newcastle for a heavy setting of fruit next year. Newcastle district and Auburn seem to be rather unique in that they can produce all kinds of deciduous and some citrus fruit and berries. Probably Vacaville and Winters is the only other section that can do this. They have established direct small central markets all throughout the Middle West and are able to ship mixed carloads of fruits direct to the wholesalers, obtaining net prices f. o. b. Newcastle, which is a great shipping point for green fruits. When we were there shipments of grapes, persimmons and late pears were still going through. Being right on the State paved highway and a transcontinental line of railway, it is exceptionally well served. We had an opportunity of going over the nurseries here.

Mr. Bergtholdt told us there was a good demand for pears, peaches and prunes already. We have been asked whether it was permissible to accept Liberty Bonds at par as part payment for trees to plant out. Why not? If the grower has put up so heavily for bonds as to preclude the possibility of paying cash for the trees, it is better to make an exchange than to have those trees destroyed for lack of a planter. Planting of trees should not cease because of the war, for it is the paramount industry of the State of California. And though there is a large new area in all stages of coming into bearing there is also a large acreage of old and decrepit or otherwise unprofitable fruit trees going out of commission each year. Those of us who are horticulturists and are raising fruit for the world's consumption must stay with our jobs. We constitute a good big cog in the wheel of life's driving gear and no cog must be allowed to slip, now of all times. Ours is constructive work of a very high order of importance. We have to make a bonnie fight every year of our lives to produce fruit of a standard degree of excellence (and we ourselves have set that standard high). We have to fight insect pests and fungous diseases, drought, frost, rain, wind or something new every year in order to deliver the goods. This we invariably do. Therefore, we shall continue to plant trees and vines; and if we are crippled for funds to pay for them we will have to turn in some of our bonds.

LET NATURE FILL GULLIES.

A steep-sided ditch, 10 to 15 feet deep, washed out one night in 1916 on the ranch of R. Featherston in Santa Barbara county. He put in loose brush about 3 feet deep at intervals, not tight enough to stop the water and float away but to slow the current enough so sediment was deposited. The following summer the brush was all covered with dirt and more brush was added.

California's apple crop is said to total 3,380,000 boxes.

Plant Germain's Hairy Peruvian Alfalfa NOW!

Sold in sealed and stenciled bags.

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"The Little Tank"
Man, Woman or Child can operate it.
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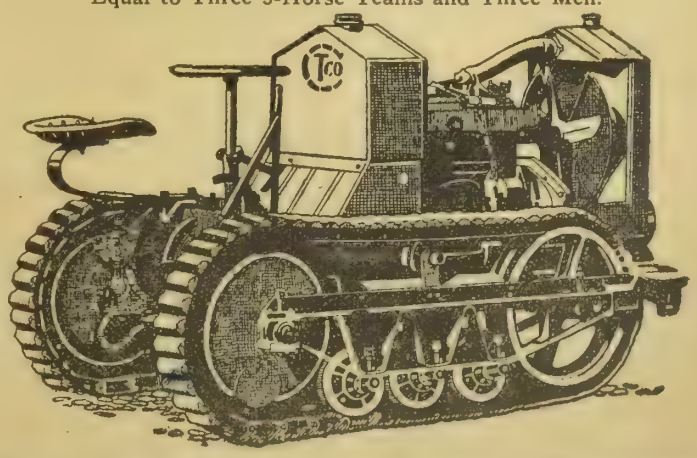

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You Cannot Afford to Wait—

I have just been at the Cleveland Factory to increase my orders for tractors. We will get less. The Government has cut down the output. The big loss will come to the farmer, for there will not be enough of all makes of tractors put together to go around, and with the shortage of labor, thousands of acres of land will not be turned over this year. It is going to be a known loss to some farmers and the Government.

F. H. STOW

The Cleveland is small but powerful, it is simple but unusually economical. Comparatively light, yet heavy enough to do its work and keep on doing it.

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FULL LINE OF PARTS.

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STUMPING — AGRICULTURAL

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Giant Farm Powders—Eureka Stumping and Giant Stumping—have become so popular that many other high explosives are often in error called "giant powders." Don't be misled. There is only one brand of Giant Powder. Demand the genuine.

"I have tried all stumping powders on the market under every practical working condition," writes James Foran, Big Lake, Wash., "hereafter I will use nothing but Giant." Joseph Labunski, Cedar Camp, Ore., says, "Whenever I use powder, it will be Giant."

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Send me 52-page illustrated booklet "Better Farming." I am especially interested in (please check) 216

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He must have Power Farming Machinery and Implement Dealers must help him get it.

Through our "time-sales" plan you can sell any number of Tractors On Time.

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THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. All shears delivered free to your door. Write for circular and prices.

Fifteen nationalities are represented in one cotton picking group of 50 on a plantation at Fertilla, Riverside county. There are eight religions represented and several exclusive groups work alone and never mix with the rest, on racial principles.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Almond Notes.

In the Woodland district some almonds have been stained, but there is no direct loss reported. The trees, both young and old, have picked up in condition wonderfully. Many almond growers—especially small men new to the game or old inhabitants who have always grown grain or cattle—are very slack in their methods of pruning and spraying. There is no tree in California that looks more forlorn, disreputable and out-at-elbow than an old almond tree, full of dead suckers and crossing limbs, with foliage all gray with red-spider work and dropping off the tips by the end of July. The almond-growing districts are working into a regular system of care and attention, not before they needed it, but—oh, those roadside and border trees where a man doesn't own a spray pump! They are surely unprofitable servants.

Gloria in Excelsis, Deo.

October 17 and 18—these last two days farmers and dried fruit men have been blessing the north wind, literally giving thanks for it. The dried fruit and raisin men have been extra busy and more has been accomplished than in any previous week or two. The bean men are pulling to beat the band and turning what are in windrow. It will enable the sugar beet men to clean up what there is left and the rice men will be right into harvest. Here's hoping the weather is propitious anyway till this brief notice gets to press. We are getting almost afraid to record current conditions these days. This is probably the first time in the history of California when all men have blessed the north wind and welcomed it.

An Old Apricot Orchard.

We recently passed by the original Briggs apricot orchard near Yuba City, now owned by Dr. Jackson. The variety is called "White Royal" and only about five acres of the old orchard is left. Last year 2000 crates of fruit were shipped from these trees, which are over 50 years old and have not been plowed or sprayed for 20 years. They still look strong and vigorous. The ground is used as a pasture, so of course the trees are bare of foliage as high as a cow can reach. We are not recommending this kind of management, but it is interesting as showing what apricots will do on good ground under adverse circumstances.

Assn. Saved Pear Growers Money.

The California Pear Growers' Association has recently joined the California Federation of Farmers' Co-operative Marketing Associations. The Pear Growers' Association, according to President F. T. Swett, has just closed its first season, a very successful one. While the organization expense was only $3,000 total, due to the directors having donated their time, the association in its first month made contracts which saved over $100,000 to the growers, including the $10 per ton increase on low-priced pre-war contracts.

Loss Reduced by Evaporator.

George H. Hecke, State Commissioner of Horticulture, says his loss on 60 acres of prunes will not be more than 25 per cent, owing to the fact of his having an evaporator on the place to help out. Fifteen per cent of the balance will be No. 2s. On the 8th he was dipping his last picking of green fruit, and it looked good. That which had been through the rain and rehandled looked fair, and the best of it very good. Besides, Mr. Hecke had 50 tons already harvested and in the warehouse before the storm.

A Faithful Record of Service.

At George Roy's place on the San Juan ridge there are some remarkable old pear trees—old '49ers—one of which is reported to have carried 3000 pounds of pears one year. It is a Winter Nelis. We cannot prove this, but are willing to believe it. The average tonnage per acre on the upland in Nevada county is probably five tons where clay is close. On the deep soils, and on bottom land, this should increase to eight tons to the acre for mature trees.

Persimmons Being Shipped.

Newcastle and down the line is shipping persimmons, for which there seems to be a steady demand. New York seems to appreciate them, and from an aesthetic standpoint a No. 1 "Wonderful" is certainly a delight to the eye, both in form and color. As a commercial product its scope is limited, but every garden in California should have one of these bushes, which are beautiful all the year and showy twice—when in bloom and at harvest time.

More Dried Fruit Wanted.

More dried fruit and other California products than ever will be needed to feed the hundreds of thousands of enemy prisoners that have been rounded up during the last few months. The kaiser and his staff probably had to console themselves with this reflection while they were hiding in the cellar at Mannheim to boost the morale of their men.

A New Dip.

Leland Boggs of Napa, on redipping his prunes, used 2 pounds of cooking soda, 1 pound of lye, and ½ pound of alum to 20 gallons of water. He says they came out fine and in good condition. He saved the entire crop from his young trees (about four tons), the first fruit they have borne.

Future for Pears and Almonds.

One of the things that can be said of the road from Grass Valley to Marysville is that it is picturesque throughout its 36 miles of length, while the variations in the roadbed itself dispel monotony and inspire hope. We saw much land that we thought should be fair for pears, also some good almond land.

Prune Prices.

In view of the tremendous losses by prune growers from the inclement season there is a movement on foot to revise prices. When the Government set the price there was four times more tonnage in sight than exists now. And the Government takes all the best, naturally.

Loss in Napa and Sonoma Counties.

The loss of prunes in Napa and Sonoma counties is now estimated at 50 per cent of the total crop.

Horticultural Week—Riverside, November 11-16.

First—The fifty-first State Convention of Fruit Growers and Farmers.
Second—The Annual State Convention of the California Association of Nurserymen.
Third—The First Interstate Plant Quarantine Conference—delegates from every Western State and from the U. S. Department of Agriculture.
Fourth—First Vegetable Growers' Conference.
Fifth—Annual Convention of the State Association of Horticultural Commissioners.

These five big conventions in conjunction compose Horticultural Week. In addition to the usual programs, speakers of national reputation on War, Food Production and Labor will introduce and lead their subjects in discussion.

JOSEPH OPPENHEIM
Inventor of
New Idea and Nisco Spreader
Founder of the New Idea Spreader Company

About 18 years ago when the mails brought to Joseph Oppenheim the patent papers covering his wide-spreading distributor, he sat for a while in deep thought. When asked what was on his mind, he said:

"I am sorry that a patent is good for only 17 years. It will take at least 15 years to educate the people to the wide-spreading machine, and within two years after these patents expire, competition will be imitating and copying."

What a truly remarkable insight into the future! How thoroughly his words have come true! At that time we were building less than 100 spreaders a year and everybody ridiculed the invention, calling it "Oppenheim's wind mill," and other choice names. But he was not discouraged and went forward with a strong faith, and today, in spite of the fact that competition did what he foresaw, our business has grown until we are the largest exclusive spreader manufacturers in the world.

The New Idea Spreader Company is a partnership owned entirely by Joseph Oppenheim's six children, who pride themselves on putting into every machine they make, the quality and the service which was their father's ideal.

NEW IDEA ONE MAN STRAW Spreader Attachment

Here's another New Idea improvement which will mean much to the farmer. It enables you to use your grain straw, which has a fertilizing value of about $8 per ton, for improving your land and crops instead of selling it "for a song" or burning it in the fields.

Easily and quickly attached to New Idea or Nisco Spreaders, giving you two machines in one for very little additional cost.

Write us direct for illustrated circular.

NISCO

The Original Wide Spreading Spreader

Have you read the little story in the panel at the left? It conveys a real message to you and every progressive farmer who uses or should use a mechanical spreader. When you invest your hard-earned money to the amount that a good spreader must cost in these days, you cannot afford to be satisfied with a device which simply dumps the manure nor even one that throws it some distance, here in chunks and there so thin you can't see it. It is **real service** that you want in spreading the manure evenly and widely and thoroughly shredded; a machine that you can load easily and which your horses can pull without undue strain. Is there any better way to get all these desirable quantities than by going to the original source? There is more truth than poetry in the saying that

"An imitation---be it ever so good---is still an imitation."

The growth of our business testifies that the majority of farmers realize this and prefer the original. They want the machine that Joseph Oppenheim invented, and which his family is building at present in immense quantities.

The Nisco Spreader gives you not only all the advantages enumerated above, but it has another very strong feature in its favor, and that is, the machine is built to last. It takes years to wear one out, and we guarantee it for a year against breakage from any cause. Tens of thousands of "Niscos" have been sold all over the country. Some of them sold years ago are still rendering faithful service, while many an imitation has gone to the scrap heap of forgotten things.

Let us send you our catalog which will give you full details. Better still, go to the nearest Nisco dealer and let him show you the machine. If you don't know who he is, or there is none close by, write to us or the nearest branch listed below, and we will see that you get full information promptly.

At the same time, we will be glad to see that you get a copy of our book entitled, "Helping Mother Nature," which has a wealth of information about manure not usually published. It won't cost you a cent.

New Idea Spreader Company

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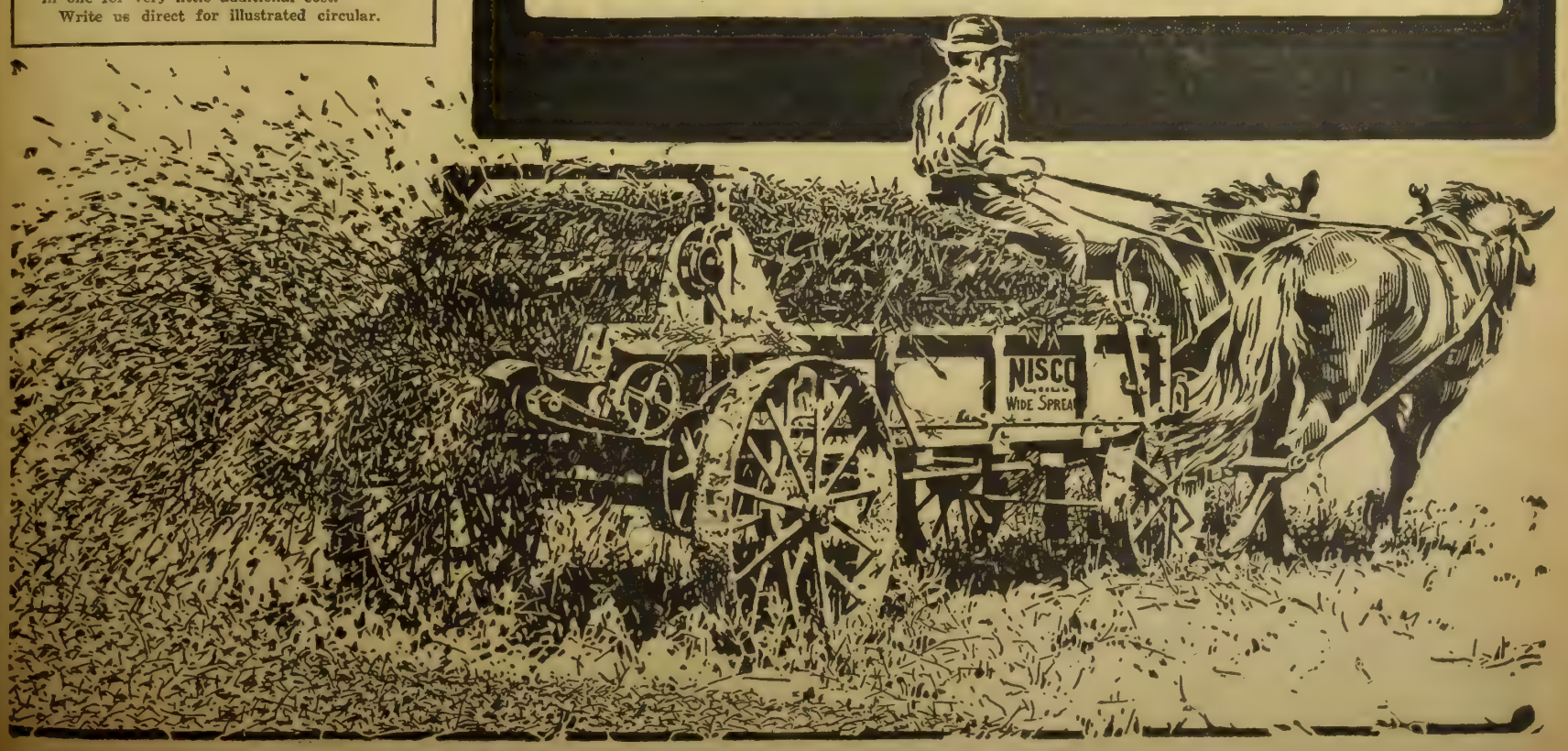

Spanish and Sweet Chestnuts

Pacific Rural Press, San Francisco.

The California Mountain Fruit Company in Nevada county has ten acres of chestnuts planted out in its orchard as an experiment. E. A. Bolster, the manager, who also has an interest in these orchards, showed us some Rochester and Rochester No. 20, which were as good fruit as is ever shown in the California markets. The trees are planted 40 feet apart and have made really wonderful growth on a reddish clay loam soil of good quality and depth. The fruit was about ripe and many of the burrs were bursting (October 9). The heavy early autumn rains and subsequent warm weather had started the trees up again and we noticed a number of blooms on the terminals, also a few tiny young burrs appearing.

A PROMISING EXPERIMENT.

This experiment seems to be a promising one for Nevada county. We would also like to see it tried in Humboldt and Mendocino counties, where there is a good depth of reasonably well-drained soil. There are probably a few trees scattered around there now, but most that we have seen, though thrifty growers, bear small fruit of like value for the market.

A. L. Wisker of the Loma Rica Nursery at Grass Valley also has six or seven of the improved varieties which he is going to try out. So far as he has gone at present, he favors the Rochester No. 20. He has seedlings of the American Sweet, which he says make a better union with the improved varieties than do the European or Asiatic types. He told us that last week's price on the improved chestnuts in New York was $15 a bushel. This makes walnuts look cheap!

WIDENING INTEREST IN CHESTNUTS.

We were not searching for chestnuts—nobody ever does—but were only investigation horticultural conditions generally; yet in two days we happened upon three different men who were experimenting with this fruit. The other man was Geo. P. Weldon, chief deputy of the State Commission of Horticulture, who showed us some eight samples of improved nuts he had collected and was going to try out. Therefore, if anyone is interested they might write to Mr. Weldon or Mr. Wisker. E. A. Riehl of Alton, Ill., is an authority on chestnuts and we hope to get more information on this tree. Anyone who intends planting one in the yard for beauty—and it is a beautiful tree—would do well to buy or obtain trees of the improved type, which would afford profit as well as pleasure. We are promised reports from these people who are experimenting and hope to examine their problems in person from time to time.

Bean growers of Merced county are rapidly signing up for membership in the California Bean Growers' Association, a co-operative organization.

Some Olive Problems

[Written for Pacific Rural Press by John J. Fox.]

The planting of olives this season will be almost entirely confined to replacing missing trees. We called on Dr. E. H. Buffum of the California Olive Association, who has a fine plantation and a pretty home at Fairoaks. He says the season is a little earlier than usual. The picking of Manzanillos has already begun (October 9) He showed us, in comparing some trees, the necessity of careful pruning, especially in a year like the present, saying that the tendency was to leave too much wood on the trees, thus impairing the size and quality of the fruit; and, further, that olives do not require the close cutting that is practised near the coast owing to the greater heat of the interior, so that climatic conditions as well as the character of the tree, must be considered in thinning out and cutting back.

MEDIUM-SIZED OLIVES POPULAR.

Dr. Buffum also said that they had an increased demand for medium-sized olives, for which they had provided and which had been advertised through slips in each orange box. One of these slips presented entitled any buyer to a sample of the olives sent by mail, which resulted in further orders for the canned ripe olive.

Another interesting problem which came up in our discussion was the distance olives should be planted apart on this ground. If they are planted too close together, covercrops will not grow owing to the heavy shading of the ground. On the other hand, the trees are smaller and the fruit is more accessible.

CROWDED OR OPEN PLANTING.

If the trees are planted too far apart, they grow so big that the expense of harvesting from a tall tree is almost prohibitive, but covercrops can be grown and spray outfits, etc., can be easily maneuvered through the orchard. No definite conclusion was arrived at except that an endeavor must be made to keep the trees within due picking bounds. As with the cherry, nobody seems to know how to do this yet, but every grower wants to.

VARIETIES MUCH MIXED.

There is quite a mixture of varieties of olives at Fairoaks, including the Mission, Nevadilla Blanea, Sevillano, Ascolano and others. There is about 60 per cent of a crop this year, which has been increased in quality by the early rains.

The construction of a grain elevator of 8000-sack capacity is among the improvements being made on the Bellevue ranch of the Crocker-Huffman Land and Water Company, says a report from Merced. The original unit is to include two corrugated iron bins set on concrete, intended to do away with the use of sacks and to have the grain kept where it is rat-proof.

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Electricity offers to the farmer of the present the means of eliminating the monotonous grind from the day's routine.

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Unarmed Arms of the Service

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The morale of the army is of supreme importance and the greatest military authorities of the world are enthusiastic in their praise of the organizations which make it their business to keep the soldier in good spirits.

This work, like that of the Signal Corps, has been more highly developed in this war than ever before. Huts for amusement, comfort and recuperation of the fighting men are in the trenches as well as behind the lines. The unarmed workers go about their duties under shell fire as coolly and as self-forgetfully as the telephone men of the Signal Corps who are frequently their neighbors, and who keep intact, often under a hail of bullets, the indispensable lines of communication.

It is for us who remain at home to support these unarmed heroes to the utmost, with our gifts, our labor, and our unbreakable morale.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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One Policy *One System* *Universal Service*

How a Lima Bean Grower Gets Good Seed

[Written for Pacific Rural Press.]

L. C. Luhr of Encinitas has constructed a bean grader by the use of which he believes he can improve the quality of his seed for the coming year, says the San Diego Farm Bureau Monthly. It is a very slow and tedious job to pick out the poppers and small limas by hand, and it is safe to say that about one farmer in fifty will take the trouble to do it, for it takes about a day to pick over a sack. With the use of this grader, an 80-pound sack of beans can be picked over in from 50 to 60 minutes by one man.

This grader consists of a trough about 18 inches wide and 6½ feet in length. It is divided off into three divisions. The bottom of the first division, which is 30 inches in length, is made up of one-half round material. These small round redwood cleats run lengthwise up the trough, and are about three-sixteenths inch apart, that is, they are just wide enough to allow a popper to fall through, but will not allow the thick lima bean, either the large or small, to pass through.

On the under side of these one-half-round cleats a supporting board is nailed 15 inches from the top of the trough. This keeps the cleats firm and prevents them from shoving over and allowing any of the large beans to pass through. About two gallons of beans are poured onto the slats at one time. The operator then places one hand on top of the slats and one hand on the bottom (the bottom of the slats being flat, of course) and moves the beans around over the top of the slats, and also slides them along by rubbing on the underside. This keeps the beans well spread out, allowing the thin poppers to pass through the slits between the one-half-round slats. In this way the beans are worked off the slats onto the wire screen of which the next division is composed.

This wire screen extends for 30 inches along the bottom of the trough. It is made of galvanized wire, with ⅜-inch mesh. By continual stirring around, the beans are well spread over this wire, and the small limas fall through into a box which is set under the screen. By continual rubbing on top and bottom, the beans are kept spread in a thin layer over the wire, and very few small beans pass over the wire.

The next compartment is about 15 to 20 inches in length and consists of a solid board bottom. From the end of this compartment a pointed snout is built, at the end of which a sack is hung to catch the beans that the operator passes over this last compartment. The beans are slowly shoved over this board floor, and all the broken or injured beans are removed. When the beans pass into the sack, you have a large, well-filled lima bean, which, if given the proper cultivation, will produce a vine which should greatly increase the amount of beans obtained per acre.

The sides of the trough are about 5 to 6 inches in width, and are made out of any old lumber you may happen to have. The legs at the bottom of the trough are placed about 14 inches from the end, and are 30 inches in height. The legs at the top of the trough are placed 14 inches from the end, and are about 42 inches in height. This gives a slope of about 12 to 13 inches, which allows the beans to fall from the trough very slowly.

On the average, about 6 to 8 pounds of small limas and poppers are removed during this process. All the beans that are removed would produce a high percentage of poppers or small, undesirable lima beans, so by grading them out you will increase the quality of bean produced, and also the quantity, for a large number of the poppers are never passed through the harvester, for the pod breaks before the time of harvesting, scattering the beans over the ground.

HELP THE GOVERNMENT.

Have you written to the Department of Agriculture at Washington lately and failed to receive a satisfactory reply? If so, don't criticise Uncle Sam too harshly, for owing to the enormous increase of war work the departments have been flooded with letters of inquiry on every conceivable subject, and it has been found impossible to give many of these letters proper attention.

There is published daily at Washington a Government newspaper—the Official U. S. Bulletin. This paper prints every day all the more important rulings, decisions, regulations, proclamations, orders, etc., and is posted daily in every public office in the United States; also it may be found on file at all libraries, chambers of commerce, offices of mayors, governors and state officials. By consulting these files most questions will be found readily answered; there will be little necessity for letter writing; the unnecessary congestion of the mails will be relieved; and the mass of business that is piling up in the Government departments will be eased. Hundreds of clerks now answering correspondence will be enabled to give their attention to more important work, for by consulting these Bulletins you not only will get quicker information but at the same time will be rendering a patriotic service.

Earle Mills, Horticultural Commissioner of Butte county, recently called attention to an error in our issue of Oct. 19th, entitled "Planting and Care of Nursery Stock." Following is a correction of the error, "Let the belly of the tree face southwest and the hollow towards the northeast."

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on November 5th

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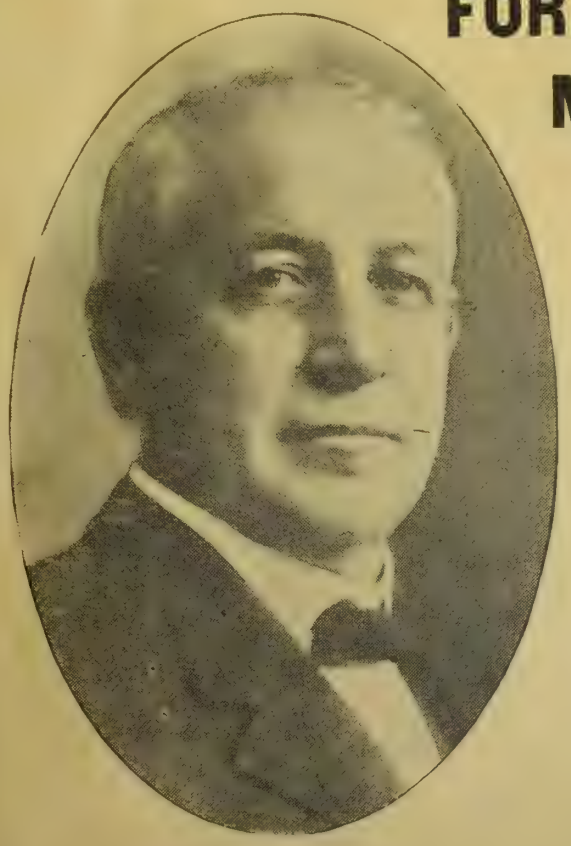
If nothing else—your duty as a patriot and citizen should prompt you to visit the Polls that Day.

And—if you believe in progressive legislation and clean Government vote

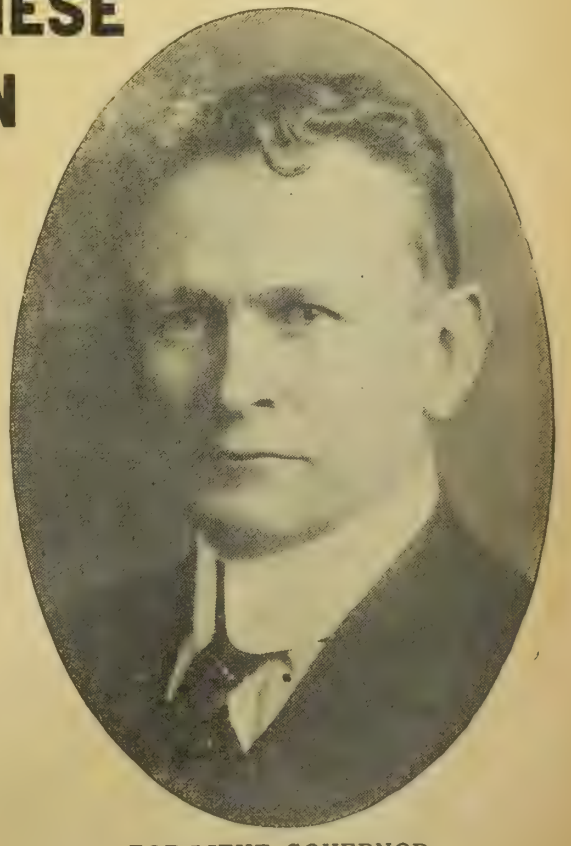
FOR THESE MEN



FOR GOVERNOR

WM. D. STEPHENS

Formerly Mayor of Los Angeles, then Congressman, now Governor of California. A consistent supporter of progressive and humane legislation, including the State Railroad Commission, Blue Sky Law, Rural Credits, Flood Control, Utilization of Water Resources, Woman Suffrage, Red Light Abatement, Closing of Saloons, Ratification of National Prohibition Amendment, and the Land Settlement Act.



FOR LIEUT. GOVERNOR

C. C. YOUNG

Member of State Assembly from Berkeley ten years. Speaker (Presiding Officer) of Assembly for six years of that time, including last session. His record in the Legislature has been one hundred per cent good in the support of progressive legislation and every moral issue. He stands flatly on the same platform as Governor Stephens.

Thousands of Acres of Asparagus

Written for Pacific Rural Press by R. E. Hodges

TWO THOUSAND eight hundred acres of asparagus makes a whale of a lot of good eating and more work than could be obtained for it this year, yet that much asparagus is owned and operated by one man; and nearly nine times that much is grown in the principal asparagus producing section of California. This is the great Delta region of islands surrounded by navigable streams and "sloughs" from the Sacramento, San Joaquin, and Mokelumne rivers. The man who owns one-ninth of the acreage and who marketed more than one-ninth of California's asparagus crop this year is an unassuming gentleman whose establishments comprise most of the business part of his home town on the Sacramento River. Alex Brown stood on the street which winds along the levee through Walnut Grove and gave us the notes in regard to his own holdings from which we write. Conditions and practices in the other fields are of the same nature.

YIELDS AND PRICES.

A two-fifths share of the crop is expected to pay all costs of production and marketing except labor, and net $40 to $50 per acre to the owner for use of his land, giving the tenants three-fifths of the crop for their labor alone.

When asparagus is at its prime age, six or seven years old generally, some land yields 160 to 170 boxes per acre. Other land yields not over 100. A good average is about 140 boxes, each weighing about 47 pounds net, and thus totaling about 6580 pounds per acre. Cutting begins about March 1, but does not get heavy until the last ten days of that month. The March cutting is shipped East. Returns last season averaged about $2.40 per crate of over 24 pounds net, after paying freight and selling charges; but some shippers found their expenses ate up the returns. Mr. Brown and his sons supervised the packing and shipping of his crop, employing 175 to 300 hands daily at Walnut Grove; and they made good money. Through April, May and June the local branches of several big canning companies take the "grass." They paid 3¼c per pound last season, though they had contracted much of it at a lower price. Even at 3¼c, most growers lost a considerable acreage because they could not get the labor at wages that would leave anything. Still less could have been cut if prices for the crop had been held lower.

No new fields are to be planted until the labor situation becomes easier except the 300 acres proposed by Mr. Brown.

LONGEVITY, SOIL, ETC.

The usual profitable life of asparagus plants in the sediment-peat of the Delta is about twelve years. With a large proportion of sediment, they live longer but do not grow so early in the season. Each year the crown from which shoots grow becomes bigger around and nearer the surface. Crowns of old plants may be 16 inches in diameter, the poorest, most spindly shoots coming from the older portions nearer the center. They must be kept covered with dirt, which is done by disk cultivators, until the rows are a foot or higher and there is but little additional dirt available between the rows. None is cut until the second year after planting the roots. It then yields up to 1000 pounds per acre, and increases each year until its prime, as noted above.

There must be special virtue in the peat-sediment soil of these islands, for nowhere else in this State is there an asparagus district that attracts much attention except the early crop from a few hundred acres in Imperial Valley. There is a touch of white alkali salts in the Delta, as elsewhere in similarly reclaimed lands, and this is no particular detriment.

We Wish Potato Markets Were Better

It would be nice if we could hold forth much hope for better potato prices before the present crop spoils. The acreage in the United States is somewhat larger than a five-year average and the crop is being put onto all markets in excess of demand, causing weak prices. The California crop was somewhat damaged by rains, especially where poorly drained. As no frosts have come, those already dug or already mature will not keep long and are not fit for storage. Those not yet mature are likely to keep well in the ground. Idaho and Washington potatoes are coming into California markets, even to Sacramento and Los Angeles, at prices which hold the market for California spuds below what many consider their costs of production.

One Delta grower who used to grow 4,000 acres has 100,000 sacks from 1,000 acres this year—about half dug and hardly salable above the $1.50 per cwt. which he figures as his cost of production. These are of good stock, well graded, as are most of California potatoes. It is well to emphasize at this time of prices which are slack as related to costs of production, that the grower who does not sort and grade his potatoes reasonably close must pay more for sorting, grading, and resacking at the market end than he would have paid at home. He will also find that recently increased freight on the potatoes culled out, amounts to more than the price he gets for the culls. If they are not culled out, he will find the price on the whole lot reduced more than proportionately. Meanwhile he will have paid several dollars per month and board for labor to handle the culls along with the better potatoes, 17 to 26½ cents for extra sacks to carry them, and $1.25 per pound for twine to sew the sacks. While culling and grading potatoes at home, it is well to remember that well filled sacks exposing potatoes across the end often bring several cents per hundredweight more than slackly filled sacks. There may be some hope for holders of sound, well-graded potatoes in the fact that many will spoil and that beans also have suffered severely by weather, wheat restrictions are still rather tight, more potatoes will be dried than ever before, and other foods are relatively high priced. Anyhow, it seems like nothing will be gained by rushing great amounts onto the market now.

Cultivation and the characteristic lateral seepage of peaty soils from the rivers and sloughs supply and hold plenty of moisture, so irrigation is seldom practiced. Where soil gets so dry as to require irrigation, it is flooded quickly and the water shut off soon to avoid damage. Drainage is necessary if the water-table gets up among the roots, or they would rot. No fertilizer or manure have been applied.

HANDLING THE CROP.

The Brown acreage is leased to tenants who occupy nineteen different camps and each with 100 to 175 acres; though 100 acres is about as much as one camp can handle rightly. Tenants furnish labor only, and get 60 per cent of the crop. They sublet the cutting to contractors at about $1.20 per cwt. last year for cutting average crops, about $1 for young four-year "grass," and up to $1.50 for old fields which produce more spindly shoots and less weight per acre. It costs more early in the season when shoots are scarce. Cutting requires about 20 men per 100 acres. Hauling, washing, culling, and cutting to proper lengths requires five men more per 100 acres.

CUTTING FOR THE CANNERIES.

During the canning season every acre must be cut every day or it is not fit for use. This is because the canneries require white shoots that have not been greened by exposure to sunlight. The best shoots are those cut when they just crack the surface of the ground. It takes watchful eyes to get all of such every day.

If any field cannot be cut for two or three days for lack of labor, it is abandoned for the season. Though at great cost and injury to growing shoots, the overgrown ones could be cut out and discarded, there is no object in this where labor has been so scarce that it might have to be missed again. White men cannot be found, according to Mr. Brown, who will faithfully cut every row in all kinds of weather. The Chinese work in rubber coats and rubber boots when necessary. The shoots appear very rapidly during the canning season. They are washed, culled, and cut to seven-inch lengths before hauling to the canneries, where one inch is cut from their bases. There are usually enough "tips" accidentally broken off to supply the demand for that class of canned goods. Occasionally good long grass is cut to two and a half and three-inch lengths for this purpose, where orders are heavy. Large diameter is most desired, but all sizes have brought the same price in the past two seasons. The "asparagus knife" used for cutting is a ⅝-inch shaft of iron 16 inches long, with a chiseled end. No way is known to avoid cutting shoots that may be in the way.

SHIPPING ASPARAGUS.

For shipping to the East, green tips are demanded. These are obtained by letting the shoots grow five to eight inches out of the ground. Renters deliver asparagus all through March at the packing shed in Walnut Grove already washed and cut. It costs 60c to 65c per crate to grade and pack the asparagus, including crates, labels, moss, ribbon, etc. Ribbons which, the second year before the war, cost $1.05 per spool of 1000 yards, cost last year $3.25, except where previously contracted at a lower price. Only the fanciest grade packed by Mr. Brown has any more ribbon than necessary. The "Colossal" grade has red, white, and blue ribbons but no bow-knots.

One man can usually grade what four pack; and the average per man grading and packing combined is 8½ to 9 crates per day. Mr. Brown puts up five grades, according to diameter of shoots, having had 2¼-pound bunches of Colossal grade containing only six stalks. The main thing, says he, is to grade the same every year, so the trade will know what is packed under your label. After bunching, tying, and cutting the butts off, the asparagus is packed in pyramid crates in wet moss.

ASPARAGUS TROUBLES.

Lack of enough dependable labor is the biggest trouble. There is no rust in the Delta to speak of, but the asparagus centipede, a minute white bug, is found on a few ranches It stings the shoots underground at the crown and when shoots are growing slowly in cold weather it makes them woody. Not much effect is seen in hot weather when shoots grow rapidly. Control measures are too expensive to be practicable or necessary.

Partridge Peas

FOR COVER CROPS

Makes also a splendid crop for hog and cattle food. Splendid substitute for vetch seed, which is very costly this season and practically out of the market. Partridge Peas are sown broadcast 40 to 50 pounds per acre.

Write for sample and price.

California Seed Co.

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ALFALFA SEED

Common variety .....21c per lb.
Smooth Peruvian .....30c per lb.
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SELECTED SEED

Delivery to you by prepaid Freight

Delay buying until you have compared my samples with seed others offer.

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Arizona Certified Alfalfa Seed

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I inspected the field from which this seed was harvested and certify the variety to be

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Make Sure of Your

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This Year

Buy A. & M. Certified.

Every bag of Hairy or Smooth Peruvian which we sell has been officially inspected and bears originally signed tag—a fac simile of which appears in this ad.

Write for Seed Catalogue.
Remember of new location,

Aggeler & Musser SEED Company
620 South Spring Los Angeles

WILL THIS GRASS RESTORE CALIFORNIA'S PRISTINE PASTURAGE?

(Continued from first page.)

HOW TO START PHALARIS.

The seed should be sown early in the fall at the rate of 4 to 6 pounds if drilled, or 8 pounds if broadcasted. All possible advantage should be taken of the first rains while the weather is still warm. Unlike many grasses, it germinates readily and quickly, and, even though the very fine, hair-like seedlings are exposed to severe frosts, they are not injured. Where the land is foul with weed seeds of other plants it would be advantageous to sow the seed in rows and cultivate.

A quick and certain method of propagation is by division of the roots. A single clump may be divided up into fifty or more pieces and if planted two feet apart each way will soon make good pasture or furnish seed the first season.

WILL ANYTHING EAT IT?

We have not yet conducted feeding experiments, nor have we pastured it, but there is abundant trustworthy information from South Africa, Australia and Argentina to assure us of these points.

Professor Botto of the University of La Plata, Argentina, describes the grass under the name Sweet Tussoc, Phalaris bulbosa, and he gives an analysis of it which shows that the dry grass has a nutritive value almost identical with that of good barley hay and somewhat less than the best oat or alfalfa hay.

He claims that it will carry at least 20 sheep or one cow per acre during the winter months. This is remarkable when compared with our 10, 20 or 30 acres per animal or twice this amount on much of the open range.

HOW TO TRY THE PLANT.

We do not commend this grass as a panacea for all range feed troubles. It is not adapted to scattering seed broadcast from horseback on rough poor range lands not susceptible of cultivation, but it is adapted to the immense stretches of valley lands that have been grained or pastured for many years.

We suggest the planting of this grass where it may remain for four or five years and provide abundant pasture during the summer or winter. For a long time we have been wanting to know what we could do with lands not susceptible of irrigation and which were producing low yields of grain. This plant seems capable of making such lands profitable, and is therefore commended for trial.

[For the benefit of readers who may be attracted by the foregoing statement we may say that there is no seed of the plant to be obtained in this country, and seed secured from abroad has been mixed and a straight perennial strain has been secured by the University by selection. Most of this seed will be planted this year on the University Farm for large seed production later. It is possible that a little of the seed may be obtained by application to Prof. P. B. Kennedy, University, Berkeley, with a small remittance (say 25c) to cover cost of packeting and mailing.—Editor.]

WINTER-GROWING BEANS.

English broad windsor beans are grown between the hills of potatoes in T. C. Holmes' garden in San Francisco. They grow 2½ feet tall, with 5 to 20 pods, many of which contain 7 or 8 greenish white beans. They are hardy against moderate frost and should be planted some time during winter. The later they are planted the more likely they are to become infested with aphis. Mr. Holmes finds the best way to avoid severe infestation is to clip off the buggy tops and take them away. But their separation by potato plants helps greatly to avoid aphis.

The Government makes an urgent call upon the salvage departments of the Red Cross for the saving of fruit pits and nut shells, which are used for the burning of charcoal needed for gas masks. It is stated that the quantity required cannot be obtained save by the co-operation of every consumer of fruit and nuts. The varieties wanted are peach, apricot, prune, plum, olive and cherry pits; brazil walnut, hickory, butternut shells.

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John Deere No. 5 and No. 6 Tractor Plows meet fully every requirement for better and longer service in this section. We recommend them to you on the basis of proved superiority in California fields, orchards and vineyards. We want you to investigate them. It won't take you long. It will pay you to do it. See these plows at your John Deere dealer's store. Drop us a post card and we will send you a folder describing them fully. We'll also be glad to send you our free book, *"Better Farm Implements and How to Use Them."*

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Land wheel set back, balancing weight of plow over all wheels—even depth of plowing in uneven ground. Plowing position reached quickly. Bottoms locked down—***stay in the ground*** while plowing.

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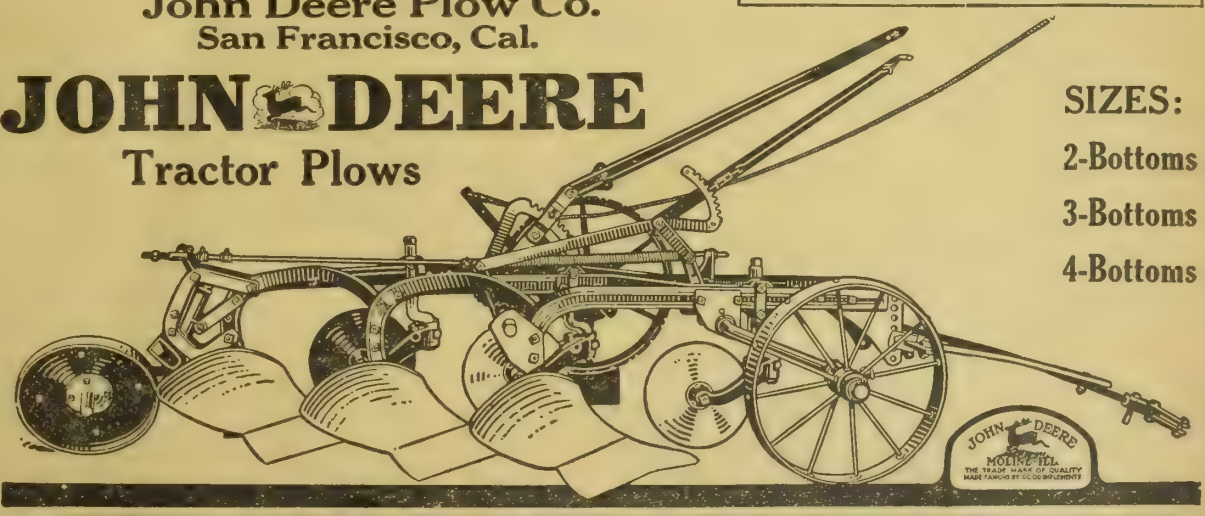
Simplest and most dependable power lift—no chain or sprockets. Bottoms raised high and level on half turn of land wheel.

Location of land and front furrow wheels permits work close to trees or vines throwing either to or from the row. Lever can be lowered out of way of limbs.

Quick Detachable Shares, strong and close fitting. Loosen one nut to remove share. Tighten same nut and share is on tight.

Hitch adjustable for any standard tractor.



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2-Bottoms
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GRASP the OPPORTUNITY and put DOLLARS in your pocket by clearing your stump land. Stump land was never so valuable as it is TO-DAY. The "K" Stump Puller will do the work in less time and the least expense. Cost just about ½ of a horse power machine and about ¼ of the cost of dynamite. One man or woman with a "K" can out pull 16 large horses. One person single handed can pull from 50 to 150 stumps per day.

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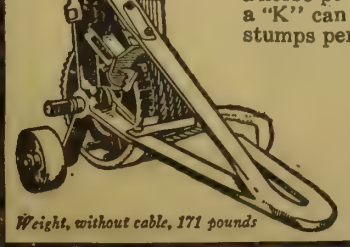

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No stump too big for the "K"

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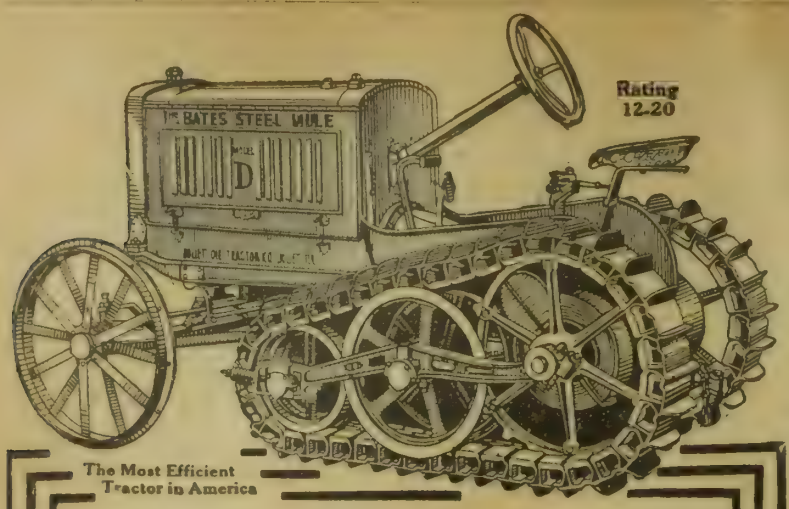


The Most Efficient Tractor in America

LONG FIELD EXPERIENCE

has made the Bates Steel Mule crawlers a big success. It has brought the knowledge to build durable crawlers that practically double the usefulness of the tractor. These crawlers allow the tractor to pull much bigger loads and at the same time use much less fuel than if it were a wheel-driven type.

Six years of field experience with thousands of crawler tractors have taught the correct design for a three-plow tractor and what materials are necessary for giving long life to the crawlers. Other knowledge equally valuable has come through this experience. We will gladly show you how you can benefit by the results of Steel Mule development.

If you are one of the few who have not inspected the Model "D" BATES STEEL MULE we have on our floor—be sure and do so at once.

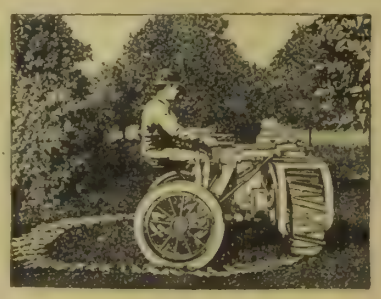
California Tractor Company

417-423 East Weber Ave., Stockton

FARM BOOKS! Pacific Rural Press 535 Market Street San Francisco

Get the TrackPULL Book

Tells Why 6-H. P. Bean Tractor is Best For Orchards and Vineyards



No other tractor meets all the special needs for which the Bean TrackPULL was designed.

Send coupon for our free book which tells all the reasons why orchardists and vineyardists particularly need the Bean TrackPULL Tractor.

The makers of the TrackPULL have been manufacturing orchard machinery for 34 years. They long ago saw the special *need* for special *tractors* to use in orchards and vineyards. They used their special knowledge and experience to design a tractor that would fit those needs exactly. No other machine can do what the TrackPULL does because no other is so designed. Don't make a mistake on tractors.

Bean TrackPULL operates through *single track* which does both the pulling and steering. Pulls, "gees," "haws," and backs just like a team. *Same power on turns* as on *straight-away*. No over-loading one side, no pivoting, no *uneven* pulling when tools are hitched off center. Hitch them *away* off center—getting up *close* to trees and vines—pulls *just as well*. 12-year-old boys can handle.

Valuable improvements in Motor, Track Rollers, Drive Sprocket, Bearings and Rear Wheels make the 1919 Model Bean the most efficient orchard and vineyard tractor manufactured. Costs nothing and doesn't obligate you, to investigate fully before you sign up for any other make.

Write us now for the Track PULL BOOK. We'll tell you name of nearest agent who can show the Bean. Let him save you money

BEAN TrackPULL Tractor

Patented Front Drive Principle

Send coupon. 131 N. Los Angeles St., Dept. A-10, Los Angeles, Cal. Bean Spray Pump Co., 241 W. Julian St., San Jose, Cal. Send me catalog and full information without obligation on my part.

Name .....
Street .....
City .....
County .....
State .....
No. of acres .....
Kind of crops grown .....

General Agricultural Review

Field Crops.

Alfalfa lands are reported to be in good demand all over the State.

Russia is estimated to have more than 4,000,000 acres of land which would produce cotton if irrigated.

Some good crops of alfalfa have been cut from the sloping land sides of Sacramento River levees this season.

Kern county's cotton gin at Bakersfield is expected to be ready for operation by the middle of next month.

A good crop of Egyptian corn was grown between rows of asparagus in a big field on Grand Island, Sacramento county.

The estimate of probable bean production in California this season is for a crop of 8,350,000 bushels, compared to 8,091,000 bushels in 1917.

Southern California potato dealers have been asked by the United States Quartermaster-General to provide 5,000,000 pounds of potatoes for the United States Army.

No celery was grown around Holt, San Joaquin county, this year because growers lost too heavily last season. One man netted $16 for a carload and felt lucky not to get red ink.

The estimated sugar beet crop in the United States for this year was 6,359,000 tons, according to United States authorities. This is an estimated increase of 378,621 tons over 1916.

Some hundreds of acres of one- and two-year asparagus on Staten Island in San Joaquin county were interplanted with pink beans this year, two rows of beans to one of asparagus.

The writer noticed last week two adjacent bean fields in Yuba county, one of which was ready for cutting, the other having been planted so late that there was no possibility of its maturing.

The first order for barley shipment to outside points was listed on the San Francisco Grain Exchange in the shape of a call for 10,000 tons at $2.28 a hundred pounds, and the order called for immediate delivery.

Sacramento Valley rice growers thought they would have to postpone harvest on account of rain last week, but a north wind proved their friend for once by drying the fields enough to begin harvest within a day or two.

Wheat seed sales in various parts of the State indicate that there will be a large acreage this year in response to the war appeal for an increased food production. The Early Baart seed is claimed to be the best in point of yield and milling quality for most of the wheat acreage of the State, and there has been a big demand for this seed.

Turlock's shipments of cantaloupes, watermelons and casabas this season up to October 14, as reported by the Turlock Board of Trade, is as follows: Cantaloupes, 1967 cars; watermelons, 502 cars; casabas, 142 cars. Some shipments by express, not included in the foregoing estimates, would probably bring the total up to 3000 cars.

The acreage of lima beans was this year placed at 145,000, and on October 1 the average yield per acre established to be 18 bushels, making the preliminary estimate of production 2,610,000 bushels, equivalent to 1,957,500 80-pound sacks. The estimated production by counties in 80-pound sacks was as follows: Los Angeles, 210,000; Orange, 360,000; San Diego, 108,000; Santa Barbara, 72,000; and Ventura, 1,207,500.

Thomas Riggs, Jr., Governor of Alaska, recently conferred with the officials of the Agricultural Experiment Station at San Francisco regarding the establishment of a mill to grind the crops of Siberian wheat interior Alaska is expected to yield during the seasons to come. This wheat matures in the brief period of about four months from the time the seed is put into the ground. This quick growth makes the wheat adaptable to the Alaska short summers.

Deciduous Fruits.

A good crop of Tuolumne's large, finely colored apples is now being packed.

California's late crop of apples was much improved by the heavy downpour of rain during September in the important apple growing districts.

One million and a quarter cans of peaches is the record this season of the Pomona canneries. About one-third of the peaches have been purchased by the Government.

Schedules returned by crop reporters October 1 show the total production of peaches in California to be 63 per cent of normal, or about 11,750,000 bushels, compared to a production of 14,151,000 bushels in 1917.

This State's production of the commercial apple crop is estimated at 3,380,000 boxes, compared to a production of 3,520,000 boxes in 1917. The commercial production of the United States is estimated at 24,400,000 barrels, compared to 22,519,000 barrels last year.

A large tree planting has been made in Kings county this season. F. K. Howard, County Horticultural Commissioner, reports inspection for this purpose as follows: Apricots, 18,582; grapes, 83,669; peaches, 9931; prunes, 34,901; miscellaneous fruits and nuts, 16,016; ornamentals, 19,407.

Stanislaus County Horticultural Commissioner Rutherford states that the red-humped caterpillar has made its appearance in the fruit orchards in several parts of that county. When knocked off a tree, the caterpillars seldom get back, but as a precautionary measure a spray of paris green should be applied, says Mr. Rutherford—half a pound mixed to a paste and added to 100 gallons of water, or in lesser proportion of both if sufficient.

Sacramento Valley is witnessing a most unusual phenomenon, it is reported. Pears, apricots, plums and cherry trees are profusely adorned with bloom, the trees' activity being attributed to the recent warm rains followed by warmer weather. There is no chance of the trees bearing fruit, say experts. Farm Adviser Ralph D. Robertson of Stanislaus county reports that a few almond and apricot trees in that county also have been beguiled by the spring-like rains and warm weather into a glorious bloom.

Citrus and Semi-Tropical.

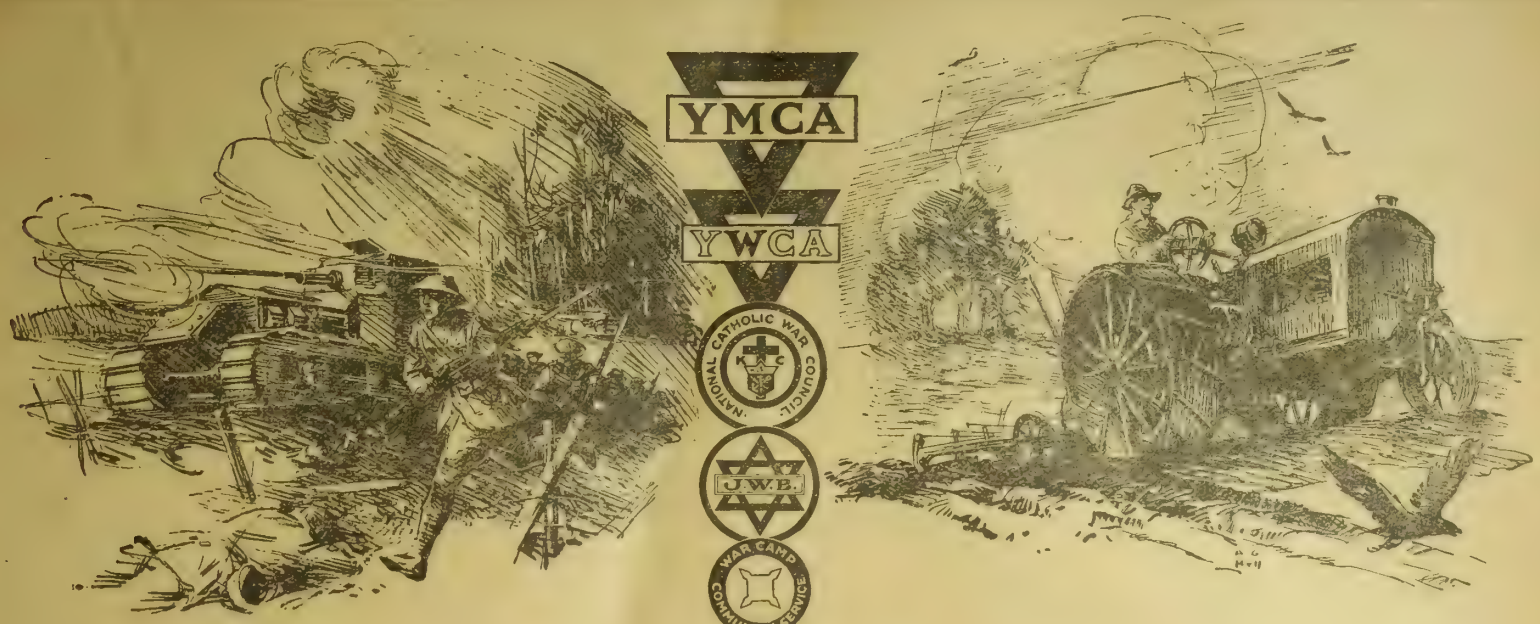
A car of Valencia oranges shipped from Lindsay was sold last week at Baltimore for a record price on Tulare county oranges. The fancy fruit in this car averaged $13.60 per box and the choice and standards sold on an average of $13.10.

The orange trees at Fairoaks look a good color but in light crop. Here the color standard only is accepted because the fruit in this section does not sugar up 8-10. The quantity content is high and a special flavor is claimed. The use of cover-crops is a common practice. All kinds of commercial fertilizers are used to a greater or less extent.

Miscellaneous.

It is reported that representatives of the new republic of Finland are essaying to contract for Fresno raisins.

The United States Food Administration has announced that it is no longer necessary for farmers to continue conservation of straw for feeding purposes, as the stock food situation has improved.



Over there Over here

THROUGH mud and rain, through gas and shrapnel, our boys are pushing on to Victory. It's a task that tries the souls of strong men. They *must* have rest and recreation.

At the canteens, they buy the little comforts of life at cost. In the war-service huts, they find everything needful to write the letters you receive. They attend a show, see a "movie" or hear good music—all free. Always, they find in the hut secretary a friend. They forget for a little while the grim scenes of war and return to duty refreshed. These are some of the things that keep fighting men at top notch.

YOURS is the task of growing the food these fighting men must have. The toiling millions in the munition factories, arsenals and shipyards also look to you for sustenance. And they do not look in vain.

Your work is vital to winning the war and you are doing it manfully, mindful of Country, forgetful of self. You are working early and late, putting forth your strength unsparingly. You have produced bounteous crops that feed a hungry world. Yet to you are spared the comforts of home and the presence of loved ones. Yours are the privileges of earning and giving.

Give to "keep good men good and brave men strong". Give to bring cheer to those who are daring their all for you and yours. And when the boys come home victorious, you can honestly say, "I have done my part, too. I have backed you to the limit."

Seven allied activities, all endorsed by the Government, are combined in the United War Work Campaign, with the budgets distributed as follows: Y.M.C.A., $100,000,000; *Y.W.C.A.,* $15,000,000; *National Catholic War Council (including work of the Knights of Columbus and special war activities for women),* $30,000,000; *Jewish Welfare Board,* $3,500,000; *American Library Association,* $3,500,000; *War Camp Community Service,* $15,000,000; *Salvation Army,* $3,500,000.

Contributed through Division of Advertising

United States Gov't Comm. on Public Information

This space contributed for the Winning of the War by

PACIFIC RURAL PRESS

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

DISTILLATE IN AUTO.

Since gasoline saving is part of the war program, H. A. Clark's experience using distillate in a Chalmers may aid materially. Mr. Clark has for several years burned nothing but distillate, using a Schebler carbureter of the model in which water from the radiator circulates through a jacket for heating purposes. An improvement on this, thinks Mr. Clark, will be his plan to disconnect this jacket from the radiator and connect it so gas from the exhaust will take the place of hot water. The carbureter is assisted, and gasoline priming made most convenient by a contrivance attached by Mr. Clark himself. He drilled a quarter-inch hole in the intake manifold just above the carbureter and inserted one end of the top bar of a short T pipe. From the other end of the top bar he led a soft copper tube to a funnel cock set under a quart can of gasoline fixed under the dashboard. The gasoline can has a cock underneath so it can drip into the funnel cock at any rate desired. In the stem of the T pipe on the manifold is an auxiliary air valve picked up for $1 at an auto wrecking establishment. A piano wire leads from this through a flexible tube to the dashboard for regulation. Around the stem of the T pipe an inch T pipe has been fixed with the ends calked tight and its stem connected by flexible tubing to the exhaust to heat whatever air passes through the auxiliary. Some air sucked in with the gasoline gets well mixed en route and the amount is regulated by the funnel cock.

Perhaps part of Mr. Clark's freedom from carbon trouble is due to the water he adds to the distillate-air mixture. This is accomplished by fixing a flat six-quart can under the dashboard and leading a copper tube to the funnel cock under the gasoline can. There it can drip as desired after the engine has been started. No more carbon has been found using distillate than is common in engines using gasoline, and the engine is in first-class condition.

DISTILLATE BURNER ON AUTOS.

Burning distillate in a Ford with no change in carbureter or engine has been tried by most Ford owners. It has been discarded by almost as many on account of carbon trouble or the difficulty in starting cold, or even the scoring of cylinder walls due to excess of unvaporized distillate in the fuel eating off the lubricating film on the cylinder walls. Any fuel heavier than gasoline, and even the gasoline of today, is generally more thoroughly vaporized if heated before going into the explosion chamber. It must be in gaseous form, with a proper proportion of air to explode cleanly with full power and minimum carbon. Distillate and heavier fuels not preheated go into the combustion chamber in a foggy, less explosive, slower-burning condition than they should. We recently advertised the Wilmo manifold, which is built to insure complete vaporization of distillate and kerosene on several makes of automobiles. This manifold is a combination of the intake and exhaust manifolds with the dividing wall calculated to be thick enough to preheat the mixture as it comes from the carbureter, but not to overheat it because overheating before the explosion also reduces power. Wilmo manifolds are being used quite generally in the West and users are claiming more mileage per gallon of lower grade fuel, which reduces the cost per mile quite considerably.

APPLETON TRACTORS NEW HERE.

One of the new tractors operated in the Los Angeles demonstration is the Appleton, made by the Appleton farm machinery people and handled in California by C. S. Anthony, whose local agency for Avery tractors was recently relinquished. The Appleton tractor, rated as 12-28 horsepower, pulled two 12-inch moldboards fast and easy 10 inches deep in the dry adobe of the demonstration. It has a heavy four-cylinder Buda motor, cast en bloc, with splash and force-feed oil system, Bosch magneto, Schebler carbureter, Bennett air cleaner, multiple dry disk clutch, sliding gear transmission, bevel gear differential, 54x12-inch rear wheels, front wheels on irreversible automobile type steering gear, which makes steering easy on cloddy ground. A separate brake on each rear wheel also aids steering. The right front wheel may be set over sidewise and adjusted for height so it runs in the furrow while the rear wheel is on solid ground. The exhaust passes through a "stove," which heats the air before it passes into the carbureter and also heats the mixture before it goes into the engine.

A $70,000,000 farm machinery corporation was recently authorized when the New Jersey Board of Public Utility Commissioners approved a merger agreement between the International Harvester Co. of Chicago, which is incorporated in New Jersey, and the International Harvester Corporation, which has been a distinct but auxiliary company looking after the former's business abroad and certain lines of it in this country.

Oily to bed,
And oily to rise,
Is the fate of a man
When a tractor he buys.

Gas Engines
Oil Engines
Distillate Engines
Centrifugal Pumps
Turbine Pumps
Deep Well Heads
Deep Well Cylinders
Sand and Dredge Pumps
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Rotary Pumps
Oil Pumps
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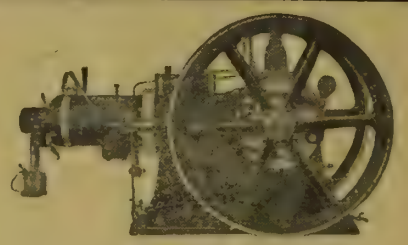
Electric Motors
Louden
Barn Equipment
Hay Tools



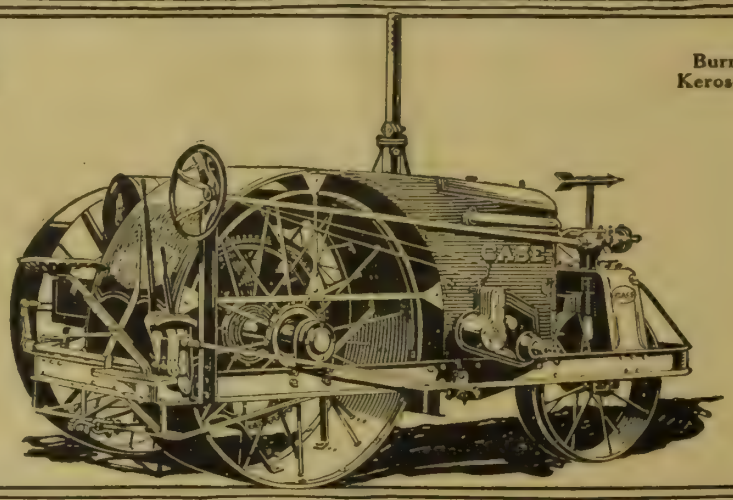
Put Your Power Problems Up to Experts

Before you invest in an engine of any kind for any purpose—write for our complete engine catalogs—and avail yourself of the expert service that we offer. Tell us your power requirements and we'll help you select the type and size of engine best adapted to your particular needs. Every inquiry answered promptly, completely, and authoritatively.

California Hydraulic Engineering & Supply Co.
68 Fremont St., San Francisco 424 E. 3rd St., Los Angeles

Case 10-20

Burns Kerosene



Ready for Immediate Delivery

TO supply a limited number of hurry-up calls for tractors to put to work at once, we offer this Case 10-20.

We do not know how long our supply will last, but those we have will be distributed as fast as transportation facilities can bring them.

Thus you are able, if you act at once, to obtain a well-known, tried machine, of which there are thousands in daily use all over the country.

We have built this 10-20 since 1914 and farmers everywhere attest to its economy and dependability.

This 10-20 has plenty of reserve power. Its rated pull of 1,650 pounds on the drawbar can be increased to 2,600 pounds. It pulls three plows anywhere a good team can pull one plow continuously.

Its design and hitch is such that all side draft—so common in most 3-plow tractors—is avoided. All wheels run on unplowed ground—the combined tire width is 32 inches.

It has a 4-cylinder Case motor, with removable head. It is equipped with a Case-Sylphon Thermostat which insures complete combustion of kerosene at all loads. And it has a Case air washer, which prevents dust and grit from entering the cylinders.

Examination of this 10-20 will disclose its splendid design and workmanship. As you go over its specifications and illustrated description you are certain to agree with the thousands of owners that this tractor is 100 per cent efficient.

Write for our catalog. Or obtain it from a Case Dealer.

And if you are interested in the immediate delivery of this Case 10-20, place your order at once, so as to avoid disappointment.

J. I. Case Threshing Machine Company, Inc., 1379 Erie St., Racine, Wis., U. S. A.
Founded 1842 (808)

TRACTOR PARADE ON MARKET STREET.

The civic authorities of San Francisco and the military authorities in this district, recognizing the value of the tractor in food production, have authorized a tractor parade on Market street. In these history-making days it is quite usual to see new things, and the people of the city of San Francisco are to see a tractor parade on Market street, Wednesday forenoon, October 30.

Heretofore, during great military and patriotic parades, tractors were not permitted on Market street, for fear of damage to the pavement, but consent has now been given and forty of these modern engines for power farming are to parade up Market street, headed by a platoon of police, by a regiment of Uncle Sam's fighting men, by a high officer of the Army, by the Governor of California and those who are interested in making this demonstration interesting, instructive and patriotic.

HOW TO FIX THAT HAY RAKE.

To the Editor: If your correspondent who has trouble with hay catching in his ratchet wheels will do the following he will have no more trouble from that source. Take the wheels off from the rake, lay them down with the ratchet wheels up. Now take a couple of old dish-pans, cut a hole into the bottom of each the size of the ratchet wheels, punch a few small holes around the bottom of the pans and fasten with wire to the spokes of the wheels, so that the hollow of the pans extend over the ratchet wheels towards the rake. Replace the wheels, then watch your neighbors copy.—Nicholas Weber, Maxwell.

COMMUTATOR GUMMED.

When your Ford engine balks on a cold morning after running well the night before, don't take things apart until you have applied a few drops of kerosene to the commutator through its lubricating cup. The writer warmed up the atmosphere about an hour, cranking and trying to locate ignition trouble, but the engine started beautifully after the kerosene treatment. Lubricating oil had gummed on the commutator in the cold night until it could not make good contact.

POWER NOTES.

The Food Administration suggested the advisability of rice growers in Stanislaus county installing pumps. Those growers who followed the suggestion were recently found to have no lack of water, while others have protested against reduction of their irrigation water by order of the State Power Administrator.

"Tractor taxi service" for farmers who do not see the need of owning tractors is an idea proposed by the Dauch Mfg. Co. not only to serve small farmers but to demonstrate the value of tractors and thus increase sales. Many dealers in other tractors have also found the best way to sell a tractor is to operate it on the prospective buyer's ranch.

A marked difference in orchard tree condition and size of fruit was made on W. E. Allen's ranches in the hills west of Suisun by irrigation this season with two deep-well turbine Layne & Bowler pumps. Mr. Allen is well pleased with the way the pumps worked.

IS THIS YOU?

Remittances have recently been received from San Jose and Loleta, but the senders neglected to give us their names.

If you live in one of these places and renewed your subscription, see if your expiration date on the label has been changed. If not, tell us when you renewed and in what form your remittance was made. and we'll try our best to connect you with one of those on hand.

Too bad we are not mind readers.

The Government is calling the attention of farmers to camp garbage for hog feed. It is free from coffee grounds, glass and other substances injurious to animals, and tests have shown very profitable results from its use. If you are located near an army camp or cantonment, better look into this. The Food Administration furnishes suggestions for the practical utilization of such garbage.

The State Board of Education will have 1000 farmers trained in the handling of tractors.

Seven Big Motor Trucks
BARGAINS

We have seven high-grade motor trucks that we were compelled to take back from purchasers by reason of the Moratorium Act.

Two .....2½-ton Trucks
Three .....3 -ton Trucks
Two .....3½-ton Trucks

PRICES $750 UP.

Terms if Desired

Some of these trucks are equipped with Dump Bodies and Hydraulic Hoist, some with flat rack suitable for grain hauling.

These trucks have all been thoroughly rebuilt in our own shops by our motor truck experts and are equipped with new tires.

We guarantee them the same as we do new trucks. This is your opportunity to secure a good motor truck and save hundreds of dollars.

If you want a serviceable motor truck at a big bargain—Act quickly.

Write for Specifications

Edward R. Bacon Company
PACIFIC COAST DISTRIBUTORS

Sterling Motor Trucks and Troy Trailers

51 Minna Street San Francisco, Cal.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler
of the "Giant" Type
WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

YOU SHOULD
send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

Schmeiser Manufacturing Co.

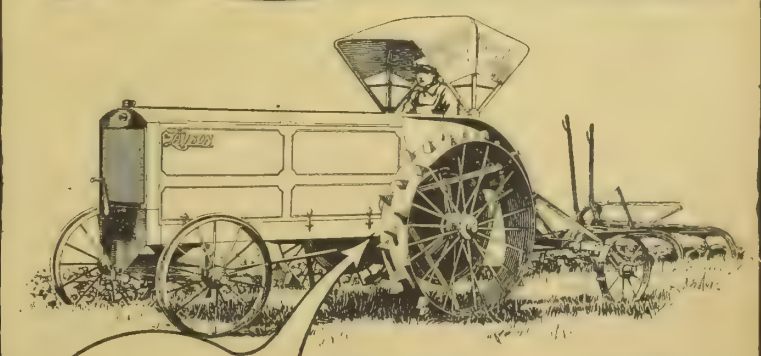
12 Mechanic Street DAVIS, CAL.

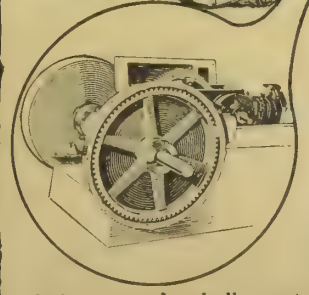
Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

The LAUSON 15-25

DUST PROOF-ALL GEARS ENCLOSED





We Designed Our Own Transmission

Don't overlook the Transmission when you buy your tractor. Next to the engine, it is the most important part of the tractor.

LAUSON Transmission was designed by our own engineers—selective sliding gear type—two speeds forward, one reverse. Transmission gears are made of the finest alloy steel—heat treated for a glass hard finish with annealed center; tough, resisting, long wearing. Splined shafts are used and all mounted in Hyatt roller bearings. Gears and bearings run in oil in dust-proof case.

Drive Shaft is of high carbon steel. Final drive gears are semi-steel, machine cut—all completely enclosed in a dust-proof housing and running in oil.

We have important information which you should take into consideration before purchasing a tractor. We will be glad to send it to you without any obligation and give you the name of our nearest dealer where you can inspect the LAUSON 15-25.

Twenty-Three Years of Engine Building Experience
For twenty three years we have been making ALPHA Engines —the standard of farm engine excellence. 1½ to 18 H. P.

THE DE LAVAL DAIRY SUPPLY CO., San Francisco, Cal.
Distributors for
THE JOHN LAUSON MANUFACTURING CO., 1032 Monroe St., NEW HOLSTEIN, WIS.

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Kero-Oil Engines

Twice the Power at Half the Cost
Sizes 2 to 30 H-P.--Select Your Own Terms--Direct-from-Factory prices. Write your own order--Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE--by return mail, Postpaid.

Write Today

WITTE ENGINE WORKS
Oakland Ave., Kansas City, Mo.
2860 Empire Bldg., Pittsburgh, Pa.

Money Back if not satisfied on my New 90 Day Engine Offer

Edgemoor Farm Guernseys

Imperial Itchen May King, 25174

PRETTY PRODUCTIVE PROFITABLE

A Few Animals of Either Sex For Sale

SANTEE, CALIF.

H. F. SCRIBNER
Supt.

W. H. DUPEE
Pres.

Large Size in COWS

Is favorable to economical yielding of milk. The food required to support an animal is not in proportion to size, as a given number of large cows than of small ones will do. For this reason the Holstein-Friesian cow usually returns a greater net profit on the total amount of food consumed.

If interested in

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information.

The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS

A few fall boars left by Royal Superb 8, also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

Grain Increases Dairy Profits

Mr. Dairyman, your average cow, receiving alfalfa alone, eats 30 pounds daily, which at $20 per ton costs you 30 cents per day. You get an average of 20 pounds of milk per day per cow.

By reducing the alfalfa 10 pounds per day, and adding a grain ration of 2 pounds each of barley, dried beet pulp and coconut meal, you will save 10 cents on alfalfa and add 15 cents to the cost for grain. This will make the total cost of the new ration 35 cents, as against 30 cents for alfalfa alone—an increase of 5 cents per day.

But from the new method of feeding you can expect an increase of 4 pounds of milk daily, worth 16 cents (including both butterfat and skim milk). So you will receive 16 cents additional and pay out 5 cents more for feed, leaving you an extra profit of 11 cents per day per cow by reducing the alfalfa and adding grain.

Guesswork? No! This table has been worked out by Prof. F. W. Woll of the University Farm, at Davis, and while there may be slight variations in individual cases his figures are very conservative and you really ought to make more additional profit than he estimates.

Furthermore, you must take into consideration that a cow receiving grain will be kept in better physical condition and will produce larger and more vigorous calves.

Don't be penny wise and pound foolish, and feed alfalfa alone. Sell some of your alfalfa, if necessary, and buy grain. It will pay you.

A NOTABLE HOLSTEIN SALE.

The A. W. Morris & Sons Corporation is so well and favorably known that it seems as though the mere announcement of a sale by them ought to be enough to attract buyers from all over the land. Yet for the benefit of beginners who are not well posted it may be well to state that the Morris Holsteins undoubtedly comprise the greatest herd of dairy cattle in the world today. They hold more world records than any other herd on the map and, mind you, these are long-distance records, too.

The Morris people care little how much a cow can produce in a week or a month. It's the amount she can produce in an entire lactation period that interests them—yes, and several lactation periods, too, for the Morris cows have a trick of not only breaking yearly records but of keeping right on and excelling their own records during each succeeding period.

Persistency and prepotency—those are the predominating characteristics you find in the Morris Holsteins, and they are the qualities you want in your foundation animals.

On November 12 you will be given an opportunity to bid on 105 head of registered Holsteins selected from the immense Morris herd of over 450 head. There will be animals of both sexes and all ages; animals of the greatest producing blood lines of the breed. Included will be 90 cows bred to bulls of world-wide repute.

Here is an opportunity to secure foundation blood of the highest quality. The sale will be held on the Morris farm at Woodland.

GUERNSEY CHARACTERISTICS.

To the Editor: I would like a description of a thoroughbred Guernsey cow—color markings, horns, etc. —C. H. A., Shafter.

[Answered by Livestock Editor.]

The average Guernsey cow weighs about 1000 pounds—about the same as an Ayrshire and about 100 pounds heavier than the Jersey. Bulls weigh about 500 pounds heavier. The breed has been considered coarser boned and more irregular in conformation than the Jersey, but of late years more symmetry has been developed. The color resembles the Jersey in general, but includes some colors not found in that breed—a reddish yellow, or lemon, or orange fawn, with white markings. The white is usually found on the face, the flanks, legs and switch, but may be on any part of the body. The horns should be amber colored, slightly curved, and not coarse. According to the standard, the nose should be cream colored and not dark, but this is a minor point and some of the best producers of the breed have had dark-colored noses.

DAIRYMEN WILL BUY ASSOCIATION ALFALFA.

Arrangements have been completed by which the San Joaquin Valley Milk Producers' Association will buy a large amount of hay from the California Alfalfa Growers' Association. The dairymen are taking this step, according to Fred W. Hansen, as a natural consequence of the advantages offered by co-operation on a large scale between farmers and also because of the belief that the co-operative associations of producers, wherever possible, should lend a hand to bring success to these popular movements. Col. Harris Weinstock, State Market Director, has approved of the plan. The dairymen will have the advantage of getting their hay at guaranteed association prices, storing in warehouses throughout the producing regions.

OPENING OF LIBERTY FAIR DELAYED.

We announced last week that the opening of the California Liberty Fair at Los Angeles had been postponed from October 12 to October 26, but it has been found necessary to defer the opening to a later date—probably November 2. We hope to make a definite announcement of the opening date next week.

Auction Sale of Registered HOLSTEINS

INCLUDING SEVERAL A. R. O. COWS.

Also grade Holsteins, Registered Durocs, Jersey boar, sow and pigs, work stock and ranch toats.

All registered stock over 6 months old is tuberculin tested.

OCTOBER 30, 1918.

TERMS OF SALE

Cash on day of sale—all stock at buyer's risk.

Ranch 1 mile southwest of Keyes.

J. E. HAINE, Owner

Ceres, Cal.

Auctioneers: Col. Cy N. Clark & Son, Modesto.

RIVERVIEW FARM

Offers the 17-month-old Holstein-Friesian bull

'SEQUOIA ZOZO PIETERTJE'

This bull's dam, who is also the sire's dam, is a cow of outstanding size and type with a semi-official record of 20252.4 lbs. of milk containing 735.69 lbs. fat, or 919.6 lbs. of 80% butter. Record at age of nine years. **Price $250.00.**

For photos and pedigree apply,

R. F. FISHER, Carlotta, California.

ELKHORN FARM

Offers:

Ayrshire Bull for Only $150

Born Nov. 29th, 1917. White with red cheeks and of good size. Grandson of Finlayston—greatest bull of breed, having 95 A. R. records to his credit. Dam has A. R. record of 9850 lbs. milk and 460 lbs. butter as a three-year-old. Sire—Baron's Best of Bargeroch, has 11 A. R. daughters, averaging over 10,000 lbs. milk testing over 4%, and gives his daughters large and well-shaped teats.

WHERE CAN YOU BEAT THIS HERD HEADER FOR THE MONEY?

J. HENRY MEYER

R. F. D. No. 2, Box 82. Watsonville, California

First Prize Breeders Young Herd at Sacramento

The get of Prince Riverside Walker combine show type with great producing backing. The cow making the highest official yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America (see if it is the world's official record for one year), is Aaggie Acme of Riverside 2nd. She is out of the same dam as our senior herd sire, PRINCE RIVERSIDE WALKER.

The junior three-year-old heifer making the highest yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America is Miss Valley Mead De Kol Walker. She is by the same sire as our senior herd sire, PRINCE RIVERSIDE WALKER.

Buy your herd sire in the blood lines that are doing things TODAY and that will increase in value in the records they are bound to make in the TO-MORROW. We have just a few good bull calves by PRINCE RIVERSIDE WALKER, out of splendid dams. They move young at our prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED.

Tulare Holstein Farm

W. J. HIGDON, Owner TULARE, CAL. H. L. REDD, Herdsman

First Tulare Sale of Holsteins

[Written for Pacific Rural Press.]

The dates November 20 and 21 have been claimed for a double event. One is to open the new $8,000 sales pavilion built by the Tulare Livestock Association at Tulare, the other is to offer to the farmers of California an opportunity to buy foundation dairy stock at their own prices. For in this new pavilion will be held the First Tulare Sale of 125 registered Holsteins, consigned from such well-known herds as A. W. Morris & Sons, Bridgford Co., R. F. Guerin, W. F. Mitchell, C. L. Hughes, W. J. Higdon, Alex Whaley, Chas. Yocum, R. C. Sturgeon and E. G. Wharton.

The sale will contain more females bred to bulls out of 35- to 40-pound dams than have ever before been offered in one sale in the West. Every animal will be guaranteed to be a breeder, and every one over six months of age will be tuberculin tested and sold subject to retest by buyer.

Watch for further announcements of this great sale.

Important to Hog Raisers

[Written for Pacific Rural Press.]

During the Fresno Fair a meeting of hog raisers was held and officers of the California Swine Breeders' Association, including Prof. J. I. Thompson of the University Farm and C. B. Cunningham of Mills, emphasized the importance of having every hog man in the State join the association, whether breeder or feeder, and whether raising purebreds or grades.

The object is to make the association strong enough so that it can get the State Legislature to put through a much-needed feed inspection bill, help the farmers in buying feed, and doing many other things of vital importance. Similar work is now being done for the beef cattlemen by the California Cattlemen's Association.

Great interest was developed, and Fred Hartsook, the Poland-China breeder of Lankershim, offered the services of his men and his 23 automobiles in helping to perfect the organization. Ray Gatewood of Fresno was elected chairman and organizer for that county.

Hogmen in other counties wishing to join should write to Prof. J. I. Thompson, Davis, Cal.

Tagus Ranch to be Leased in Small Tracts

[Written for Pacific Rural Press.]

The well-known 6000-acre Tagus Ranch in Tulare county is to be leased in tracts of 20 acres and up, beginning December 15. This wonderfully rich ranch, which is just a few miles north of Tulare, has a spur track on the main line of the S. P. and is only five miles from the Santa Fe. It is abundantly watered by twenty-eight 20-horsepower electric pumping plants.

To clear the ranch of its present stock and equipment a monster auction will be held from December 10 to 13, during which the great breeding herds of Holstein, Shorthorn, Polled Angus cattle, Duroc-Jersey hogs and Belgian horses will be completely dispersed. Also five tractors and over $50,000 worth of farm implements will be included. Fuller announcement will be made later.

POSTPONED!

Will Open Nov. 16th

As a matter of Public precaution, and after consultation with the Board of Health, the California International Livestock Show has been postponed. It will open

November 16th and Conclude November 24th

Exhibitors who desire may send their animals at any time. The Show is now ready to care for them

For Detailed Information Write
JOSEPH E. PAINTER, Manager
1205 Merchants Exchange San Francisco, California

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

San Francisco, Nov. 16-24

22 REGISTERED HOLSTEINS

FOR SALE

TWO GREAT HERD SIRES

One a son of King of the Pontiacs and out of a daughter of King Segis Pontiac, the other out of the great cow, Alba Sadie Cornucopia Cutia, 34.14 lbs. Cows all young, ten milking and eight to freshen soon. Ten of them granddaughters of the King of the Pontiacs.

Tuberculin Tested. Priced Right.

E. O. McCLURE - - Santa Ana, Cal.

90—REGISTERED HOLSTEIN COWS—90

15—REGISTERED HOLSTEIN BULLS—15

AT PUBLIC AUCTION

A. W. Morris & Sons Corporation

Woodland, California Tuesday, November 12th, 1918

Daughters of:

KING MEAD OF RIVERSIDE
PRINCE GELSCHE WALKER
SEGIS PONTIAC DE KOL BURKE
IGNARO DE KOL
DE KOL BURKE
DE KOL HENGERVELD BURKE
ALCARTRA POLKADOT CORRECTOR
JULIANA KING OF RIVERSIDE
BUFFALO SKYLARK AMES
KING PONTIAC RUBY BURKE
COLANTHA SIR PONTIAC AAGGIE
AAGGIE CORNUCOPIA JOHANNA LAD
ARALIA KING
DE KOL SPOFFORD PROMISE
WOODCROFT PONTIAC KORNDYKE
TILLY ALCARTRA SON

25 FRESH COWS

30 COWS with yearly records up to over 24,000 pounds milk and over 1000 pounds butter.

3 COWS with records of 30 to over 33 pounds butter in seven days.

35 COWS with records from 20 to 29.87 pounds butter in seven days.

A WONDERFUL SALE OF HIGH RECORD COWS bred to the greatest lot of world's record sires to be found in any single herd on earth.

15 Choice Bulls will be sold, and DAIRYMEN: In this sale you will find a bull to suit you and at the price you are willing to pay.

WHAT WILL SUCH FOUNDATION BLOOD MEAN TO YOU?

Remember that in this sale will be some of the very cows that have made the Morris herd world famous; daughters of world famous dams and sires; representatives of families that have no superiors in the Holstein-Friesian breed. Think what a wonderful value is represented by the calves these great cows are carrying, and how much it would mean to your herd to have one or more of them. This sale is bound to be a REAL OPPORTUNITY, and remember that every animal will positively be sold to the highest bidder, without reserve or limit.

Over 75 cows bred to:

KING MEAD OF RIVERSIDE
Sire of the world's official butter record cow, Aaggie Acme of Riverside 2nd.

PRINCE GELSCHE WALKER
Sire of the world's record heifer, Miss Valley Mead De Kol Walker.

SEGIS PONTIAC DE KOL BURKE
Son of the former world's record cow, Riverside Sadie De Kol Burke.

KING MORCO ALCARTRA
Son of the world's record long distance cow, Tilly Alcartra.

SIR AAGGIE DE KOL ACME
Son of the world's record cow, Aaggie Acme of Riverside 2nd.

KING KORNDYKE PONTIAC 20TH
Son of the world's record heifer, Miss Valley Mead De Kol Walker.

Place of Sale The A. W. Morris & Sons farm, four and one-half miles northeast of Woodland, California.

Time of Sale Beginning promptly at 9:30 a. m., Tuesday, November 12, 1918. It will be necessary to start this sale promptly at the stated time, owing to the large number of highly bred animals to be sold in one day.

EVERY ANIMAL SOLD IS POSITIVELY GUARANTEED TO BE A BREEDER. NO ANIMAL SOLD IS TUBERCULIN TESTED.

For Catalogue Apply to Sales Managers

California Breeders Sales and Pedigree Co.

J. M. HENDERSON, Jr. : President
C. L. HUGHES, : Sales Manager
SACRAMENTO, CALIFORNIA

Auctioneers: Col. Ben. A. Rhoades, Col. Cy N. Clark

California Holsteins Stand High

[Written for Pacific Rural Press.]

California cows give a good account of themselves in the latest report of official tests issued by the Holstein-Friesian Association.

Bridgford Company, Knightsen, heads the list with three cows. Boweda, first in the full-aged class, making 30.095 pounds of fat in seven days; Tulip Walker, second in the junior two-year-old class with 21.161 pounds fat, and Fairmont Pauline De Kol 2nd, fourth in the same class with 19.147 pounds fat.

Stalder Bros., Riverside, are represented twice; Gerben Abbekerk Maid being fourth in the full-aged class with 27.565 pounds fat, and Stanislaus Princess Cleopatra, second in the senior four-year-old class with 25.658 pounds fat.

Laurameka, owned by M. H. Tichenor, Palo Alto, is fifth in the full-aged class with 27.13 pounds fat.

K. P. Tola Joe, owned by Gotshall & Magruder, Ripon, is first in the senior three-year-old class with 25.543 pounds fat.

Margaret Aralia De Kol, owned by A. W. Morris & Son, Woodland, is first in the full-aged class of long-time semi-official records with 926.19 pounds fat in one year.

Pennant Wayne Clothilde, owned by J. H. Harland Company, Woodland, is tenth in the junior two-year-old long-distance semi-official class with 480 17 pounds fat for one year.

In the distribution of prize money during the past official year California stands fifth, being exceeded only by Minnesota, New York, Washington and Ohio. Minnesota has a total of 14 first-prize winners, the other three States 11 each, and California 10. For butter records alone, Minnesota, New York and California tie for first place—each having seven first-prize winners.

In the list of prize money to the credit of different ones as breeders, A. W. Morris & Son lead the entire United States in the butter class with $278.75, but are third in the milk class with $125. This makes them third in the United States for the entire total, the amount to their credit being $403.75. J. H. Harlan Company is credited with $137.25. Alexander Whaley $54, and McAlister & Son $52.

California in Line for Clean Herds and Milk

[Written for Pacific Rural Press.]

A deputy State Veterinarian, together with an inspector from the State Dairy Bureau, recently made a tour of inspection of the four northern counties, Shasta, Modoc, Siskiyou and Lassen, doing both testing and inspecting of the principal dairy herds of those counties, and they have made a most favorable report of the condition in which the dairies were found. There were practically no reaction of tuberculosis—the only cases being those of cattle shipped in.

The inspectors were encouraged to find the small-top milk pail finding its way in favor. They impressed upon dairymen the importance of clean cattle, clean milkers, small-top milk pails, sterilized utensils, and thorough cooling of the milk to 50 degrees or lower.

In connection with this inspection it should be mentioned that the Bureau of Animal Industry of the U. S. Department of Agriculture is beginning to issue a publication in which will be listed every dairy herd in the United States that has been officially accredited as free from tuberculosis, or that has passed successfully one test with a view to certification.

An accredited herd is one that has successfully passed two annual or three semi-annual tuberculin tests applied by a regularly employed veterinary inspector of the Bureau of Animal Industry or of the State where co-operative work is conducted and has otherwise complied with the regulations governing the work. Certificates of freedom from tuberculosis are soon to be issued to all owners of accredited herds.

Indemnity for Condemned Cattle

[Written for Pacific Rural Press.]

The 1919 agricultural appropriation bill just passed by Congress contains an item of great importance in the campaign to eradicate tuberculosis among cattle and swine, as it provides for an indemnity to owners whose cattle are slaughtered because they have been found infected with tuberculosis.

The Department of Agriculture is to pay one-third of the difference between the appraised and the salvage value of the slaughtered animals, provided that the State, county or municipality in which the cattle are owned is co-operating in the tuberculosis work and pays at least an equal amount. In no case is the Federal Government to pay more than is paid by the State, county or municipality. No payment by the Federal Government is to be more than $25 for any grade animal or more than $50 for any purebred, and no payment is to be made unless the owner has complied with all quarantine regulations.

This provision is expected to remove much of the opposition among cattle owners that has hindered tuberculosis eradication work. Through it the Federal Government, the State, county or municipal governments and the owners of cattle will share equally in the loss resulting from slaughtering infected animals for the protection of other animals not infected. Let us hope that California will come through with an appropriation bill for her part.

Bargains Picked Up at Modesto Sale

[Written for Pacific Rural Press.]

The sale ring at the second offering of Holsteins, conducted under the management of the California Breeders Sales and Pedigree Company at Modesto, October 17, proved a bargain counter for buyers. Consignments were made by the Bridgford Company, Knightsen; J. S. Gibson Company, Williams; J. M. Campbell, Escalon; and Luther Thompson, C. G. Outland and R. L. Holmes, all of Modesto.

Thirty-two cows and heifers and eight bulls were offered, and the quality was high. The animals were backed by good records for both show qualities and heavy production, but the attendance was made up of farmers who bought at farmers' prices, the females averaging $215 and the males $302.

Lewis & Company of San Jose got one of the biggest bargains of the sale when they purchased Potoki Johanna 2nd, with a record of 27.86 pounds, for $675. E. J. Killeram of Modesto had great luck when he picked up R. L. Holmes' first prize senior yearling at the recent State Fair for $285. Mr. Holmes secured a new bull, Sir Chimacum Wayne Wooderest, for $685. This two-year-old bull was consigned by Luther Thompson and promises to be an epoch-maker.

The sale was very ably cried by Col. Ben A. Rhoades and Col. Cy N. Clark, and while the prices were not exceptionally high the farmers secured excellent bargains and many new purebred herds will be started as the result of this sale.

When the *Hired* Man Becomes the *Tired* Man Do Your Butter Profits Drop?

If he used a SHARPLES he wouldn't need a bell

He can't see the butterfat he loses in the skim milk when turning a fixed-feed separator *under speed!* But it's there, sure enough.

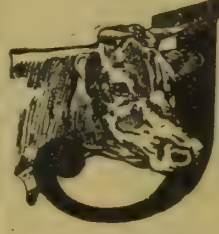
Ringing of a bell may temporarily speed him up like a spur to a jaded horse. But it's human nature to relax when tired. Why not have a separator always in tune with the feelings of the one who works it? Why not have a separator that will skim clean at low-speed, high-speed, middle speed? That has *clean-skim built into it!* In a word—

SHARPLES
SUCTION-FEED
CREAM SEPARATOR

SKIMS CLEAN AT ANY SPEED

Are you wasting butterfat? Tests prove exclusively that 95 per cent. of all separators are turned underspeed much of the time and that's when you begin to lose cream with any separator but a Sharples. It's the wonderful Sharples Suction-feed that absolutely prevents cream loss due to turning underspeed. The Sharples bowl is a plain steel tube—no discs—therefore, easiest to clean. Write to the nearest office for catalog, addressing Dept.

THE SHARPLES SEPARATOR COMPANY, West Chester, Pa.
Sharples Milkers—used on half a million cows daily
BRANCHES: CHICAGO SAN FRANCISCO TORONTO
DC-72



JERSEYS

POOR cows have put a mortgage on many a farm. Jerseys are the mortgage lifters. If cows were pedigreed on profit, Jerseys would all have the honors. They are natural money makers because they give a richer yield with less feed than any other breed. Write Breeders for pedigree and prices.
Ask us for the story of the Jersey.
THE AMERICAN JERSEY CATTLE CLUB
391 West 23rd St., New York City

Feed for Profit

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,
GERTIE OF GLYNLLYN.
Visitors welcome. Correspondence solicited
A. A. JENKINS, R. D. 1, Tulare, Cal.

N. H. LOCKE CO.
Lockeford, Cal.
Choice young bulls of King's Valet Blood, backed by Records.
Call at the ranch and make selection.

T. B. PURVINE & SONS
PETALUMA, CALIFORNIA
Breeders of
Registered JERSEYS
Young bull calves for sale. Fine individuals with Register of Merit backing

VENADERA HERD REG. JERSEYS
Herd headed by Altama Interest, Grand Champion 1918 State Fair. Awarded two other championships and 10 firsts, including Aged Herd, Breeders' Young Herd, and get of sire. Young bulls for sale from dams and granddams in Register of Merit.
GUY H. MILLER, MODESTO, CAL.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, CERES, CAL.

RANCHO SANTA MARGUERITA, D. F. Conant, Prop., Modesto, Cal
Register of MERIT JERSEYS
A limited number of bulls for sale

FUIMUS FARMS JERSEYS
HAVE BOTH TYPE AND PRODUCTION.
We exhibited four calves at the California State Fair, 1918. We were awarded—Reserve Grand Champion Cow, Junior Champion Heifer, Junior Champion Bull, First Senior Bull Calf, First Senior Heifer Calf, First Junior Heifer Calf, Third Get of Sire. If you want our kind write or call.
J. E. WHERRELL, - 1581 Sedgwick St., - Riverside, Cal.

I. F. Davis, formerly State Pig Club leader, has established a herd of registered Poland-Chinas at Redlands, getting his foundation from the Bassett and Ross herds at Hanford.

Livestock Queries

PIGS HAVE THUMPS.

To the Editor: Some of my fall pigs have a jerking, twitching movement of the flank, acting as though they had hiccoughs. What is their trouble, and what should I do for it?—A. D. F., Modesto.

[Answered by Livestock Editor.]

Your pigs have thumps. The disease is caused by a disordered digestion which irritates the nerves connected with the diaphragm, causing sudden contractions at irregular intervals. It occurs in pigs that are too fat, due to too much food and too little exercise. Prevention is better than a cure, so if a pig begins to look unduly fat and particularly chuffy around the neck, put it into a rather large wooden box with sides high enough so that it cannot jump out and let it chase about and squeal for a couple of hours in endeavoring to get back to its mother. Repeat once or twice a day until the pig loses its surplus fat. The method is good also when a case of thumps has already developed, but if several pigs have it a better way is to drive the sow out of her pen, and when the pigs become hungry they will chase back and forth and squeal in trying to get to her, and thus get the needed exercise. Reduce the sow's feed, and make the pigs exercise daily.

COW HAS ARTICULAR RHEUMATISM.

To the Editor: I have a Holstein cow, five years old, and a good milker. Less than a year ago she began to be lame at intervals in the left hind leg. It looked as if she might be stifled. She gets over the attack in a few minutes and walks as well as ever for hours—sometimes days. I applied various remedies without results, but she seems to be getting worse, the leg remaining stiff for long intervals.—A. F. W., Stony Ford.

[Answered by Dr. Edward J. Creely, San Francisco.]

Your cow probably has articular rheumatism. Mix and apply briskly once daily the following: Soap liniment, 7 ounces; chloroform, 1 ounce; tincture iodine, 2 ounces; oil origanum, 2 ounces. At the same time mix and give internally one teaspoonful daily of the following: Salicylate soda, 6 ounces; sal nitre, 6 ounces; pulo gentian root, 4 ounces; pulo ginger root, 4 ounces. If this does not effect a cure, write us again and let us know whether or not the lameness shifts to the other limb; also if there is any swelling of the joints.

A GOOD FLY SPRAY.

To the Editor: Please give me a formula for a good fly spray for cows.—C. L., Del Paso.

[Answered by Livestock Editor.]

There are quite a number of patent sprays on the market, some of which are effective, but many are unsatisfactory and are quite expensive. You probably will find it more economical and satisfactory to make your own spray and the following is one of the most reliable: 4½ quarts coal tar dip, such as Kreso; 4½ quarts fish oil; 3 quarts coal oil; 2 quarts whale oil; 1½ quarts oil of tar. Add these ingredients to lukewarm soft water in which 3 pounds of laundry soap have been dissolved, and the total brought up to 30 gallons by adding more soft water.

This spray serves to rid the cow of flies and does not cause the coat of the animal to become thick or harsh, although dust adheres more readily. This, however, applies to all sprays. None has ever been made that will do the work without collecting dust to a certain extent.

J. J. McDonald of Monticello, Napa county, continues to increase his flock of sheep. He recently bought 250 head from James Mee of St. Helena. Mr. Mee sold to reduce, as he did not have feed for his increased flock.

125 FIRST TULARE SALE REGISTERED HOLSTEINS 125

Will be a High-Class Sale in Every Respect

There will be a total of ten consignments, including the entire dispersal of the herds of Charles Yocum and E. G. Wharton. A partial list of the females includes:

A DAUGHTER of a 31-lb. cow bred to the $6,500 36-lb. bull King Korndyke Pontiac 20th.
A 17-LB. JUNIOR 2-YEAR-OLD daughter of Mutual Fobes Longfield De Kol, bred to Kink Korndyke Pontiac 20th.
SEVERAL RICHLY BRED YOUNG COWS AND HEIFERS bred to King Korndyke Pontiac 20th and Prince Riverside Walker.
A 20-LB. COW bred to Sir Aaggie De Kol Acme 2nd, who has the second highest backing in the world for yearly butter records of five of his seven nearest dams.
FOUR OTHER WELL-BRED COWS AND HEIFERS bred to Sir Aaggie De Kol Acme 2nd.
SEVERAL HIGHLY BRED HEIFERS bred to King Sadie Vale Idyl Segis, son of the 35-lb. state record 4-year-old, K P Idyl Segis.
TWO 23-POUND COWS bred to Prince Hiske Walker, full brother to the 34-lb. 4-year-old, Lady Hiske Walker.
A FULL SISTER to a 27-lb. 4-year-old, bred to Prince Hiske Walker.
A DAUGHTER of a 26-lb. cow, bred to Prince Hiske Walker
TWO DAUGHTERS of Sir Skylark Ormsby Hengerveld, and they are both good ones.
A DAUGHTER OF PRINCE GELSCHE WALKER, bred to Sir Aaggie De Kol Acme
A DAUGHTER OF SEGIS PONTIAC DE KOL BURKE out of a daughter of King Mead of Riverside
A DAUGHTER OF KING KORNDYKE PONTIAC out of a daughter of Juliana King of Riverside
TWO GRANDDAUGHTERS of the former world's record cow, Finderne Pride Johanna Rue.
A GRANDDAUGHTER OF KING SEGIS, bred to It State Bells.
A DAUGHTER OF KING SEGIS PONTIAC JANNEK, bred to King Mead of Riverside.
THE HIGHEST RECORD JUNIOR 2-YEAR-OLD ever sold in the west, over 24 lbs. butter in 7 days, bred to the twice grand champion 30-lb. bull, King Segis Alcartra Prilly.
A 26-POUND 4-YEAR-OLD granddaughter of De Kol 2nd's Butter Boy 3d.
A DAUGHTER OF KING KORNDYKE SADIE VALE, bred to King Segis Alcartra Abbekerk, 30-lb. son of the $50,000 bull.
AN 18-LB. 3-YEAR-OLD daughter of a 34-lb. sire and a 30-lb dam, bred to King Segis Alcartra Prilly.
AN 18-LB. JUNIOR 2-YEAR-OLD daughter of King Segis Pontiac, bred to King Segis Alcartra Prilly.
A DAUGHTER OF A 31-LB. 4-YEAR-OLD, bred to King Segis Alcartra Prilly
A 21-LB. 4-YEAR-OLD daughter of a 26-lb. cow, bred to King Segis Alcartra Abbekirk.
A DAUGHTER OF KING SEGIS PONTIAC 13TH, bred to the 35-lb bull Segis Pontiac Abbekerk
AND MANY OTHERS of outstanding breeding, bred to some of the highest record and most promising sires in service in the west.

Bulls for the Breeder and Dairyman

Besides the consignments of high-class bulls of real herd heading quality, the dispersal of two herds through this sale accounts for the presence of several bulls of choice breeding but younger ages than are usually found in consignment sales. Dairymen will find an especially attractive offering of bulls in this sale, that will go for just what they choose to bid for them. The list of bulls includes:

A SON OF KING SEGIS ALCARTRA ABBEKERK, out of a 30-lb. dam.
A SON OF KING SEGIS ALCARTRA PRILLY, out of a 31-lb. 4-year-old daughter of Judge Hengerveld De Kol.
KING IGNARO MEAD, by King Mead of Riverside and out of a daughter of Ignaro De Kol, that made over 29,000 lbs. milk and 1077 lbs. butter in one year.
IT STATE BELLS, by It and out of a 27-lb. 4-year-old daughter of King of the Pontiacs.
A SON OF KING KORNDYKE PONTIAC, out of a daughter of King of the Pontiacs that made 714 lbs. butter in one year as a senior 2-year-old.
A SON OF KING MORCO ALCARTRA, son of Tilly Alcartra, out of a 28-lb. dam
A SON OF PRINCE GELSCHE WALKER, out of a 29.67-lb. daughter of Korndyke Queen De Kol's Prince.
A SON of the 31-lb. cow, Fidessa Helena
And many others of choice individuality and record backing.

Some Facts to Keep in Mind

Every animal in this sale is positively guaranteed to be a breeder.
Every animal over six months of age tuberculin tested and sold subject to retest by the buyer.
The females in this sale of bred to two 40-pound bulls, one 36-pound bull, three 35-pound bulls, one 32-pound bull, two 30-pound bulls, and others of outstanding yearly record backing, all of them constituting the largest list of high record reference sires that has yet appeared in a sale in the west.

Time and Place: Tulare, California, November 20-21,1918

Consignors:

E. G. WHARTON, Tulare. ALEX WHALEY, Tulare.
CHARLES YOCUM, Tulare. W. J. HIGDON, Tulare.
R. C. STURGEON, Tulare. C. L. HUGHES, Sacramento.
R. F. GUERIN, Visalia. BRIDGFORD CO., Knightsen.
A. W. MORRIS & SONS, Woodland. W. F. MITCHELL, Visalia.

Catalogue in Preparation. Write for One.
Management
California Breeders Sales and Pedigree Co.
J. M. HENDERSON, Jr., Pres.
C. L. HUGHES, Sales Manager
SACRAMENTO : : : CALIFORNIA
Auctioneers: Col. Ben. A. Rhoades, Harold B. Rhoades

PRINCE BUTTER BOY WALKER
Senior and Reserve Grand Champion at Sacramento, 1917.

Holstein Friesian Cattle
Herd Sires:
Prince Butter Boy Walker
King Mead of Riverside
Yolo Valdessa Hengerveld
Young bulls by these sires and out of cows with records.
Write or Call
J. H. HARLAN CO., Woodland, Cal.

Calf Enemies
WHITE SCOURS BLACKLEG
Your Veterinarian can stamp them out with **Cutter's** Anti-Calf Scour Serum and **Cutter's Germ Free** Blackleg Filtrate and Aggressin, or **Cutter's** Blackleg Pills.
Ask him about them. If he hasn't **our** literature, write to us for information on these products.
The Cutter Laboratory
Berkeley, Cal., or Chicago, Ill.
"The Laboratory That Knows How"

REGISTERED JERSEY CATTLE
DUROC JERSEY HOGS
Look up my winnings at the fairs. Stock for sale at reasonable prices.
J. E. THORP **Lockeford, Cal.**

We Offer for Sale a Son of
Colantha Sir Pontiac Aggie
and from a 28-pound dam. Beautifully marked, straight and right.
GOTSHALL & MAGRUDER, - **Ripon, Cal.**

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

San Francisco Livestock Show Postponed

The opening of the California International Livestock Show at San Francisco has been postponed from November 2 to 16, on account of the Spanish influenza epidemic.

Every seeming disadvantage can be turned into a real advantage, and Joseph E. Painter, the resourceful manager, already has plans in operation which will make the show all the bigger and better because of this delay. Several breeders were too late in getting their entries in, but if they will send them at once they will be accepted without question.

The big tents are up, and everything is ready for the reception of stock. Breeders who desire to ship their animals in advance may do so, and they will find every convenience at their disposal for caring for their stock.

Don't forget the new date—November 16. Change your plans accordingly and arrange to attend without fail. It will be the biggest event of its kind ever held on this coast. You can't afford to miss it.

Beef Cattle Turn Trash Into Cash

[Written for Pacific Rural Press by R. H. Whitten.]

Have you ever stopped to think of the many pounds of beef you might produce by utilizing all of the by-products grown on your ranch?

We hear a great deal nowadays about the efficiency of the dairy cow in converting farm crops into human food, but we must remember that she requires much higher priced feed to produce milk than the steer does to produce beef, and the net result is not so favorable to the dairy cow as one might suppose.

In considering the efficiency of dairy and beef cattle it has been customary to compare the milk produced during one lactation period by the farmer with the edible meat produced in one year by the latter, and the showing has been a rather poor one for steers. But the records fail to show that from two to three years were spent and a heavy feeding expense was incurred in simply getting the cows to a producing age.

A few beef cattle on the ranch will make the waste return as good a profit as high-priced feeds.

It is estimated that at present prices it costs $150 to grow a heifer to producing age, and it is not until then that she is ready to compete with a steer. If all goes well thereafter, probably she will outstrip her beefy brother, but, unfortunately, things don't always go well.

The heifer may not breed, may abort, may fail to become a good producer, may have a defective udder, or may have one or more of a hundred other troubles, and in such a case a big depreciation must be placed upon her. A similar depreciation cannot occur with a beef animal, for his carcass determines his worth, and even with minor troubles his carcass will still command a high price.

The owner of a bred heifer must gamble on the future. If she develops into a good producer, he wins his bet. If she proves defective, he may have to sell her for half her actual cost to him. The owner of a steer plays a more certain game, for he can cash in when the feeding period is over.

This does not mean that it is all easy going in the beef cattle game. Like all other lines, it has its disadvantages as well as its advantages. It is a real business, and it should be understood thoroughly before it is gone into on an extensive scale. But nearly every farmer would do well to keep a few beef cattle to clean up what otherwise would be wasted or used in a less profitable way.

Like as not this means you, Mr. Reader. How about that straw you burned last fall? How about those cornstalks? How about the field of alfalfa that was too foul to cut for hay? How about the hay that was rained on? Do you realize how much money is slipping through your fingers by not having enough beef cattle to consume such feed? Think the matter over seriously. Probably your land isn't yielding the utmost in profit yet, and if this is the case undoubtedly a few beef cattle will help to boost the returns.

Statisticians report that the exports of bacon for the first seven months of this year were almost equal to the total bacon exports for five years preceding the war. The figures are 736,959,092 pounds, as compared with 912,370,461 pounds. The doughboys are eating twice as much bacon, proportionately to beef, as they formerly did. Even so, the beef shipments have increased amazingly and exports of fresh beef for the single month of July exceeded those for the entire year 1914 by five times.

THE HEREFORD CORPORATION

OF WYOMING

Ranch six miles east of Cheyenne, Wyoming. Twenty-five thousand acres devoted exclusively to the production of Registered Herefords. Sixteen hundred head on ranch at present time.

MISS RIALTO 2ND,

Never Defeated Grand Champion Wherever Shown.

We won Grand Champion on carload of females at Denver the last two years. We have stock for sale at all times. Glad to answer questions and explain anything. Look us up at the fairs—we are here on the Coast for that purpose. We have calves from these herd headers with us in our show herd:

HERD SIRES

Wyoming Fairfax, Grand Champion at Denver in 1918.

New Era, Senior Champion at P.-P. I. E.

Gold Dust, first in two-year-old class at Denver, 1917.

See us at Liberty Fair, Los Angeles, and California International Livestock Show, San Francisco.

We have consigned 10 females and 2 bulls to Hereford sale, to be held on San Francisco Fair Ground, November 22.

The Hereford Corporation of Wyoming

Wm. Cox, Herdsman Raymond S. Huster, Vice-Pres. and Gen. Mgr.

CHEYENNE, WYOMING.

Herefords

LEADING HERD OF THE STATE.

My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of heifers—1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.

They will go quickly. Write or call at once.

Wm. Bemmerly, - Woodland, Cal.

Choice Herd of

SHORTHORNS

Headed by

Princely Stamp

Grand Champion of the West at Denver, 1918,

—and—

Lothian Marmion

THE KIND YOU WANT.

See us at Los Angeles Liberty Fair and San Francisco Livestock Show.

Will sell any quantity of stock—from a single animal to a carload.

Maxwell-Miller Cattle Co.

Steamboat Springs, Colorado.

I Came to the Pacific Coast to Show the Kind of

Herefords and Shorthorns

That I Have For Sale

SHORTHORNS of such breeding as Cumberland Goods, by June Goods, by Roberta Goods. Also Straight Cruickshanks, Orange Blossom, Butterfly, and other leading strains of the breed.

HEREFORDS, grandsons Perfection, Fairfax, Beau Blanchard, Lamp Lighter, and Disturber.

THE BEST BULLS EVER BROUGHT TO THIS COAST.

See me at the Los Angeles and San Francisco Fairs.

WILL HENN, = Kansas City and Denver

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send, on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

H. F. Friel of Waddington, Humboldt county, has a grade Holstein cow that is giving 80 pounds of milk per day, testing 3.6 per cent, yet she was fed only green stuff.

Tulare county dairymen received the highest price on record for September butterfat, the prices ranging from 62½c to 65c per pound. The total amount distributed was $152,-497.31.

J. W. Scudder of Holt, San Joaquin county, is gradually working into purebred Holsteins by using a registered bull and getting a few purebred females as a starter toward replacing his grades.

Owen Duffy, manager of the State Farm at Napa, reports that for 261 days Raphaella Johanna Aaggie 3rd produced 24,464.6 pounds of milk and 664.236 pounds of butterfat. This certainly is going some!

With plenty of green feed and a big yield of milk, and butterfat bringing the highest prices they have ever known, the dairymen of Humboldt county are happy and bought lots of Liberty Bonds.

S. H. Greene, the well-known California creameryman, has been appointed head of a committee on dairy products and milk distribution of the Food Administration for California. Mr. Greene will assume his duties at once.

D. F. Conant of Rancho Santa Marguerita, Modesto, the well-known Jersey breeder, has just sold a bull to W. F. Sprowl of Modesto out of Mamie Owl, the cow that made 6 pounds of butterfat in three days at the State Fair.

The annual convention of the California Creamery Operators' Association, which was to have been held at Visalia on October 17, has been postponed indefinitely at the request of the State Board of Health because of the Spanish influenza.

W. J. Higdon, Tulare, calls our attention to the fact that in an advertisement we published for him last month we credited him with winning first on get of sire at the State Fair, but instead Mr. Higdon was awarded first prize on breeder's young herd.

After a conference with Food Administration officials, the milk distributors of San Francisco have agreed to reduce the price of cream from 10c for quarter pints, 18c for half pints and 35c for pints to 8c, 14c and 26c respectively. Los Angeles has indicated that it will adopt a similar scale.

A representative of the Department of Agriculture is in the State on a mission to arrange for the production of about two million pounds of casein on the Coast in the next year for airplane work. Casein, which is a milk by-product, makes the only glue impervious to water, and airplanes are covered with it.

D. F. Conant, Rancho Santa Marguerito, Modesto, reports that his Jersey cow, Lady Kate's Rosette 361239, made 69 pounds of butterfat for August on official test. Hecla's Margery made 55 pounds butterfat in one month. Mr. Conant now has nine cows on official test, all making good records.

Swine and Swinemen.

The Ireland Ranch of Owensmouth won the blue ribbon with their Duroc futurity litter at the Riverside Fair.

J. J. Pendergast of San Bernardino recently sold to Roy Bradley of the same place two Golden Model Duroc sows sired by Col. Select, and a boar of Great Model breeding.

Nate Hauck of Alton, Humboldt county, recently sold two registered Poland-China gilts to H. W. Ekholm of Escalon and Mr. Ekholm was so well pleased that he immediately ordered two more.

C. P. Slocum of Willows has been kicking himself for selling the junior champion Duroc boar at the State Fair to the Elliott-Brant Rancho at Owensmouth. He says that it will cost him from $1,000 to $2,500 to replace him.

W. B. & E. W. Hewitt of Van Nuys were among the new Duroc breeders who fooled the old-timers at the Riverside Fair. They won second on their futurity litter and had two six-months-old boars that cleaned up everything in sight.

Fairbanks Ranch of Redlands, owned by F. C. Fairbanks, son of the late Vice-President Fairbanks, made its initial bow at the Riverside Fair with a fine herd of Hampshires and will be heard from often hereafter. A. E. Harvey is manager of the ranch.

Donald H. Graham, the progressive young Duroc breeder of Lancaster, reports that his young herd boar, Orion's King Gano, is coming along nicely, weighing 460 pounds at 364 days in breeding condition. The boar is by Orion Cherry Prince, he by Orion Cherry King, and is out of Lady Gano, she by Col. Gano.

The junior champion Duroc boar purchased from C. P. Slocum & Sons at the State Fair by Elliott-Brant Rancho of Owensmouth has been named Ebro—an abbreviation for the ranch name. The boar has the same blood lines as the one purchased in the East that died en route, being sired by a Kings Col. boar and out of a Golden Model sow.

Donald H. Graham of Lancaster recently sold a Duroc boar to M. C. De Fraga, Bolinas; a boar to George W. Nichols, El Centro; a young sow to D. W. Reed, Del Sur; a boar to Mrs. L. M. Taylor, Los Angeles; six bred sows and a boar to the Martin-Morrison Ranch, Lancaster; also a boar was sold to Fred W. Dow, to be shipped to the State of Sonora, Mexico.

Because he is obliged to attend school now, Hiram Hendern of Fairoaks cannot show his Chester Whites again this season. But his wonderful record at the State Fair shows that success in swine raising is not beyond the reach of school boys. He won grand championship, senior championship and first prize senior yearling sow with Wonder Bernice; reserve grand championship and first prize junior show pig with Betsy Wonder; first prize and reserve junior championship on Uncle Sam; first prize in get of sire and in produce of dam and in the Boys' Livestock Judging Contest. What a hogman this youngster will be when he grows up!

Beef Cattle.

Recently at the Kansas City stock yards two Shorthorn steers were sold weighing 3790 pounds at three years of age. They commanded the high price of $18 per cwt., the two bringing $682.20. Who says that it does not pay to breed and feed for weight?

The famous bull, Woodford, herd sire at the Hereford Farms of Col. E. H. Taylor, Jr., of Kentucky, was burned to death recently in a fire which destroyed the new barn at that breeding establishment. Last winter the auctioneer at the International sale asked the Colonel if he would consider an offer of $50,-000 for Woodford and the latter replied that he would not. His death is a serious loss both to Col. Taylor and the Hereford industry at large.

Miscellaneous.

Edward Lovell of the Blackhawk Ranch sees an excellent future for draft horses. He recently received a letter from a friend in England who says a big, well-built work horse will bring from $700 to $1,000 over there today. If this is true, what will they be worth after the war?

Thomas Harrison of Glen Ellen reports that inquiries for milking Shorthorns are pouring in from all over the Pacific Coast. He recently sold a fine young bull to Gus Knoll of Crescent Mills, one to M. A. L. Lewis of Medford, Ore., and one to M. G. E. Whittaker, Chehalis, Wash. The latter will be shown at San Francisco before being shipped. He is eight months old, weighs 900 pounds and is considered by Mr. Harrison a grand prospect for a herd bull. His dam with first calf made a record of 7000 pounds milk.

Second Sale of
HEREFORDS
Under the Auspices of
Pacific Coast Hereford Breeders Ass'n
Will Be Held at the
Show Grounds of the
California International Live Stock Show
Friday, Nov. 22, 1918
At the Hour of 9:30 o'Clock A. M.
—50 Heads of Bulls and Females—
Selected from Best Herds in the West
Earl Gartin of Greensburg, Indiana, Auctioneer
For Catalog Apply to W. R. MADDEN, Secretary
Pacific Coast Hereford Breeders Ass'n
DIXON, - - - CALIFORNIA

We call
ATTENTION
to our
Exhibit of
Prize Winning

WHITE MAYFLOWER
Undefeated in class 1917, and Jr. Champion at the California State Fair.

Shorthorn Cattle
AT THE
San Francisco Live Stock Show
NOVEMBER 16th to 24th
T. T. MILLER LOS ANGELES, CAL.

Shorthorn Bulls
Four Head—Two to three years old.
Six Head—Ten to twelve months old.
BRIGHTON FARM HERDS.
H. L. & E. H. MURPHY PERKINS, CAL.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.
We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Hats Off to the Swine Breeders' Ass'n.

[Written for Pacific Rural Press by R. H. Whitten.]

NEW AIMS AND PURPOSES

To stabilize market conditions in order that the producer may be assured a reasonable profit.

To secure the enactment of a pure-feed law so that the buyer will know what he is getting when he buys commercial feeds.

To collect data on the condition of the swine industry, with recommendations wherein it can be improved, and to distribute this to hog raisers.

To encourage the use of purebred sires.

To assist in increasing the export trade in hogs to the islands of the Pacific and South America.

To co-operate with the Federal Food Administration in such ways and at such times as will be to the greatest benefit to the nation and our allies.

To assist in every way possible toward the more profitable production of more and better hogs, and give the swine raisers an organization that will be in a position to bring about improved conditions which the growers desire, but wherein they are helpless through lack of organization.

Co-operative organization has been a big factor in making many California agricultural pursuits more profitable, thereby stimulating production. With this fact in mind, the hogmen of the State are setting about in a spirit of earnestness to make the California Swine Breeders' Association include every hog raiser in the State and make for him a better profit, yet at the same time not attempting any movement toward sending pork skyward to the consumer. A stabilized market, selling by carload lot through county unit organizations at which sale every packing house will be represented as well as every other method attainable, will be sought by the association in its efforts to make the pork business more satisfactory to the growers, thereby increasing California's production.

The greater pork production for the current year has not been due to the increase made by owners of large herds of hogs, but more through the effort of farmers who have not heretofore raised hogs feeding them on farm by-products or growing them because they were urged to do so by patriotic solicitation. It is to get the big pork producer into the notion of increasing his breeding herds and to induce the small fellow just becoming interested to grow more pigs and keep improving them, that the State organization is working.

Some farmers have had their good and bad years with hogs, which have at times been attributed to the lack of adequate market facilities. To bring about better marketing arrangements than exist at present is one of the chief objects of the California Swine Breeders' Association, and to bring this plan closer to the producers county units of the State organization are being formed in the pork-raising sections of the State.

While the organization is being built up to the point where it can begin to perform some of these highly essential functions, the officers are taking the lead, with the help of other stock and poultry organizations, toward getting a pure-feed law enacted in this State. Secretary J. I. Thompson has secured from a number of Eastern and Middle Western States copies of their laws governing the sale of commercial feeds, and the next Legislature will be asked to adopt a similar law for California.

Many hog, cattle and poultry growers were in desperate straits during the past year as a result of the feed shortage and the high prices for the mill substitutes for barley and the coarser grains that went skyward. Some commercial feeds of merit reached the market, while others were found to be lacking. The purpose of the proposed law is to compel the manufacturers to label the containers with the feed value of the ingredients. This will doubtless save California feeders millions of dollars annually. A conference of the representative interests will soon be held so that the measure will be in shape to present to the Legislature when it meets next January.

The organization work of the association is being carried on by the officers until county units are formed, and then each county branch will go after every hog raiser in its community so that the association will be made a truly representative one. The officers consist of the following: President, C. B. Cunningham, Mills; vice-president, Alex. D. McCarty, San Francisco; secretary-treasurer, J. I. Thompson, Davis; directors, M. Bassett (Hanford), W. S. Guilford (Butte City), H. H. Braly (Newbury Park), Elmer Lamb (Ceres), R. K. Walker (Bonita), and Frank B. Anderson (Sacramento). Each of these directors, representing a section of the State as well as a certain breed of swine, will be apportioned a number of counties in which he will look after the organization work.

Swine Mortality Lowered

[Written for Pacific Rural Press.]

Fewer swine died from disease last year than in any year since 1883. The loss was only 42.1 hogs per 1000, while it ran as high as 144 per 1000 in 1887.

Despite this fact, more anti-hog cholera serum was manufactured last year than in any previous year. This is ascribed to the greater value of hogs, with the consequent greater loss when one dies, and to the fact that hog raisers are becoming more appreciative of the value of using serum manufactured under Federal supervision.

Department of Agriculture officials warn hog raisers against the use of preparations other than serums, as experience has shown that nothing except serum, properly prepared and administered, is effective. Other medicines are worse than useless because they not only fail to cure or prevent disease, but allow the loss of the animals they are advertised to save, thus taking money from the farmer and meat from the nation's supply.

Antitoxins, serums and other biological products for the treatment of domestic animals must be produced in establishments operated under Government license before they may be marketed in interstate trade, and must be prepared under the supervision of trained Government veterinarians. In 1917, 250,041,290 cubic centimeters of serum were prepared, and of this amount 1,867,106 cubic centimeters were destroyed as unfit for use.

Prof. R. F. Miller, head of the sheep department at the University Farm, Davis, has been offered a position as head of the Animal Husbandry Department at the Texas Agricultural College and expects to accept the position after finishing his work in connection with the sheep campaign that he is now conducting. The offer is a flattering one and is a big recognition to California as a training school for advanced livestock men.

MONTELENA HERD
of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions

Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.

We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

Calistoga A. L. TUBBS CO. California

THE YATES KIND
Big Type Poland Chinas
Prize Winners Money Makers
Won at Orland Fair:
ALL GRAND CHAMPIONSHIPS
SENIOR CHAMPIONSHIPS
5 FIRSTS AND 6 OTHER PRIZES
FOR SALE:
GILTS, BRED FOR SPRING
Farrow to Grand Champion Boar, Long Jumbo, Yates Big Orphan, and Long's Hadley. Boars farrowed in March and to above sires.
Pigs—Tops from fall litters sired by Long Jumbo, Superbus Wonder, and Long Chief out of sows of Big Orphan, Defender, and A Wonder breeding. This stock will surely please you.
WRITE OR CALL.
R. J. YATES Orland, Cal.

The Best is Good Enough for You
PIGS BY NOTED SIRES
DUROC JERSEYS
High Orion 221329 has a refused price of $3,500; Great Wonder 180989, Grand Champion at Iowa; Giant Invincible 208823 heads Waltmeyers Iowa herd; King Orion Cherry 80765, first Junior Yearling, Indiana and Ohio; King of Orions 240249, highest priced pig ever sold; Model Crimson Wonder 181217, a noted prize winner; Russel's Model 205512, second place at Nebraska. Also Uneeda Wonder 204051, Uneeda King Col 89163, and Uneeda King the Col by King the Col.
GET ONE OF THEIR PIGS.
WE SHOW THEM AT STATE FAIR.
H. P. SLOCUM AND SONS, Willows, California

CHESTER WHITES FOR PROFIT
We Have For Sale 5 Exceptionally Fine MARCH BOARS
They are the selection of all our pigs farrowed in March and give excellent promise. We offer these five at $50 each—first come first served.
HIGHLANDER, THE $1,000 GRAND CHAMPION BOAR, HEADS OUR HERD.
OAK KNOLL FARM Box 338 LAKEPORT, CAL.
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

GILTS, POLAND-CHINAS
Big Type
40 head big, fine bred sows and gilts. Ask us about their breeding or come and see them.
Dixon —— HEWITT & HEWITT —— Cal.

ASK YOUR DEALER FOR
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
EL DORADO OIL WORKS,
433 California Street, San Francisco

Sheep and Mud Don't Agree

[Written for Pacific Rural Press by R. H. Whitten.]

Now that the rainy season is coming on, provision should be made so that sheep will not be compelled to stay in muddy corrals or in wet fields, as such conditions almost always cause foot rot. Also the feet should be kept well trimmed, for foot rot occurs more frequently when the trimming of the feet is neglected.

Foot trimming is a phase of sheep raising that requires just as much attention as feeding and shearing. This applies particularly to California sheep, as most of our sheep carry considerable Merino blood and the hoofs of Merino sheep grow much more rapidly than those of any other breeds. All breeds of sheep should have their feet trimmed twice a year—in spring and fall—and if they carry a large amount of Merino blood this may be necessary more often, especially if the sheep are running on soft ground, where there is no gravel or stone to wear their hoofs down.

Sheep should be kept on dry ground to eliminate the possibility of foot diseases.

When sheep are neglected, the outside horny part of the hoof grows over the sole. A hollow space is thus left between the hoof and the sole, in which dust collects, and this finally begins to make the foot sore, with the result that foot rot starts in.

In chronic cases of foot rot the hoof grows out rapidly and becomes very hard. Often the toes will be so thickened and lengthened that the front part of the foot will be raised above its natural incline and the tendons at the heel will be subjected to additional strain, which will tend to increase the lameness and awkwardness. The toes will frequently attain an added length of three inches and will curl up like sled runners, greatly interfering with the progress of the animal. Crooked and broken-down pasterns result.

Before trimming the hoofs, it is well to turn sheep out on damp ground, as this will clean their hoofs and make the horny parts so soft that they will cut easily. Generally it is best to start with a pruning knife and remove the largest portion of the surplus hoof, using a sharp jack-knife to finish it. If the hoof is sufficiently softened, a jack-knife may be used to do all of the work. Cut away all loosened and diseased portions of the horn and shorten the long toe, being careful not to cut deep enough to make the foot bleed. Cut the hoof down sufficiently to make it level with the sole of the foot and to allow the foot to stand straight when placed on the ground.

If foot rot has set in, probably there will be feverishness in the affected foot, and the skin in the cleft of the hoof will be red and swollen. If the trouble is left unchecked, pus forms in the cleft and the disease gets under the skin and spreads over the entire wall of the hoof. During the summer months blow-flies lay eggs in the diseased hoof and the maggots spread from the foot to the wool, finally killing the sheep if attention is not given.

If the trouble happens in the summer time, put the sheep on the driest pasture obtainable until they are cured, but if it occurs during the rainy season it may be necessary to provide dry quarters.

If you simply have a small flock, the sheep can be caught and each foot treated separately. Clean all mud and filth from between the toes, trim the feet if necessary, and then apply pulverized blue vitriol (sulphate of copper) made into a batter with the addition of scalding, not boiling, vinegar. Stir briskly until it is of the consistency of cream and put on the affected parts with a paint brush or a small wooden paddle. Be sure that enough of the horn is pared away from the diseased parts so that the remedy can reach the sore. By repeating this treatment two or three times the foot will heal nicely. If it is not necessary to treat all four feet, it may be well as a preventive measure to apply the solution to the sound feet.

Where a large flock is to be treated, the best way is to walk the sheep through a trough containing fresh slacked lime, with enough water added to make it run well, and put in deep enough to cover the feet. The trough can be put in a gateway so that the sheep can be made to walk through it slowly in passing from one field to another. It may be necessary to repeat this treatment several times.

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Water and feed your hogs with Calco Sanitary Troughs—don't risk the loss from deadly disease germs.

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Many sizes—all low priced.

Size	Depth	Length	Price
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10¼ inch	5 5/16 inch	60 inch	4.50
14 inch	7 3/8 inch	24 inch	4.55
14 inch	7 3/8 inch	60 inch	6.55

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McCARTY'S BIG TYPE POLANDS.—Spring boars choosing immune—strong backs good feet and legs lots of strength and quality, everything that goes to make the Profit Producing Hog. Sired by Kansas King first prize senior pig at Topeka, 1917. For Sale. None better in California. Our guarantee Money Back If No Like. Write now for prices. Alex D McCarty 324 Insurance Exchange bldg San Francisco Cal.

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WATCH FOR OUR AUCTION SALE of great sows bred to Big Bone Leader, grand champion 1918 State Fair. Chas. Gatewood & Sons, Fresno, Cal.

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C. G. DE RAAD—Breeder of high-class Poland-Chinas. Choice young stock, $20 and up. Lemoore, Cal.

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LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

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40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

LAUESSEN'S BIG TYPE Poland-Chinas; weanlings for sale. Write me. William G. Lauessen, Van Nuys, Cal.

POLAND-CHINA PIGS—Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REDOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

1000-POUND BIG TYPE Poland-China boar. Stock from him for sale. E. Miner, Lodi, Cal.

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BERKSHIRES—Sired by Star Leader, the $1,500 boar. Koumas Registered Stock Farm, Modesto.

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Owners: Sandercock Land Co.,
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MONEY-MAKING BERKSHIRES—The prolific easy feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champions. Star Leader Anchorage Farm, Orland, Cal.

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CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind; greatest blood lines. Prices reasonable. Castleview Ranch, Homestead, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer sons of the Berkshire champion and spring pigs of both sexes. Prices consistent with quality to be expected.

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FOR REAL GOOD BERKSHIRES write [illegible]

HOPLAND STOCK FARM—Registered Berkshires, prize winning herd. Hopland, Cal.

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Chester Whites.

"BILLIKEN"—CHESTER WHITES—Time to breed for 1919 spring [illegible]

a boar that will produce those fine growthy pigs? Have only 10 yearling boars left. For December delivery have a nice lot of yearling gilts that are bred for March farrow. Weaned pigs, both sexes. C. B. Cunningham, Mills, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Irvine Ranch, Owensmouth.

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ANDREWS' QUALITY DUROCS are noted for uniformity of litters and smoothness; the paying kind. Head your herd with one of our fine boars. Also offer a few March gilts. W. P. Andrews, Modesto, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

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REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

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CRIMSON WONDER DUROCS pay me. Why not let them pay you? Young stock for sale. J. H. Minto, Patterson, Cal.

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A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

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MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

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STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. E. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—Highclass thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

YOUNG SONS of Prince Colsche Walker 11th and out of A. R. O. dams for sale. Write me for prices. J. M. Campbell, Escalon, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS—Bull calves from A. R. O. dams. Address Athlone, Cal.

PEN-CERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

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GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of cow heifers and young bulls.

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F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

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GOTSHALL & MAGRUDER—Breeders of registered Holstein Friesians, Bloom, Cal.

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Registered Holstein Cattle

Pacific International Stock Show

Friday Nov. 22d **North Portland, Ore.**

70 Head—Cows, Heifers and Bulls

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Cows and heifers are either fresh or nearby springers.

WRITE FOR CATALOGUE.

GEORGE A. GUE

MANAGER YAKIMA, WASH.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal.

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SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY CALVES and bred heifers.—O. J. Ames, Oakdale.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

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EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls ready for service out of high record advanced register dams. A. J. Welch, proprietor, Redwood City.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D. Berkeley.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

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BREEDERS OF REGISTERED SHORTHORNS—Milk strains; choice young stock for sale. John Landy Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Sonsun, Cal.

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ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

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RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Tromp, Supt.

THE NEVADA HEREFORD RANCH, Jno. H. Cozier & Son Co. props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM—Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

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F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. B. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. B. Bloom, Dixon, Cal.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, importers of Hampshire sheep.

HORSES.

FOR SALE—A few nice young jacks, two years old; also two service jacks, five and six years old; six black jennets, two to five years. H. T. Crow, Modesto.

MAMMOTH JACKS AND JENNETS for sale; good ones; seeing is believing. Write or come and see. A. L. Allen, Perris, Cal.

FOR SALE—Fine team bay mares; splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal.

FOR SALE—50 head of Percheron mares and colts, 2 imported stallions, 2 young jacks. A. H. Tilton, R. D. Box 164, Madera, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers easy feeding profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Grass."

FOR SALE—100 head high grade dairy cows, Holstein and Durhams. None old; some fresh springers and dry; 100 head young stock heifers and steers from purebred Holstein and Guernsey bulls. Address Geo. A. Enos, Box 282, Williams, Cal.

FOR SALE—A few Hampshire rams, 1 registered Duroc boar, one 6-year-old jack—large breeder. H. M. Barngrover, Santa Clara, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

INFLUENZA IN THE CHICKEN YARD.

Catarrhal colds, chicken-pox and other poultry troubles are almost as prevalent as the Spanish influenza. Even animals, it seems, are having trouble. The other day a burro died at Long Beach—sneezed itself to death. That sounds like a joke, but is intended simply as a caution to be on the watch for sneezing chickens. The sneeze and shake of the head, watery eyes and nostrils are the first symptoms. They develop into others so quickly that you have not time to think much about it before there is a lump under one eye, and possibly both eyes. When the chickens refuse to eat or appear to have difficulty in swallowing, there is very likely canker in the mouth, and it may extend down the throat into the air passages.

For catarrhal colds give a physic. If the eye begins to swell and you catch it before the lump becomes solid or hard, bathe with pure peroxide of hydrogen or some simple disinfectant; but when the lump hardens, as it will in a short time, use straight coal oil and dip the head in, holding under until the bird gurgles; then take the head out and wipe off the superfluous oil. For canker in the mouth make a mixture of powdered gum arabic, sugar of milk and permanganate of potash crystals. The first two are to hold the last one to the place it is put on. Bluestone is sometimes used, but it's very harsh treatment. I prefer Loefler's solution, though it is a little more expensive.

But the best remedy is prevention. This is done by building up the vigor and constitution of the flock, by cleaning up all refuse, and keeping a good tight roof over hens in a house that is well ventilated. Closed-up poultry houses are an abomination in California, or anywhere. Borate of soda is a cheap healing wash for cleansing the eyes and nostrils and if hens are to be made profitable these colds must be nipped in the bud by individual care. Treat the ailing birds several times if needed, for cleanliness is absolutely necessary. Chickens should not be allowed to run down and lose vigor, hence prevention lies at the root of all cure.

Tincture of nux vomica is a remedial agent I have never seen fail, and if you read your "California Poultry Practice" you will see it mentioned as a valuable remedy. Tincture of nux vomica has a stimulating effect on the gastric mucous membrane, it is a tonic, appetizer and a liver alterative at the same time. Being poisonous, it must be kept out of the reach of children, and given to chickens in small doses. Ten drops to a pint of drinking water is sufficient, and it will do no harm to the smallest chicken in that quantity.

BROODY WYANDOTTES.

To the Editor: Last fall I bought two Buff Wyandotte pullets and one cockerel. They had scaly legs when they arrived. One pullet started to lay in December and laid until the middle of January, when she started to cluck. What I want to know, is clucking a characteristic of the Wyandotte?—Mrs. A. A. B., Mina, Nev.

[All Wyandottes are good setters and mothers, but some strains sit and get broody more than others.]

SWELL-HEAD.

To the Editor: A number of our turkeys begin running at the nostrils, then puff up around the eyes, usually first on one side, then later on both. These swellings are rather whitish. Is this swell-head? They seem to eat well and some have quite red heads otherwise. What is the cause? It seems to be very contagious. Please advise.—Subscriber, Chico.

[The trouble is catarrhal roup, called swell-head. The cause is cold, either from sleeping in a draught or on cold, wet ground. Give a dose of Epsom salts or castor oil in a little warm mash at night; souse their heads in coal oil, just far enough to clean the heads and nostrils. Wipe off the extra oil, as, if left on, it will take the skin off and make them look ragged; then feed them well. You may have to give two dippings, but that should kill it if you find and stop the cause.]

VEGETABLE PROTEINS MAKE GOOD EGG RECORDS.

The scarcity of beef scrap, together with its high price, has led poultry specialists of the U. S. Department of Agriculture to conduct feeding tests with laying hens in which cheaper and more plentiful kinds of protein feed are tried. In these tests feeds rich in vegetable protein have been used in connection with beef scrap to make up the laying ration. One pen of hens fed a mash containing 20 per cent beef scrap produced the greatest number of eggs, but a second pen, fed a mash consisting of 10 per cent peanut meal and 10 per cent beef scrap, produced an average of only ten eggs less during the test period of five and a half winter months. Mashes made with soy bean meal, cottonseed meal and velvet bean meal, in combination with beef scrap, have been fed with fairly satisfactory results.

CHICKEN-POX.

To the Editor: Our chickens have chicken-pox. Can you give us a remedy? Also, some of our pullets go lame and we cannot account for it. We will be grateful for information.—Mrs. W. P., Modesto.

[Chicken-pox can be cured and stopped from spreading by simply rubbing the heads of all the flock with carbolated vaseline. Rub it well into the sores and surrounding surface, then you may not have to do it but once. Drop ten drops of tincture of iron on a cube of sugar, break it in two and give that amount to two chickens. There is nothing in cube sugar, but I find it is easy to put medicine down a hen's throat on it without a lot of fuss. Barley is all right, but I would soak it a few hours to remove the sharp sticker at the end. Examine your lame chickens for lumps; it may be that a barley beard has gotten under the skin somewhere and is causing lameness.]

VEGETARIANISM FOR HENS.

[Written for Pacific Rural Press by H. R. Dakin of Santa Cruz.]

I am surprised at the result of a year's experiment in feeding poultry and the number of eggs secured from the kind of hens I have, though I really expected some such result. I try and get the hens to eat at least four times as much green food as all other food. The green mash given them in the morning to last all day contains four times as much greens by weight as everything else, and at noon I feed greens from the garden, four times as much by weight as they have scratch feed at night. You might think where they have greens in the mash that they would not need a green feed at noon, but if it is omitted the egg record lowers.

The following feed is for one hen: 4 to 5 ounces ground kale and chard (one-third chard and two-thirds kale); ¼ ounce coconut meal; ¼ ounce meat meal; ½ to ¾ ounce good quality bran. This makes the morning feed. At noon they get from 4 to 10 ounces of fresh greens. At night 2 ounces of scratch feed. For about six months I fed corn meal instead of coconut meal.

During the first six months there were six hens in the yard laying, as follows:

	Eggs Laid	Wholesale Value
Aug. (½ month)	61	$2.10
Sept.	94	3.55
Oct.	132	5.70
Nov.	112	5.05
Dec.	117	5.05
Jan.	87	4.05
Feb. (½ month)	67	2.55
Total for six months	670	$28.05
Cost of all feed except greens		6.30
Net profit over feed bought		$21.75
For six months per hen, eggs laid		111
Net profit from each hen		$3.625

During the second six months, finishing the middle of August, there were eight hens laying, as follows:

	Eggs Laid	Wholesale Value
Feb. (½ month)	67	$2.05
Mar.	180	4.20
April	223	5.15
May	177	5.10
June	137	4.20
July	119	4.20
Aug. (½ month)	76	2.70
Total for six months	979	$27.60
Cost of feed		8.30
Net profit over feed bought		$19.30
For six months, per hen, eggs laid		122
Net profit from each hen		$2.40
For one year, eggs laid per hen		233

For one year, net profit from each hen for eggs only, $6.00, at wholesale prices.

I have charged all cost of feed to the hens, therefore the hens boarded one rooster for one year.

Some have said, "Of course you give them the table scraps, of which you make no account." My family is small and these times there are not table scraps enough to feed the cats, which, though good hunters, need feeding.

For one month I fed ground greens coated with a very little middlings, with no increase of scratch feed at night (which is a small one, two ounces to each hen), and no chance for other food except greens at noon.

These hens have had no petting; barely attention enough to feed them and gather the eggs. The droppings were cleaned out not oftener than once a month, as I was busy with other things.

The hens are not all good. I have one extra good hen. Half of them are good and half I would not keep if I were in the poultry business. Still, with feeding a green mash, they have made a good record and I claim have proved my point—that green stuff is really a food and not merely a tonic.

POULTRY NOTES.

The central thought to be borne in mind in considering the growing of more poultry as a war necessity is the fact that the keeping of poultry is a means of converting into good food materials that cannot be utilized by man, that cannot be eaten by any other kinds of stock, and that, without the poultry, would be absolute waste.

The principal facts in regard to the raising of rabbits are as well established as those of rearing other domestic animals, and the directions which a beginner needs are few.

The California Honey Producers' Co-operative Exchange has joined the California Federation of Farmers' Co-operative Marketing Association.

Poultry Breeders' Directory

Rates 3 cents per word per week.

HOW ABOUT IT? We do not favor very late fall chicks; breeding stock has been in full moult—fertility and vitality both impaired. **But,** we do believe in January and February chicks—conditions are for better results—satisfaction. We are already booking orders for early delivery. Supply will not equal demand then, so get busy and plan ahead for yours. Our circular (free) will give you information and prices; tell you about our stock and plant and why 1919 will pay big. **Our Breeds**—Rhode Island Reds, White and Barred Rocks, Black Minorcas, White, Brown and Buff Leghorns. Baby chicks by express or parcels post from 15 to thousands. Capacity 12,000 chicks weekly. We insure safe delivery and quote delivered price on request. Suppose you write us? The Mission Hatchery, Box 17, Campbell, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks, Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

PRIZE WINNING Rouen and colored Muscovy ducks for sale. Choice Light Brahma cockerels, $4 to $10 each. Muscovy eggs, $2 per 15. Emma Miller, Farmington, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BABY CHICKS and hatching eggs from our selected purebred S. C. White Leghorn hens. Tupman Poultry Farm, Ceres, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stone Poultry Ranch and Hatchery, Palo Alto, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

PUREBRED Brown Leghorn Cockerels, $5 each. Geo. Loomis, Albion, Cal.

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Petaluma, - Cal.

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CHICKENS SICK? Roup, Colds, Canker, Bowel Complaint, Limberneck, Sorehead, etc., the best remedy is always GERMOZONE. At most dealers or 75c post-paid with 5-book poultry library free.

GEO. H. LEE CO., Dept 428, Omaha, Neb.

THE HOME CIRCLE

HELP!

Lord God of the Nations,
Help me to see
My duty to man—my
Duty to Thee!
Where the red lines of death
Have deep furrowed the land
And the harvest of woe
Is full ripe to the hand
Of war's dreadful reapers,
Help me to see
My duty to man—my
Duty to Thee.

Lord God of the Nations,
Help me to hope—
While murder-mad armies
With crimson hands grope
For the life of the world,
And the lust of their creed
Offers mothers and babes
On their altars of greed—
While our soldiers of peace
In this war hell cope
With these murder-mad slaves,
Help me to hope.

Lord God of the Nations,
Help me to give
Myself and my all that
Freedom may live.
As millions have died
On this war-cross for Thee
And for man whom thou lovest,
Do thou give to me
The courage and strength
To die if need be—
Lord God of the Nations
Help me to give.

—Harold Bell Wright.

A FIG FOR THE SPARROWS!

Frank Denby sat on the front steps of his father's house and surveyed his mother's flower beds with a prospecting eye. Time was flying faster than his camping fund was growing and he was still two dollars short of the price of a scout tent.

"Mother," he began tentatively, "a thorough weeding wouldn't hurt your flower beds. I see a good many little patches of grass, and the walks are not specially clean."

Mrs. Denby, sitting at the window, raised her eyes from her sewing and looked out over the garden.

"You're right, Frank, but old Dick is going to give me a day next week. You wouldn't take the old man's job away from him, would you?"

"No," said Frank, dubiously, "but I certainly would like to get a job myself."

His mother sewed thoughtfully for awhile and then she spoke.

"The figs are beginning to ripen. If you'll manage to keep the sparrows from pecking holes in the fruit and spoiling it, you may have all the figs from one tree to sell. But you can't peddle them. You must make a sale to the fruit market."

"Nick Shapiro will buy them from me. I'll see him today," said Frank. The scheme struck him as being a good one.

"And you'll have to get up early in the morning, for that is when the sparrows get in their work," added Mrs. Denby.

Frank pulled himself up from the steps with energy for fresh enterprise.

"Guess I'll go take a look at the prospect," he volunteered.

There were three fig trees, loaded with fruit just approaching a state of luscious ripeness. Frank raised his hand and picked one of the figs to break it open. In the softest spot, where the fruit showed a faint reddish tinge, was an ugly, jagged hole, somewhat larger than a sparrow's beak. He tried others to find that a goodly portion of the ripest figs had been ruined in the same way. Then he went back to the house, got out his shotgun, and began to clean it. Half an hour later he was on his way down town to make the deal with Nick and to purchase a good supply of bird shot.

"Where are you bound for, Frank?" a voice called to him as he passed his next-door neighbor's gate at a pace that pre-figured death to sparrows. Old Mr. Benson was sitting under the big oak in his front yard and Frank stopped at his question to explain where he was going and why.

"You needn't shoot the sparrows," said the old man when Frank had finished; "I'll tell you a way to make them let your figs alone. They're afraid of white string, and if you'll just get a big ball of it and interlace your fig bushes with it you won't be troubled by sparrows."

Frank looked skeptical.

"They're not afraid of anything else under the sun." He rather held to the gun and bird shot as trustier means of protecting his interests.

"I don't see how they can be afraid of white string," he protested.

"Try the twine," said Mr. Benson.

The deal with Nick was made to the satisfaction of both the contracting parties, but Frank went home in a still uncertain frame of mind, having purchased a large ball of twine and no bird shot. He went out immediately to set about carrying out Mr. Benson's instructions, but as he twisted the string in and out among the twigs and leaves he felt as if his task was a fruitless one. Nevertheless he finished it up with thoroughness, and if the twine had been more ornate in character his mother's fig trees, when he got through, would have presented the appearance of gayly bedecked Christmas trees. His neighbor, George Frost, thought as much when he spied him from the next yard, and called out:

"What's the answer, Frank? Getting practice for next Christmas?"

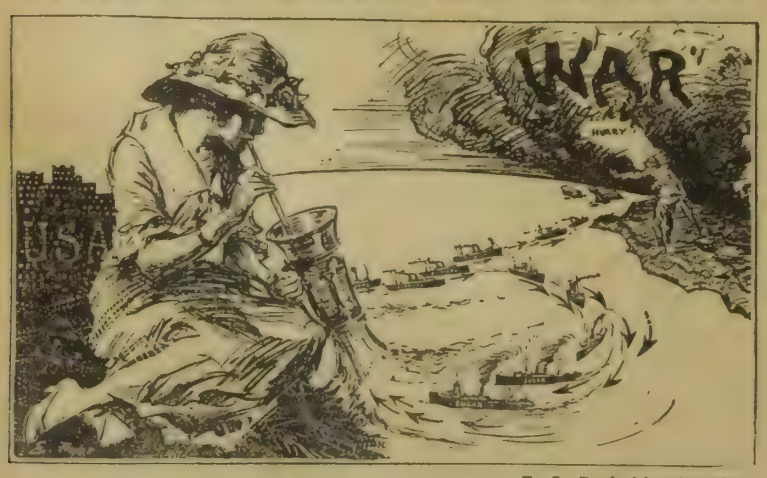
"Haven't got Christmas in the back of my head," said Frank, the shortness of his reply being due mainly to the long tediousness of his job.

At the supper table he unburdened his doubts in the bosom of his always receptive and usually sympathetic family.

"Do you see why sparrows should be afraid of white string?" he asked.

"No. Unless they think they will get their feet caught in it," laughed Mr. Denby. "It may be prenatal instinct. But Mr. Benson wouldn't

DON'T DRINK SHIPS!



U. S. Food Administration.

Are you shocked to see the lady drinking ships?

You drink ships every time you use sugar unnecessarily, in a beverage.

Seventy-five per cent. of the sugar used in this country has to be brought here in ships. Every possible ship is needed for the transportation of troops and supplies to the other side.

Eliminate sugar as a luxury, and you release many ships for war purposes.

Teach your appetite to remember this—
DON'T DRINK SHIPS.

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When a seemingly difficult problem is solved with an ease that is almost ridiculous, it is tantalizing—anyhow it "gets" the most of us and we immediately want to investigate.

That is precisely the effect that "the simplest thing in the world"—the Premier Burner—has on people who look into our display windows—they come in immediately to investigate. One look at the burner in operation is su..cient for them to realize that at last the problem of perfect combustion in an oil-gas maker has been solved and promptly give utterance to the expression, "why, it's the simplest thing in the world"—that's why we use the expression, it's the first thing they think of saying.

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For any cook stove or heater.
Installed by anyone.

A CLEAN, CHEAP GAS FIRE AND NO FUEL PROBLEMS.

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Don't let them depreciate for lack of proper repairs at the right time. "A stitch in time saves nine" you know, and a little attention to your roof right now may save you damage to grain, hay, etc., as well.

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This reliable roofing is known to farmers as well as city people alll over the West for its sturdy, long lasting qualities. It is inexpensive to apply and gives thorough protection at small cost.

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send you on a wild-goose chase, and there must be something in his idea."

"I'm going out in the morning, and if there's a sparrow in sight I intend to get the bird shot," said Frank.

The sun was just coming up through the big oaks in Mr. Benson's yard when Frank slipped softly out the door and went into the garden. As he came near the fig trees he was struck by the peculiar stillness, where heretofore his ears had been met with vociferous chatter and the soft flutter of vanishing wings. And instead of finding a small army of marauders he saw one lone sparrow perched for sentinel duty on the topmost twig of the tallest tree. The sentinel retreated precipitately, and Frank began an inspection of the fruit tree to see if the birds had been in reality kept from injuring it. Not a fig had been molested. They hung untouched, ready to be converted by a little deft manipulation into camping paraphernalia.

A week later Frank sat beside Mr. Benson on the bench under the old oak.

"I cleared three dollars and thirty-five cents on those figs," he announced.

"Cleared?" said Mr. Benson. "You weren't out anything except a ball of string and a little time."—Annie L. McMakin in the Churchman.

HOME DEMONSTRATION WORK ORGANIZED.

Congress is providing for full organization of the home demonstration branch of the work of the Farm Bureaus.

County home demonstration agents will be located in counties where a competent farm home department of the Farm Bureau is formed, and where the board of supervisors make an appropriation of $1,500 per year for the expenses of the woman agent. These will be located in the first twenty counties that qualify.

City home demonstration agents will be located in cities where a similar organization (yet to be devised) is formed, and where the city council appropriates $1,000 for the expenses of a city home demonstration agent, or $500 for the expenses of each assistant city home demonstration agent. These are to be located as follows: In San Francisco and Los Angeles, one agent and two assistants in each city; in Oakland, one agent and one assistant; in Sacramento, Stockton, Fresno, Bakersfield, San Diego and Berkeley, one agent—provided the above cities qualify as outlined.

The home demonstration work, both county and urban, in this State will be under the direction of Miss Harriet G. Eddy as assistant professor of agricultural extension in the University of California. Under Miss Eddy's direction will be two divisions, one of county work and the other of urban work. Miss L. D. Clark will remain in her past position as head of the county work. The position of head of the urban work has yet to be filled.

Miss Eddy brings to this new branch of service a full knowledge of the State of California and of its problems. She has for nine years been organizer of the county library system, which is without parallel in any State of the Union, and which now covers almost all of the counties in the State. In this organization work she has been brought into intimate personal contact with a large number of boards of supervisors, women's clubs, farm bureaus, and other organizations of the State.

JUST AMERICANS.

The war has taught the people many lessons they needed very much to learn: It has made possible many things that were impossible. And there is scarcely a man or woman in America who has not in some degree been lifted by it out of his old prejudices to a higher, broader plane of thought. We shall see the truth of that statement splendidly demonstrated the week of November 11-18, when seven agencies engaged in war work for our soldiers and sailors are to unite in a great campaign for funds with which to continue their ministry. Of these seven agencies two are Protestant, the Y. M. C. A. and the Y. W. C. A.; one, the National Catholic War Council, embracing the Knights of Columbus, is Catholic; the Jews are represented by the Jewish Welfare League, and the other three, the American Library Association, the War Camp Community Service and the Salvation Army, have no denominational affiliation. According to the almost general conception these organizations could not be consolidated. But when President Wilson suggested that they get together the impossible was done in a single day. What years of discussion and convention had failed to bring about, the larger spirit, which the war has engendered, was achieved without an effort.

The sum sought by the seven agencies is immense, $170,500,000, the largest single gift ever asked of any people at one time. Yet compared with the figures to which the war has accustomed us it is small. Measured against the huge total which we shall pay to keep our boys under arms next year, this sum, which is to provide for their comfort and cheer, becomes almost insignificant. It is less than ten cents a day for each boy—less than the average man spends for cigars.

It will be raised—not grudgingly but in a spirit of splendid enthusiasm. The country will go over the top for the Big Seven as it has gone over the top for the Liberty Loan and the Red Cross.—Bruce Barton.

"VICTORY MIXED."

The new "Victory Mixed" flour, which contains the required 20 per cent substitutes, has been placed on the market. The "Victory Mixed" brand will be manufactured by the mills in the five following combinations and the labeling of any other flour product as "Victory Mixed" is prohibited: (1) Mixed wheat and barley flour; four pounds of wheat flour to one pound of barley flour. (2) Mixed wheat and corn flour; four pounds of wheat flour to one pound of corn flour. (3) Mixed wheat, barley and corn flour; eight pounds of wheat flour to one pound barley and one pound corn flour. (4) Mixed wheat and rye flour; three pounds of wheat flour to two pounds of rye flour. (5) Whole wheat, entire wheat or graham flour or meal to contain at least 95 per cent of the wheat berry. Pure wheat flour may still be purchased at the ratio of four pounds to one pound of substitutes.

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—and realize the home of your ideals. Here in this—the West's Greatest Home-furnishing Institution—is a veritable "world" of **Furniture and Home Furnishings**, —our big, new **Free Catalog** will help you decide on the articles you want for your home. **Write for your copy today.** Remember, too, that **Furniture** is a very acceptable Christmas gift and is also **Essential** to complete happiness.

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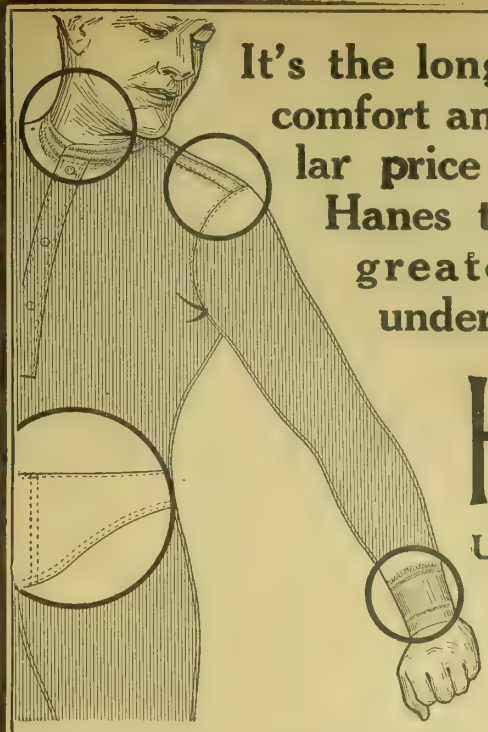

It's the long wear, the comfort and the popular price that make Hanes the Nation's greatest winter underwear.

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ELASTIC KNIT
UNDERWEAR

GUARANTEE
We guarantee Hanes Underwear absolutely—every thread, stitch and button. We guarantee to return your money or give you a new garment if any seam breaks.

HANES quality, workmanship and comfort-fit in Heavy Winter Weight Shirts and Drawers and in Union Suits give unusual underwear value at a popular price! Read these wear and comfort features closely:

Guaranteed unbreakable seams; tailored collarette that snugs up to the neck, preventing gaps; shape-holding elastic shoulders that "give and take"; pearl buttons sewed on to stay! *Every desirable feature!*

Illustrated above are Hanes Heavy Winter Weight Shirts and Drawers, the Nation's standard at popular prices. Note the snug-fitting, three-button, staunch sateen waistband. Hanes Union Suits are also unusual in value, fit and comfort. *The closed crotch stays closed.*

Hanes for the boys! Hanes Winter Weight Union Suits for boys are the very limit of value—material, workmanship, warmth! They are the men's suits in boys' sizes. *Such value has never before been put into a boy's union suit!* You'll realize that as quick as you see one!

If your dealer does not have Hanes, write us at once.

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HANES
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STANDARD OIL CO.
(California)

PERFECTION OIL HEATER

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, October 23, 1918.

WHEAT.

The following are the Government prices of wheat, subject to modifications heretofore noted:

No. 1 hard $2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1 .... 2.16
do, No. 2 .... 2.13
do, No. 2 .... 2.09

BARLEY.

Barley is weaker, but otherwise there is no change in the situation. The Grain Corporation has made no announcement regarding the results of its request that offers of barley be made for shipment from Port Costa at $2.25 and $2.28 sacked and delivered.

Choice feed, per ctl .... $2.05@2.10

OATS.

Oats are weaker, with little demand.

Red feed, per ctl .... $2.30@2.40
Red seed .... 2.80@3.00

CORN.

There have been some offers of new corn, but not enough as yet to establish quotations.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked .... Nominal
Milo maize .... "
Egyptian .... "

HAY.

Receipts for the past week were 698 tons compared with 553 the previous week. As has been the case for the past two weeks the receipts have been alfalfa and grain hay, which had been more or less damaged by the September rain. Some alfalfa that was in stacks during the rain and is now being baled shows up fairly well, although the evidence of the rain can be seen in streaks of discoloration. The feature of the market this week is the placing of orders by the Government for about 8,000 tons of grain hay, most of which was placed with dealers in this city.

Wheat No. 1 .... $26.00@28.00
do. No. 2 .... 22.00@24.00
Choice tame oat .... 25.00@27.50
Wild oat, new .... 22.00@24.00
Barley, new .... 22.00@24.00
Alfalfa .... 18.50@22.00
Stock .... 18.00@21.00
Barley straw .... 50@80c

FEEDSTUFFS.

The feedstuffs market is practically confined to the milled grains and alfalfa meal. It was somewhat stiffer this week, due perhaps to the fact that the north winds which have prevailed are expected to be followed by frost which may injure the green feed seriously. However, at present green feed was never in better condition in most places.

New alfalfa meal, per ton .... $35.00@36.00
Cocoanut cake or meal .... Nominal
Cracked corn .... $86.00@88.00
Oilcake .... Nominal
Rolled barley .... $47.00@49.00
Rolled oats .... 57.00@58.00
Bran, carload lots in S. F. .... None offered
Mixed feed, do, do .... None offered
Middlings, do, do .... None offered

POTATOES, ONIONS, ETC.

The vegetable market showed the effect of the influenza scare and business generally was reported dull. In most cases prices were maintained. Potatoes and onions showed a slacking up. Some onions of inferior grade were brought in and sold as low as 50 cents.

String beans .... 4@7c
Wax beans, per lb. .... 4@5c
Pole beans .... 4@7c
Carrots, per sack .... 85c@$1.00
Rhubarb, San Jose, per box .... $1.00@1.25
Summer squash .... 50@60c
Pumpkins $1.00
Cucumbers, Alameda, lugs .... 75c@$1.25
Eggplant, per box .... 75c@$1.00
Lettuce, Sacramento, doz. 15c
Celery, bunch .... 20@25c
Tomatoes, per crate—
Bay .... $1.00@1.50
Potatoes—
Garnet Chile, on street .... None
Whites .... $1.65@1.90
Sweets, per sack .... 3.25@3.70
Onions—
River Reds .... None
Yellows .... 75c@$1.00
Australian Browns .... 75c@$1.00
Garlic, new .... 13@15c
Green corn, Alameda, per sack .... Nominal
Okra .... 5@7c

BEANS.

The market for the new crop of beans showed a sharp break during the past few days, and more beans are coming into the market now as the threshing season progresses. At the same time dealers say that there is practically no demand and they have marked down prices all along the line in hopes of moving the crop promptly. Michigan stocks have also shown a decline and this in turn affects the California market. The Michigan freight rate to the Atlantic seaboard is so much below the California rate that the California growers would have to deduct at least 50 cents a hundred from their price to stand on a parity with Michigan in the Eastern market.

Bayos, per ctl .... $ 7.60@ 7.75
Blackeyes, new crop .... 6.75@ 6.90
Cranberry beans .... 9.75@ 9.90
Limas (south, recleaned), new crop .... 11.00@11.25
Pinks .... 7.25@ 7.40
Red kidneys .... Nominal
Mexican Reds .... 7.25@ 7.40
Tepary beans .... 6.25@ 6.50
Garbanzos .... 8.00@ 8.75
Large whites, new crop .... 8.90@ 9.00
Small whites, new crop .... 10.00@10.25

POULTRY.

Hens were the feature of the poultry market this week. During the week two carloads of Eastern Poultry arrived, almost exclusively roosters. Local receipts of all descriptions were light and notwithstanding the arrival of Eastern roosters prices advanced on these. Turkeys were not in great demand and 38 cents was the top on young stock. Belgian hares were in demand and sold higher.

Turkeys, live, young spring, lb. 38c
do, old .... 35@36c
do, dressed, old .... 42@44c
Broilers, 1½ to 2 lbs. .... 39@42c
do, 1¼ lbs. 45c
do, ¾ to 1¼ lbs. 47c
Fryers 32c
Hens, extra, per lb., colored .... 36@37c
do, Leghorn .... 34@35c
Smooth young roosters, per lb. (3 lbs. and over) .... 36@37c
Old roosters, colored, per lb. 24c
Geese, young, per lb. .... 27@28c
do, old, per lb. 25c
Squabs, per lb. .... 55@60c
Ducks .... 29@30c
do, old .... 25@27c
Belgian hares .... 20@21c
Jack rabbits .... $2.50@3.00

BUTTER.

Butter established a price of 61 cents for extras on Monday's call and that price will prevail until next Monday. The receipts of butter are growing as the effect of fresh feed on dairy cows is becoming manifest. With the high price demand has fallen off, and many purchasers are depending upon storage butter.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	62½	62½	62½	61	61	61
Prime first	61	61	61	Nominal		
Firsts			Nominal			

EGGS.

Eggs continue to go higher, the close of Wednesday of this week being 8 cents above the same time last week for extras and 6 cents higher for extra pullets. The price of eggs on the New York market is 90 cents, and even at 82½c the dealers can ship to that market and make a profit. As long as such profit can be made it is expected that eggs on the San Francisco exchange will be governed almost entirely by New York quotations.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	74	76½	80	81½	81	82½
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	62	64½	65½	69	68½	69

CHEESE.

Very little Oregon cheese is coming into this market at present, and the price has been advanced 2½ cents for fancy triplets in order to attract some. First California flats were advanced 2 cents and fancy California flats were advanced half a cent on account of the demand for a substitute for the Oregon cheese.

California Cheddar, flats, fancy 30½c
Fancy California flats, per lb. 30½c
First California flats, per lb. 29c
California Y. A. fancy .... Nominal
Oregon triplets, fancy 37½c
Oregon Y. A. fancy .... Nominal
Monterey cheese .... 24@27c

FRESH FRUITS.

The prevailing sickness in the city is seriously affecting the demand for all kinds of fruit. Peaches are the only one of the list to sell lower. Blackberries are out, and strawberries and raspberries are stronger and higher.

Apples .... $1.50@2.50
Peaches, 4-box crate .... 1.00@1.25
Figs, black, per box .... None
do, double layer .... 75c@$1.00
do, Single Row Whites .... 75c@$1.00
Strawberries, per chest .... $9.00@12.00
Blackberries, per chest .... None
Raspberries, per chest .... $9.00@12.00
Plums .... Nominal
Cantaloupes, flats .... None
do, ponies .... Nominal
do, standard .... Nominal
Watermelons, per lb. .... Nominal
Pears, Bartlett, per box .... $1.50@3.00
Grapes, Tokay .... 2.00@2.50
do, Muscat .... 2.25@2.50
Persimmons .... 1.00@1.50
Alligator Pears .... 4.00@5.00
Pomegranates, per box $1.50

CITRUS FRUIT.

The citrus market is very erratic. Due to the demand of the sick, lemons jumped to $9 for fancy, and one dealer reported there was no market, as each dealer was asking and getting about what he pleased. The other descriptions of lemons advanced in proportion. Oranges sold as high as $12.50, but there were but few in the city, and the navels are not expected to arrive for a week or more.

Oranges $12.50
Lemons, fancy 9.00
do, choice 7.50
do, standard 6.50
Grapefruit .... Nominal

DRIED FRUITS.

The dried fruit market is quiet this week, but it shows no signs of weakness. The situation has changed so little that last week's comment tells the story.

Last week's quotations remain unchanged.

RICE.

Paddy rice, 1918 crop $4.32
Clear No. 1, 1918 crop, at mill 7.00

HONEY.

The market remains firm and unchanged.

LOS ANGELES

Los Angeles, October 22, 1918.

BUTTER.

Receipts were somewhat better, 330,200 pounds, against 334,800 pounds the same week last year. The demand, however, was equal to the supply, all coming in being taken by distributers. San Francisco held steady up to Monday, when the market there broke 1½c on extras and Chicago and New York for the same time declined 2½c on extras. Prices got so high as to encourage the consumption of butter substitutes. The market, therefore had to drop to encourage people to return to butter again.

We quote:

California fresh extra creamery 60c
do, prime first 58c
do, first 57c

Daily quotations:

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	60	60	60	60	60	60
1917—						
Extra	47	47	47	47	47	46

EGGS.

This has been a famine market the past week. Receipts by rail for the week only 410 cases, against 403 cases the same week last year. The truck receipts continue to run about four times as large as the arrivals by rail, making the supply for the week 2050 cases, against 2015 cases the same week last year. Under such showing the market went kiting during the week. There were withdrawn from cold storage during the week 5959 cases to make up this shortage, against 4214 cases the same week last year.

Daily quotations:

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	67	68	68	70	73	76
Case count	60	60	60	60	65	68
Pullets	56	56	56	58	61	63
1917—						
Extra	55	56	56	56	56	56
Case count	54	54	54	54	54	51
Pullets	43½	43½	44	44	44	44

POULTRY.

The market for light stuff was further advanced the past week and demand good both for broilers and fryers. Hens unchanged; heavy and in fair demand. Turkeys scarce; higher. Ducks slow sale and geese dull.

The following prices were agreed upon last Friday, October 18, and hold good until the coming Friday:

Broilers, 1@1¼ lbs. 41c
Broilers, 1½@1¾ lbs. 41c
Fryers, 2@3 lbs. 32c
Roasters (soft bone), 3 lbs. and up 30c
Stags and old roosters, per lb. 20c
Hens .... 26@30c
Tom turkeys .... 31@34c
Ducks .... 22@28c
Geese 15c

VEGETABLES.

There was a glut of potatoes and onions on the market the past week and under excessive supplies the market for both ruled lower. Sweet potatoes were also dull and lower. Garlic scarce and sharply higher. Cabbage dull but steady. Tomatoes in very good demand and shipping stock higher. Celery steady and in fair demand. Peppers steady and selling fairly.

Bell peppers, per lb. .... 2½@3c
Chile peppers, per lb. .... 2½@3c
String beans, per lb. .... 4@4½c
Lima beans .... 3½@4c
Potatoes, northern, per cwt. .... $1.75@2.00
do, Idaho Russets, per cwt. .... 2.00@2.10
Sweet potatoes, per lb. .... 2½@3c
Garlic, per lb. 20c
Onions—
Australian Brown, per cwt. .... $1.00@1.25
White Globe, per cwt. .... 1.40@1.50
Cabbage, per 100 lbs. 1.25
Celery, crate .... 3.00@3.25
Tomatoes, No. 1 lug .... 65@75c
do, No. 2 lug .... 25@35c

FRUITS.

There was a very good demand the past week for all fancy stock, but poor stuff was hard to move. Apples were in best demand. Freestone peaches out of the market. A few northern clings are coming in and they are higher. Best pears continue to sell very well and market is firm

Figs, Black Spanish, per lb. .... 5@7c
do, White, per lb. .... 5@7c
Pears, local, per lb. .... 3½@4c
Pears, Mountain .... 4@6c
Grapes—
Malagas, per lb. .... 2½@3c
do, Muscat, per lb. .... 2@2½c
do, Liberty, per lb. .... 2½@3c
do, Rose Peru, per lb. .... 2½@3c
do, Tokay, per lb. .... 4@5c
do, Cornichon .... 4@4½c
do, Black Morocco, lb. .... 4@4½c
Apples—
King Davids, 4-tier $2.75
Black Twigs, 4-tier 2.75
Baldwins, 4-tier 2.00
Red Pearmains, 4-tier 1.75
White Pearmains, 4-tier 1.75
Rhode Island Greenings, 4-tier 1.50
Yellow Newtown Pippins, 4-tier 1.75
Apples, Bellefleur, 4-tier .... $1.65@1.75
do, 3½-tier .... 1.70@1.80
do, Gravenstein, 4-tier 2.25
do, do, 4½-tier 2.00
do, Bellefleurs, local, per lb. .... 2½@3c
Peaches, northern clings, per lb. .... 5@6c

WALNUTS.

A steady market and very good demand was had the past week for what few walnuts offering. The association has no nuts for sale.

	1918	1917
Fancy budded	34½c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

BERRIES.

Blackberries are out of season and the offerings of strawberries and raspberries were light. Raspberries were sharply higher and strawberries were steady.

Strawberries—
Fancy, per 30-basket crate .... $3.50@3.75
Poor to choice 30-basket crate .... 1.50@2.65
Raspberries, 30-basket crate .... 5.50@6.00

MELONS.

Few good melons on sale the past week and the market was dull and weak.

We quote from growers:

Casabas, per lb. .... 1@1¼c
Watermelons, per 100 lbs. .... 75c@$1.00
Honeydew melons, 16-inch crate .... 75c@$1.00
do, jumbo crate .... $2.75@3.00

BEANS.

The market was both dull and lower the past week. Growers were offering more freely and as the Government was not buying and as trade was disposed to take only such lots as needed for immediate use, limas were lowered ½c, blackeyes ¼c and teparies ¾c, and but few wanted at the lower prices.

Limas, per cwt. $10.50
Large white, per cwt. 9.00
Small white, per cwt. 10.00
Pink, per cwt. 7.50
Tepary, per cwt. 5.50

HAY.

There was a little better tone to the market the past week. The dairy people, having pretty much used up their accumulated stocks, were in the market for more alfalfa. The receipts were only fair and the market showed more life for this kind of hay. No demand for horse hay.

We quote f. o. b. Los Angeles:

Barley hay, per ton .... $23.00@24.00
Oat hay, per ton .... 25.00@27.00
Alfalfa, northern, per ton .... 20.00@21.00
Alfalfa, local, per ton .... 21.00@23.00
Straw, per ton .... 9.00@10.00

COTTON.

The market the past week was a little stronger, but it was nervous and trading cautious. The current week the market opened slow on Monday, awaiting Germany's answer to President Wilson's last note, and trading light. October closed in New York at 31.46c and December at 30.40c. In New Orleans October closed at 29.97c and December at 29.18c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, October 22, 1918.

The average prices for sound stock of Tokays and Malagas remain practically unchanged from the past two weeks. The demand continues active and the favorable weather of the past week has permitted shipping to continue, though there is a wide range in the quality of different varieties from various districts.

The first car of Emperors packed in sawdust for the season was offered for sale at auction in New York last week, but after 120 drums had been sold at an average of $5.50 the balance were withdrawn on account of a tendency for the market to decline. It is evident that the trade is skeptical as to the keeping quality of the Emperors and especially those shipped since the rain.

Some districts have completed their shipments for the season, but if the weather continues favorable the movement of Emperors, Malagas and Tokays will continue for ten days to two weeks.

Averages for the week:

New York: Grapes—Malaga, $2.06; Alicante Bouchet, $2.07; Zinfandel, $1.76; Cornichon, $2.04; Tokay, $1.75; Emperor, $2.29; Muscat, $1.65. Peaches—Levi, $1.75. Pears—W. Nellis, $3.04; Bartlett, $2.05; Clairgeau, $4.25; Morceau, $3.70.

Boston: Grapes—Tokay, $2.01; Cornichon, $1.98; Malaga, $1.77; Emperor, $2.09; Muscat, $1.66; Alicante Bouchet, $1.85; Zinfandel, $1.57; Verdell, $1.95. Pears—B. Clairgeau, $4.13; E. Buerre, $3.27; Comice, $3.95.

Chicago: Grapes—Cornichon, $2.13; Malaga, $1.78; Emperor, $2.81; Tokay, $1.50; Muscat, $1.30; Zinfandel, $1.20; Malvoise, $1.15. Pears—W. Nellis, $2.55.

Shipments from Otcober 11 to 19, inclusive: 83 pears, 2600 grapes. Shipments to date, 1918: 21,644 cars. Shipments to date, 1917: 19,905 cars.

Special Citrus Market Report

Los Angeles, October 21, 1918.

The prevalence of the Spanish influenza throughout the East and the consequent demand for oranges from the hospitals and military posts served to give the Valencia market another boost, sending the fruit above the very high levels that have been maintained latterly at Eastern distributing points. New York touched the highest records, the best average last week going to the extreme figure of $18.60 for fancies. On one day's shipment the average price recorded for the ten cars sold was $12.10. F. o. b. quotations have ranged from $10 to $12. The present week has undoubtedly cleaned up the commercial supply.

Although California has been shipping lemons freely to all markets, quotations continue to show an upward trend, in sympathy with other citrus fruits. F. o. b. quotations are reported on a basis of around $7. No foreign lemons are available.

DOWN, BUT NOT DOWNED

As you read this issue please bear this in mind: We had prepared a special issue for the California International Livestock Show at San Francisco—were all ready to go to press when the announcement was received that the opening of the show had been postponed two weeks. This meant the getting out of an entirely different issue; it meant doing a whole week's work in twenty-four hours.

How well we have succeeded we will leave to your judgment, but among ourselves we think that the issue is a hummer. We believe that the new Harding grass described in Prof. Kennedy's interesting article will solve California's forage problem, and will put millions of dollars into the pockets of our farmers. We believe, too, that Mr. Whitten's paneled article on the use of grain for dairy cows will prove an eye-opener to dairymen and will increase their profits greatly.

Read the good articles by Mr. Hodges on asparagus and potatoes; by Mr. Fox on olives and apricots; by Mr. Whitten on beef cattle and sheep. And then stop to consider that you paid less than two cents for this issue. About the biggest value you ever received, isn't it?

There'll be articles just as timely, just as interesting, just as practical in next week's issue. Watch for it; tell your friends about it. No matter what happens to thwart our plans, you'll find us equal to every emergency. You'll find every issue of the paper worth many times an entire year's subscription.

Special Livestock Market Report

San Francisco, October 23, 1918.

CATTLE—The cattle market this week shows a downward tendency, though quotations remain unchanged. There are not many coming in from California points, the bulk of the supply originating in Oregon and Nevada. The prevalence of the influenza and the resulting restriction of beef consumption operating adversely. The same depressing tendency is observable in the East.

Grass steers—
- No. 1, weighing 1000 to 1200 lbs..11½@12c
- No. 1, weighing 1200 to 1400 lbs.11½@11¾c
- Second quality .....10@10½c
- Thin .....8@9c

Cows and heifers—
- No. 1 .....7½@8c
- Second quality .....6½@7c
- Common to thin.....4@5c

Bulls and stags—
- Good .....6@7c
- Fair .....5@6c
- Thin .....4@5c

Calves—
- Lightweight 11c
- Heavy 8½c
- Medium 10c

SHEEP—There is little doing in mutton sheep. The supply is light, especially of fat, desirable stuff. The demand is correspondingly light. There has been a pretty steady depreciation in live mutton values at Eastern markets due to oversupply and the large proportion of stunted range animals offered.

Lambs—
- Yearlings .....12@12½c
- Milk .....14@14½c

Sheep—
- Wethers .....11½@12c
- Ewes .....9@9½c

HOGS—There is a lull in the hog market this week, and as a consequence we note a slight decline in quotations. There is less killing than there would be under normal conditions. The lack of sufficient help to handle the animals is keenly felt, due to influenza prostrations.

Hogs—
- Hard, grain fed, 100@140.....16½c
- do, do, 140@300.....17c
- do, do, 300@400.....16½c

Los Angeles, October 22, 1918.

CATTLE—The best fed steers continue in very good demand and unchanged. The tone of the market, however, is weak. More offering than for some time. Besides from California and Arizona, a number of steers were in from Nevada and in good demand and firm.

Per cwt. f. o. b. Los Angeles—
- Beef steers, 1000 to 1100 lbs....$9.00@12.00
- Prime cows and heifers..... 8.00@ 9.00
- Good cows and heifers..... 7.00@ 7.50
- Canners, per cwt..... 5.50@ 6.00
- Calves, per cwt..... 8.50@10.00

HOGS—Coming in a little more freely and in sympathy with declining markets East, the market is lower. The demand, however, is very good for most offerings.

Per cwt. f. o. b. Los Angeles:
- Heavy, averaging 275@300 lbs..$15.00@16.00
- Mixed, 225@275 lbs..... 15.50@16.50
- Light, 175@220 lbs..... 16.00@17.50

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—There is no change in this market from a week ago. Offerings light and prices holding up under scarcity, but demand only fair.

Per cwt. f. o. b. Los Angeles—
- Prime wethers .....$9.00@10.00
- Prime ewes ..... 8.50@ 9.50
- Yearlings ..... 9.50@10.50
- Lambs .....15.00@16.00

Classified Advertisements

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MISCELLANEOUS.

FOR SALE—Number 11 Acme De Laval feed cutter, mounted on truck, and silo chute and hopper, almost new; 6-h. p. Alpha De Lavala gas engine, equipped with 20-inch friction clutch pulley, mounted on truck; used very little; P & O power lift tractor plow, three 12-inch bottoms; Kentucky grain drill, shoe type. J. H. M., 440 Montgomery street, San Francisco.

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WANTED — Position as ranch manager. Married; 32 years old. Exempt. Capable of taking entire charge. Born and raised on ranch. Address: G. A B., Box 386, Santa Cruz, Cal.

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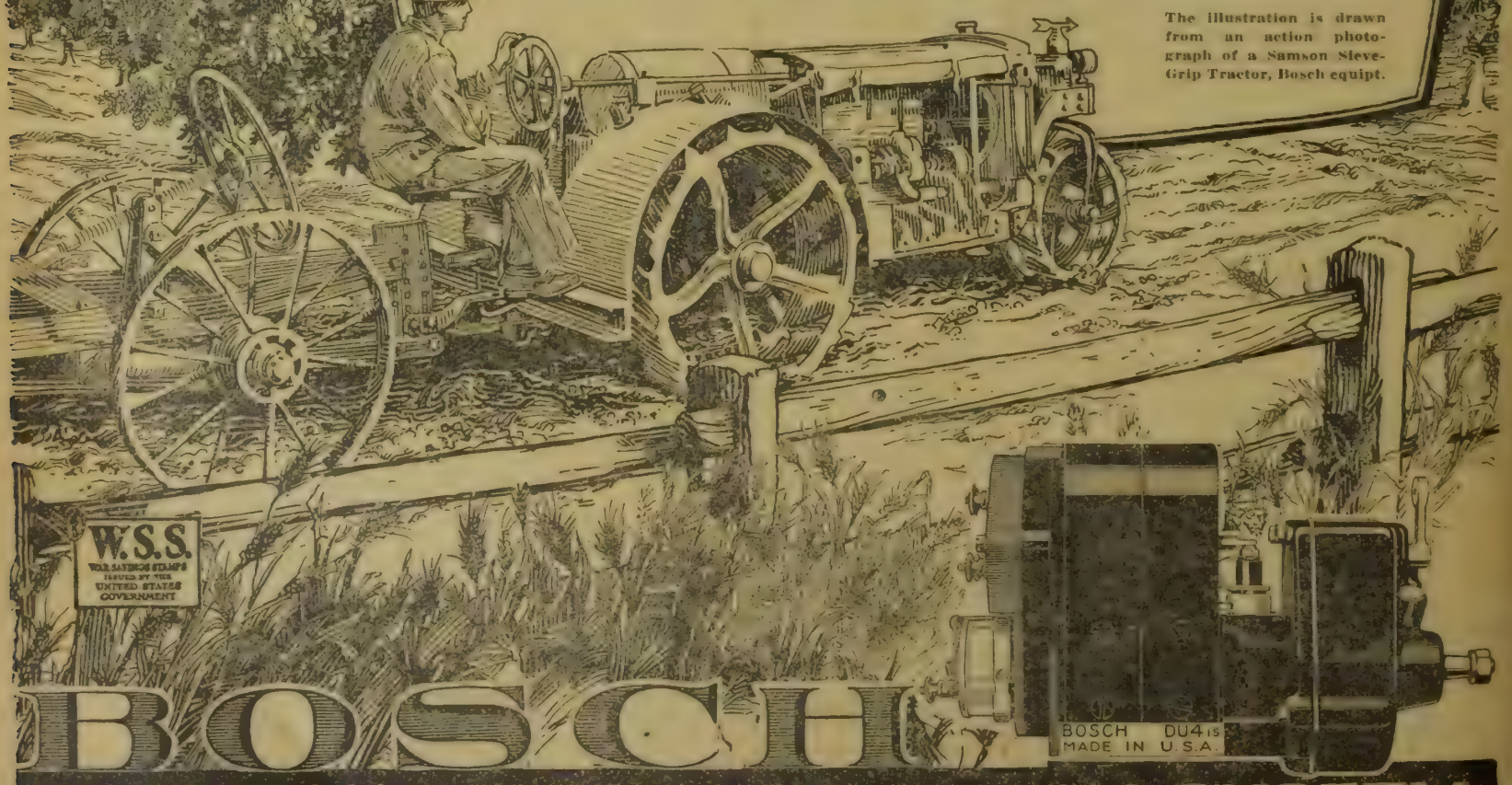

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Vol. XCVI—No. 18

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO NOVEMBER 2, 1918 LOS ANGELES

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Signal Success in State Land Colonization

Written for Pacific Rural Press by John J. Fox

THE OBJECT of the Land Settlement Act of 1917 is stated as being for the purpose "of promoting closer agricultural settlement, assisting deserving and qualified persons to acquire small improved farms, providing homes for farm laborers, increasing opportunities under the Federal Farm Loan Act and demonstrating the value of adequate capital and organized direction in subdividing and preparing agricultural land for settlement."

The writer was privileged to take part in a preliminary survey of values on the Durham project the early part of this year and went over the ground very thoroughly for three days with George C. Kreutzer, the superintendent, and Dr. C. F. Shaw of the University of California. It was at once apparent that a better choice could not have been made for the initial application of the Act. First, all the land to be distributed is good and much of it excellent. Second, water supply for the irrigated land is ample and the title thereto beyond question. Third, it is well drained.

Furthermore, it is adjacent to the prosperous city of Chico, itself the center of a large area of productive land, and is connected therewith by the State highway, excepting half a mile of macadam. It is also served by two lines of railroad, with depots within half a mile.

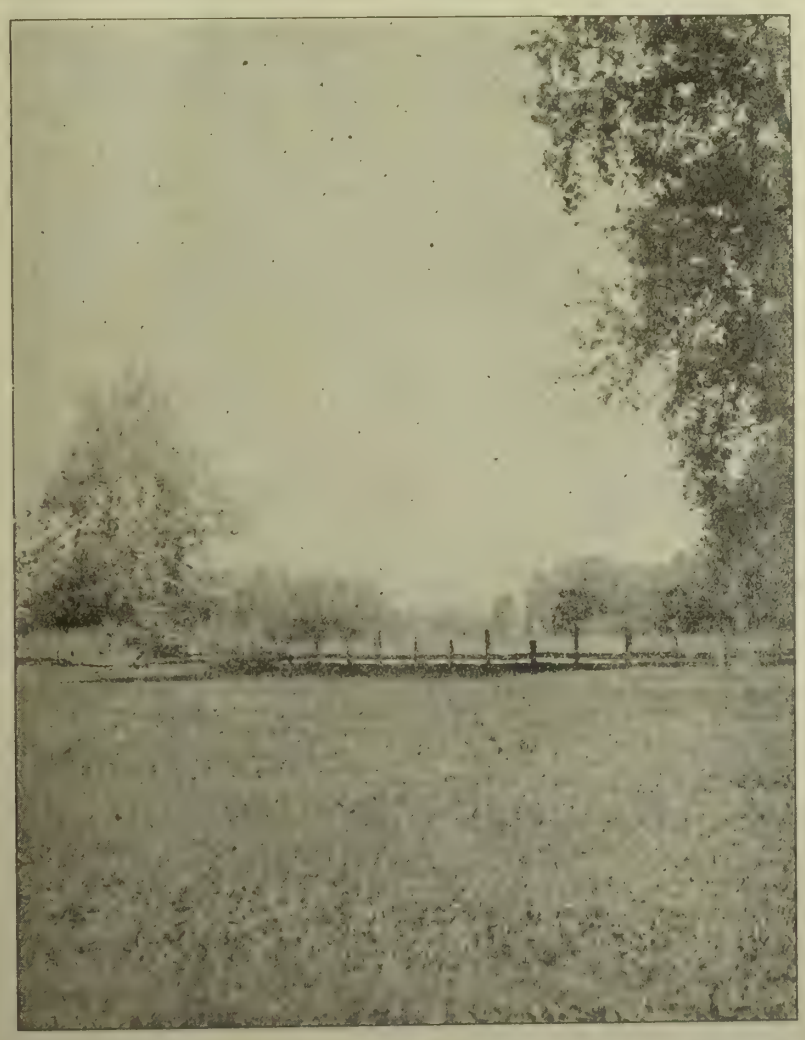
Rapid Development.

We recently revisited the settlement (six months after the first visit), and this is what we found. The land had been classified and valued by the Farm Settlement Board. Farms had been laid off into areas differing in acreage according to their value and bearing capacity.

Leveling, grading and ditching had been accomplished and drainage surveys carried out. The first unit was allotted to applicants on June 15 and consisted of 53 farms. All were sold except three, the applicants for which were not accepted, and these three go in with the next unit. There were, in addition, 26 farm laborers' lots, of two acres each, disposed of to workmen, half of whom have already built their cottages.

On this first unit there were 860 acres of grain and 750 acres in alfalfa. The grain men took occupation on June 15 and made about $20 an acre net on their grain within a couple of months of their purchase, as they bought the land with crops on. The alfalfa men have taken three crops and have been making $17 a ton in the shock for it. It is really marvelous to see what has taken place here in six months. There was one farm laborer whose neat cottage we saw who, when he put in his application in May, had not sufficient money to pay in the necessary deposit of $20,04 on his lot. On June 15 he paid this deposit. On October 16 he paid $160 on his house. It is erected and furnished. He is living in it and has a Liberty Bond flag in the window. Here is a living symbol of Patriotism and Thrift.

This outlined method of colonization, of building homes, and populating the bare acres of this State is the most practical and useful measure ever conceived for such a purpose. To merely exhort and chide for a return to the land has always proven futile; to invite earnest men to embrace an opportunity that has been created whereby they may enjoy the fruits of their labor, is to accomplish something. It swells the tax list and increases the productivity of the soil and more important than all enlarges our most valuable class of citizens—those who feed mankind.



Though most of the land in this colony is open, it is picturesquely dotted with large valley oaks and has many well-wooded building sites like the above, many of which are already occupied with sets of buildings. A Japanese offered $30 an acre rent for this land.

Co-operative Purchasing.

Mr. Kreutzer, who had five years of land settlement work in Australia, assists settlers in taking bids for materials, for buildings, fences, etc. In addition, the Land Settlement Board has bought carload lots of cement, wire, nails, fence posts, well-casing and other material and sells to the settler at cost. The board bought 800 sacks of seed wheat on the same plan. This system of co-operative purchasing is a relief to the newcomer as well as being a saving of expense.

In the new unit, now open to the public, applications close on November 20 and the drawings are made December 20. Applicants put in their first, second and third choices of plots and then, from information filled in on the application blank and from personal interviews with applicants, the board decides who shall be accepted. This decision is based more on the ability of the applicant as a farmer than on the amount of money he may possess, and it is final. Which should lead to a very efficient community.

There are 28 farms in the new tract. From 20 to 160 acres to a farm—mostly forties. The land is chiefly loam and clay loam and the average price will be in the neighborhood of $200 an acre, including the water rights.

The Soils.

The land bordering Butte Creek is a rich, deep alluvial loam that will produce anything from alfalfa, beans and truck to prunes and walnuts. Part of it was formerly a Chinese truck garden.

The University College of Agriculture has prepared a soil map, which shows the character of the soil on each farm and the prices placed are on their estimated productive value respectively. The land varies in character from a silty loam to adobe. On this latter rice was grown last year which produced about 50 sacks to the acre. This is good grain land and would turn off heavy crops of corn, beets and forage crops, while some should be good pear land.

Work of Agricultural Engineers.

All the farms have been laid out tentatively to the best advantage for working them with the greatest economy and efficiency, and these plans are provided to the farmer gratis, to carry out as he wishes. The Settlement Board also furnishes blueprint plans of houses and farm buildings, from which estimates can be made and contractors work. These are also given to the settler free of charge. Water for domestic use is obtained at about 40 feet, while the irrigation water comes by gravity from Butte Creek. Leveling, grading and new distributing channels for irrigation are still being carried out by the board, which will provide for the system until the settlers are able to organize

(Continued on page 481.)

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SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

VOLUMINOUSNESS.

TO THE EDITOR: Your editorials are too voluminous.—B. M. H., Fresno.

Your kind words are very welcome. They show that you are either reading our editorials or refusing to read them—in either case you are bestowing upon them your careful attention. Yours is the first intimation received for a long time that anyone else is either reading or refusing to read them. Inferentially, then, all other readers are passing up this page as a conventional piece of typographical decoration: without which they would be as discontented with the paper as was the man who hurriedly went to the movie without slipping in his glass eye; but with which each issue pleases them immensely—providing nothing worries them into reading the editorials. We believe that is the normal condition of the newspaper reader, because that is the way we feel about it. We subscribe regularly for four daily papers so that we may catch all hues of public opinion. We do not read all the editorials, but if they ever fall short a few inches of their accustomed length in a single issue we condemn that journal for slacking. The usual editorial voluminousness is therefore essential to the satisfaction of the patrons of any journal.

Pondering upon this attitude of the common mind toward editorial expression, we shudder to think how our critic might have hurt our feelings if he had really been reading our editorials and had felt compelled to be as frank with us as a shy guest once was with his hostess. The lady had been serving cake of her own making and was apologizing for the quality of it, as it is proper to do—even if its deliciousness puts one over on the ambrosia of the gods. The embarrassed man, fearing effusiveness of compliment, as is common with shy people, and desiring to render judicial and discriminating praise, received his portion of the cake with this response: "I am sure, my dear madam, that the cake is most delicious—what there is of it." Then, realizing with a shock what a wreck he had made of his intended compliment, he continued: "And there is really a great plenty of it—such as it is."

Our generous critic does not seem at all shy in his praise of our work, but it surely does make us shiver to think what he might have said if he had been so cruel as to resort to specifications!

ANTE-VOLUMINOUSNESS.

WAS IT Mark Twain who declared that his head was full of useful information and it bothered him to see how facts would keep leaking into his most serious compositions? Our problem is the antithesis of Mark's: Our effort is to write nothing but facts and our trouble is that there are so many weighty and significant facts abroad in agriculture today that we are able to pack into each week's editorials only a few of those which press for declaration. We remember well how it was in earlier days, when the farmer was generally conceded to be beyond the pale of public affairs—men whose duty it was to sculpture out crops from rocky and rebellious soil, deliver them over at the farm gate or on the village street to the dealer who assembled, warehoused and transported them and did all the banking business which the moving of crops entailed. One had to cudgel his brains in those days to break loose an agricultural fact which had any relation to world affairs, which were out of sight of the farm itself. The farmer was conceived to have nothing to do with anything but his soil, his seed and his beasts, and his chief duty was to torture himself and his family into misshapen lumps of rheumatism by exposure, over-exertion and under-nutrition, so that professional, financial and mercantile people would have plenty to eat to enable them to do all the great things to which the world gave opportunity. In those days there was no voluminousness in agricultural editorials. The original rural writer was expected to tell how to make a calf drink, how to set a hen, how to ring a hog; with perhaps a flight now and then into higher economics to demonstrate that a farmer ought to haul in his crops as soon as possible while the roads were good so that dealers could fix prices (after they had bought the stuff for whatever they liked to pay) at whatever figure the world traffic would bear! It was to the glory of the American farmer that even under such depressing conditions he labored on and valiantly. He gave his sons strength and ambition which carried them into the greatest activities the country needed. They became great soldiers, statesmen, leaders in professional and commercial life and all that, but they did that by escaping from farms, not by staying on them. In those days rural editorials were not voluminous.

HOW VOLUMINOSITY CAME.

Natural science was the father of voluminosity in agricultural editorials. Its rays illumined an industry which was dark, dreadful and depressed, disclosing surprising opportunities for application of new truth and undreamt of openings for exhortation to apply it. Economics was the god-father of voluminosity, carefully watching and wisely ministering to its development in agricultural discussion. Wonderful has been the influence of natural science and economics as applied to agriculture during the last half century. As in the life of a man, the first two decades were required to get a start: the two decades following demonstrated wonderful activity and efficiency: the last decade has brought achievement and the world-recognition of it by all the races of men and the leaders of them. "Food will win the war"; "Farmers are the second line of national defense"; "Increased food production alone can make democracy safe." Thus has come into common parlance recognition of the relation of improved and more capable agriculture to all that makes human life and aspiration possible and enduring. It is freely conceded to be the foundation upon which they must rest—not the old agriculture which was held to be automatically continuous and sociologically servile, but a self-conscious, self-assertive productive art and effort to which the world must be just and generous or it can never itself be free and progressive in the greatest interests of mankind! And what about the writing of such things? In the nature of things it must be voluminous to present even a part of the facts which every farmer should ponder and interpret. It is his duty to do this. It is our duty to remind him of it. He who rebels against such voluminosity as this duty requires should turn back his clock about fifty years!

PRODUCTS AND POLITICS.

WE HOPE readers will remember that it is just before a national election for Congressmen and not lose their heads in the violent ruction which has cropped out between Republican and Democratic leaders. President Wilson, as head of the Democratic party, has called upon the people to elect Congressmen of his political kind and ex-Presidents Taft and Roosevelt and others are lambasting him for putting a political "stick" in a patriotic lemonade. All these parties are simply doing what is to be politically expected of them as leaders of their parties, which must live and push or kick after the war dies and must therefore get as many of their men into position to do one or the other of these things as they can. To claim that either of the parties has a monopoly of patriotism and patriotic efficiency is, of course, nonsense. Lincoln saved the unity of the country by the help of war-Democrats and Wilson will save the liberty of the world by the help of war-Republicans, and it could not have been done in either case without help from the opposition. All should therefore remember that the country is always on the way to the bow-wows for a week before an election and always comes back again the day after it. President Wilson has fourteen ways to hit the Huns and calls for Democratic help to man his battery. Ex-President Roosevelt and his associates have one way, viz.: "to hell with the kaiser." There is no danger that the world-devastators will get away; therefore, it does not matter much whether they are riddled with buckshot or shot from a cannon. What does matter in the election next week is not only to get real Hun-beaters into Congress, which, of course, every voter will look out for, but to get men from this State who will work and vote right for national policies which will be fair to the industries of this State and not send them glimmering through a mist of economic fallacies such as came in 1913 and would have lured them onto the rocks if the war had not set in such strong counter-currents. Remember, then, that California needs Congressmen who will know how and be forceful to protect California products when reconstruction of national attitudes and relations begins. How would the allied effort for mankind have suffered if California had not established her particular products which have rendered such superlative war service? Do not forget, then, that the continuance of them was endangered by the policies of 1913 and may at any time be replaced in jeopardy. President Wilson does not need to win the war with the help of any man whose economic fallacies would weaken or endanger the industries of California. More important also than any particular way to get the kaiser either by one shot or fourteen is to vote right on the constitutional amendments. California agriculture is in no shape to have "all public revenues, State, county, municipal and district, raised by taxation of value of land" nor to enter upon a journey in that direction on the first of January next. For decades the land has borne relatively too much taxation. The California constitution, which prescribes that all property shall share in carrying the burden of taxation, needs no narrowing amendment: it simply needs more strenuous effort for enforcement. It is such things that California voters have to look out for next Tuesday. They should not be alarmed by political clatter, no matter from what source it may come.

APPROXIMATION OF EXTREMITIES.

IT IS trite to emphasize the meeting of extremes, for it seems to be a common way, and yet it is striking to find the wettest things on earth becoming suddenly the driest. We were surprised when Mr. Horst turned his hop kilns into vegetable driers, but that was only the beginning of a movement which culminates in the transformation of the Anheuser-Busch brewery in this city into a dehydrator. Officials of that corporation have announced that their local plant would be operated by a new corporation, the American Products Company, and would be used for dehydrating vegetables. The company already has a $50,000 Government contract. There seems a great scope for such transformation, for Chicago alone had forty breweries, with a combined investment of $33,000,000 and employing 1580 men, which, under the Government's ruling, went out of business October 1. We do not know how far the Government intends to turn wet things into dry, but it is surely going some. Congress recently passed a law and appropriated funds for the promotion of dehydration and empowers the President, if necessary, to authorize the establishment and operation of plants for drying foodstuffs. It is now announced from Washington that Secretary Houston has appointed a board of experts to devise methods of drying fruits and vegetables as a means of conserving the food supply of the nation and to have control of the dehydrating industry

which is expected to be established. This is a course of production which gives Mr. Horst great credit for foresight and should promise great things for California, which has resources for growing a great variety of things for chasing surplus water from. Any farmer who happens to have a misfit brewery on his place would apparently have no difficulty in getting a Government contract to dry things and he might possibly condense the steam into a by-product to irrigate more things. And in this way again extremes might meet! Evidently Uncle Sam does not intend to have his two million boys go hungry, even if they do have to stay abroad for two years to get the Huns settled down into rational ways of living.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Menace and Morals of Weevilly Wheat.

To the Editor: There is being distributed by grain dealers to poultrymen in this district wheat infested with weevil—brought here, I presume, from Australia. Isn't there great danger in the spreading of the pest by transportation to the users of it and it being carried to grocery stores and other places in egg cases, etc.? Why, if there is danger, did not the Government officials see to it before it was landed that the vermin were destroyed while yet in the ship?—A. A. T., Santa Rosa.

We cannot say what is the attitude and obligation of quarantine officials toward importation of weevilly wheat, nor are we sure that the presumption that it is from Australia is warranted. California has so many native grain weevils that we doubt whether an alien intruder could be identified without a sight of his passport. Our own warehouses have been so densely populated with them from pioneer times that possibly a few million more would hardly increase the menace to stored grain. Theoretically it is a question whether weevilly wheat might not constitute a better balanced ration for fowls through its greater protein content because of the bugs. Practically, of course, weevily wheat is inferior because the poultryman is desirous of buying wheat, not bugs, and because if he buys by the sack he will lose the contents of the excavated kernels. If he buys by weight, it is doubtful if he loses anything, for a cental of bugs may feed the hens better than a cental of starch. It is much like the case of the customer who bought a roll of butter by weight and afterward, finding a hole in it, brought it back to the grocer with much indignation. "All right," said the diplomatic grocer, "tell me how much the hole weighs and I will return you that much money." The solution of the question probably is: if you do not want weevilly wheat, do not buy it!

Rye and Rye Grass.

To the Editor: Who has rye seed for sale? How much do you plant per acre? What other grass seed makes good pasture for the year 'round and could also be cut for hay? We want this pasture for dairy cattle. We want something we can plant now and have winter pasture and also something that will grow the year 'round.—G. M., Los Molinos.

As was shown in last week's Rural Press, what you want is exactly what Californians have been wanting for the last half century and are still wanting it and they will be anxious to see if Prof. Kennedy's protege comes through with the goods.

Rye is, of course, a grain like barley in the fact that it must come from seed every year. It is a good winter grower and is good for winter grazing or soiling. If cut early, it also makes hay; but if left too long is very poor, tough stuff. Perhaps you have in mind "rye grass," which is a very different thing from rye. English rye grass (often called Australian) and Italian rye grass are perhaps the two best grasses introduced to California because they are good fall starters and winter growers and because they will live from year to year on land which retains some summer moisture, but they are not sufficiently drouth-resistant to live through the dry season on dry lands, unless irrigated. In that case they make very large summer growth.

Both rye and rye grass should be sown in the fall—just as soon as the land gets moisture enough to hold growth from the seed. Rye is sown at about 100 pounds to the acre for green feeding: the rye grasses about 40 pounds per acre. Rye can usually be obtained from local grain dealers: if not, both rye and rye grasses can be had from any seed dealer advertising in the Rural Press.

Cultivation or Mulch.

To the Editor: Is it best to plow an orchard of citrus fruits or walnuts where one turns up a mat of small fibrous roots? Is cultivation and cover-crops better than a mulch?—S. P. B., Fullerton.

As a rule, yes—decidedly better. The surface root-mat is quickly restored, so far as it serves well the purposes of the tree, so there is no loss in destroying it, from that point of view. Beyond that it is bad for the tree to be dependent upon a permanent surface mat of roots because it not only limits the tree to the use of a small part of the soil but it prevents the access of water and fertilizers to the lower soil and may even make the lower strata practically useless. There are places where the top of the soil is about all there is of it and where hardpan or open gravel below may make it necessary to depend upon the surface. In such a case a frequently restored mulch of straw or manure may be one's chief reliance. On a fairly deep soil, however, such as fruit trees should have, tillage to grow a cover-crop and to turn it under (either a winter or summer cover-crop or both) is the best policy, if there is water enough to grow both cover-crops and tree crops in good shape. This is answered from the point of view of tillage and cover-crops as related to the soil needs of the tree. There are other aspects of cover-crops in their relation to the aerial activities of the tree in which they may be decidedly beneficial or occasionally otherwise. Every man must watch to see what happens in his case and shape his policy on his own place accordingly.

Killing a Cane Border.

To the Editor: I have a bamboo border around my alfalfa. It has served its purpose in preventing the blowing of the sand and is now becoming a nuisance—spoiling the hay around the edge of the field and the roots filling up the boxes in the ditch. I prefer productive trees in its place. Can it be removed, and how?—W. L., Livingston.

You probably have cane (Arundo donax) and not a true bamboo. Clear off the top growth as soon as the first frost kills it and rip up the border with a plow roughly to give later frosts a chance at the roots during the cold weather. When they have done all they can for you, plow again and pull and grub out all the roots you can—following them into the alfalfa with a pick, when necessary to loosen the ground, and dragging them out while the light soil is moist. This will enable you to plant your trees for the new border by February. Keep the border frequently worked with a weed cutter to cut below the surface all cane shoots before they get to the light and the roots will die. The cane which keeps starting in the alfalfa must be grubbed out—getting out all the roots you can whenever a new shoot shows you where they are. It will probably keep you busy from time to time all summer.

Harrowing Red Top Clover.

To the Editor: Would you advise harrowing red top clover in the fall the same as alfalfa? In other words, would it benefit it in any way?—B. H. M., Altaville.

We cannot answer confidently. There is so little red top clover grown in this State that experience is scant and we would like to know what readers have had. Theoretically, red top clover should not stand harrowing as alfalfa does because it is mostly dependent upon fibrous roots growing near the surface and though it may make a few forking deep roots it has no such hold on the ground as alfalfa has and might therefore be much more subject to injury by pulling out. The best way to proceed, if you have a piece on which the surface is badly crusted, will be to harrow with a light, straight-tooth harrow, when the ground is dry enough to hold the plants well, and let us know how you come out with next season's stand.

Winter Growth in Alfalfa.

To the Editor: I have 80 acres of alfalfa and plenty of water the year through, and would like to know of some kind of grass that will grow in this vicinity all winter for pasture for dairy cows. I wish to disk the alfalfa and sow the grass to give green feed. I have heard Sudan grass is injurious to cows in frosty weather and others recommend rye grass. Please give me correct information about both.—T. S., Lenare.

Although we would be very slow to sow-in anything which would encumber a good stand of alfalfa, there is considerable experience favoring getting winter feed on a poor stand by additions of other plants. This is sometimes done by sowing rye or barley. If you wish to put in a perennial grass which will grow quickly in winter and keep at it all summer with enough water, English rye grass is perhaps best and should be put in at once. Twenty pounds of seed per acre ought to be enough if there is considerable alfalfa alive. Sudan grass is not suited for your purpose, not for the reason you state, but because it is killed by frost. It is therefore not a winter-grower in most places.

Work That Pays

The war has depleted our field staff to such an extent that we need a few red-blooded men to attend to our renewals and secure new subscribers. It is real, necessary, war-time work, for we are helping Uncle Sam to increase food production by showing our readers how to raise more and better crops.

We can use elderly men, and lack of experience is no barrier. No investment necessary, except that you must have an automobile. Straight salary; permanent work, with advancement

Write for our proposition and tell us a little about yourself. You will be glad you investigated.

Machine Driers Interesting.

To the Editor: Don't you think it would be a good scheme to give us some help on prune driers? There is lots of interest in this now. You might make a strike by getting up some really truly information, with specifications and plans on the subject—that would be a real service.—J. R. C., Chico.

All right: we will soon give you detailed drawings, etc., of an evaporator which has capacity enough to be of assistance in a pinch and which is free of patents and therefore one can build it for himself with whatever mechanical skill the country affords. We believe it is a good thing to have a safety drier on the place in case of early rains—even if one is kept busy nine years out of ten keeping the hens from roosting in it. But do not think for a moment that California is going to take to machine evaporation of prunes or other fruits as a continuous performance. What is usually lost by early rains might not pay the interest on what a saving outfit of driers would cost—but still it might make growers feel better and that is worth a lot.

Prune Trees in Hard Lines.

To the Editor: What treatment is best for my prune trees, which seem to be dying of gum disease? I have four trees in my yard, six or seven years old. Last season they yielded a large crop of extra fine fruit. I noticed after the fruit was picked that two of the trees seemed to be turning brown and leaves curling up. This season these two trees are nearly dead and gum is breaking out all over them. The other two trees did bear but little fruit this year and are breaking out with the gum.—S., Glenn.

Supposing that you have assured yourself that they are not being eaten up by scale insects, we should guess from their dying in the fall that they were perishing for lack of sufficient moisture in the late summer. It is possible, however, that you may be in a place where summer water rises from underflow and that would kill them; or you may have alkali enough in your subsoil to do it. If they are free from scales, the trouble is in the soil and no medical treatment of the tree will help it. Gumming in such a case is not a trouble in itself but a sign of trouble—a way of dying.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 29, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.02	2.49	3.77	64	42
Red Bluff	...	7.87	2.30	84	48
Sacramento	...	3.96	1.37	82	46
San Francisco	...	2.70	1.49	80	54
San Jose	...	6.46	1.21	76	40
Fresno	...	.59	.95	78	48
San Luis Obispo	...	1.50	1.75	84	46
Los Angeles	...	.67	.79	90	56
San Diego	...	.59	.48	84	56

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Cover-Cropping and Planting Pears

[Written for Pacific Rural Press.]

In the Prisk Bros.' pear orchard, situated between Nevada City and Grass Valley, a lap of ground is left in the center of each row of trees unplowed for the dual purpose of providing humus and preventing erosion on the hill sides. For the plowing is always done across the hill side and never up and down. The trees on hill side are planted on

THE EQUILATERAL TRIANGLE SYSTEM.

to facilitate irrigation—so that it may not be necessary to lead the ditches too close to any tree or make short turns. This seems to us to be an excellent reason, though we do not like the triangle on the flat because when the trees attain any size you have to tack back and forth across an orchard to get anywhere—a serious objection in spraying, pruning and harvesting, or for any other purpose. E. M. Shaw, the manager, told us he took 196 packed boxes of Winter Nelis pears from 22 old trees. The 150 acres of young pears are Bartletts, with Beurre d'Anjou for pollination—four rows of the former and two of the latter alternately. The reason and desirability of the rows being set in multiples of two is that they can be sprayed when needed without one lead going "blind," as would be the case if a row stood alone and both varieties did not need spray at the same time.

These trees are four years old and the difference between those that are irrigated and those not irrigated (by reason of their location) is very marked, the former being more than twice the size of the latter and already beginning to bear fruit.

NEVADA CO. A PEAR SECTION PAR EXCELLENCE.

In about three years' time there will be 2000 acres of pear trees in profitable bearing in Nevada county, according to D. L. Norton, the County Horticultural Commissioner. Shipping facilities are good and, though the tonnage per acre is less than in the river sections, the quality, color and texture of Nevada county pears is excellent. They took the premium at the World's Fair for their display of pears, assembled and prepared by Mr. Norton.

We had not been in this vicinity for 15 years, when we took in a large part of the county horseback (the roads being less good than they are now). The improvements that have taken place in this mountain county since that time have been very marked—land cleared, orchards planted and roads built and improved.

This is par excellence a pear section and is generally not suited to peaches or almonds. Some experiments are being carried out with the chestnut that look very promising and on which we shall deal in a separate article.

A Vineyard Which Is an Institution

[Written for Pacific Rural Press.]

The American Vineyard Company has one of the largest Thompson Seedless vineyards in the State and it really amounts to an institution. It lies four and a half miles west of Livingstone, on the Merced river, and is in new territory. The land is generally a good sandy loam of varying quality and 1100 acres have been leveled and set out to vines. It is laid off into 12 blocks with a well and reservoir provided to irrigate each block. The vines receive two irrigations a year, the lift of water being 28 to 30 feet, and electric power is used. The company had all the ground surveyed and leveled before planting. Now the water is piped to the highest point in each block and gravitates from these in ditches. The first irrigation is applied in May, the second in July and August. It will take 80 men five weeks to water the whole tract, as the land is listed away from vines and the ground between is flooded. The blocks are 600 feet wide. The vines are now two years old and are now being staked. They should produce a remunerative crop next year.

ACCOMMODATIONS.

The central buildings are comfortable and commodious and show consideration for the welfare of the employees that should insure a contented crew. The average laborer's only satisfaction in life is a good, wholesome, adequate meal, nicely served, where he doesn't have to fight flies for it, and a good place to rest. These things are here provided. There are dormitories, shower baths and cooking arrangements for 125 men, in addition to a Mexican camp and a Chinese camp, segregated by themselves. In the kitchen there are women cooks. The utensils and surroundings are clean and so are the tables in the dining hall.

REFUSED ONLY TWICE IN A LIFETIME.

I was there just about dinner time and I thought of a man I once heard who remarked (when he was offered something out of a bottle), "I never refused but twice in my life—once when I wasn't there and once I wasn't' asked."

There is a small store on the place to provide for resident cottagers, campers and men of whom there will be 70 employed all winter.

The power used for pumping plants carries 220 volts, except the one near the house, which uses 440 volts. Thirty-six horses and mules are kept for working the place, in addition to two heavy tractors.

These large enterprises are interesting and generally well managed, yet the writer always prefers to see the individuality of the small grower. Fifty or sixty families and homes in the country on such an area as this creates a neighborhood.

AIR DRAINAGE.

D. F. Norton, Horticultural Commissioner of Nevada county, says that east and west ridges in his section are practically free from frost, while between the ridges there is a danger of frost. Also north and south ridges are liable to injury. Mr. Norton does not explain why this is or venture to speculate on the reason, but offers it as an interesting matter of fact.

Labor for farmers' needs will be considered at a farm labor conference to be held in the offices of the State Council of Defense in San Francisco, November 8. The conference will be held with the committee on resources and food supply and the Department of Agriculture cooperating. Prof. R. L. Adams is executive secretary of the committee. All State organizations are requested to send delegates.

Overcutting of Fruit Wood on Apricots

[Written for Pacific Rural Press.]

When R. E. Lignori bought his orchard of 24-year-old apricot trees in Livermore Valley, the neighbors told him it had never failed to produce. Mr. Lignori was not content but hired some expert pruners from the Santa Clara Valley, who, as is quite customary in the latter section, cut off most of the fruit wood and forced a brushy top at the expense of fruit bearing. He claims that two crops were practically lost. The lesson he takes from this is not to cut back much in these old trees, but to thin out enough to open the tree to air and sun. The 1918 crop as a result proved a pretty good one.

To Win the War

The consumer of Food
Must Economize

and the producer of Food
Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.

While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.

Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

HANDLING FRUIT UNDER ADVERSE CONDITIONS.

[Written for Pacific Rural Press.]

L. A. Waldon of Sutter county will have 40 tons of dried prunes where he should have had 200 tons this year. His loss on Sultanas and Thompson Seedless raisins will be 75 per cent—those saved were already in the warehouse for the most part. We noticed that his salvaged fruit was on trays bottom side up, which served to keep them that much off the ground. The above losses, we believe, was an average of that sustained by growers in this section, and nobody could have saved more without artificial means of evaporating. Mr. Waldon only lost about 25 tons of peaches from his 150 acres of this fruit and which yielded 75 per cent of an average crop. This section (near Yuba City) is excellent for peaches, prunes and seedless grapes, or any kind of field crop for that matter, and the water-table, being within about 11 feet of the surface, makes irrigation available at a very reasonable rate. Harry Stabler calls this section the Mesopotamia of America. M. J. Newkorn, who also has 150 acres of peaches (besides prunes and cherries) in this district, has equally well managed orchards. The handling of the peach orchards in this section is methodical, uniform and business-like.

PRESENT ESTIMATE OF PRUNE CROP.

In reply to our inquiry, H. C. Dunlap, manager of the Prune and Apricot Growers' Association, believes an estimate of the possible prune production for the State—in merchantable grades—to be about 57,000,000 of pounds, figuring from the percentage of loss at different points. Mr. Dunlap says: "The latest news in our line is that the Government has released, for sale to the trade, the sizes larger than 40-point and smaller than 90-point, so that the Government 'commandeer' now applies only to all first quality fruit in sizes 40 to 90." And further, that the packers and the association are all making in the neighborhood of 50 per cent deliveries against early contracts going to the trade.

No real outlet for badly damaged fruit has, as yet, developed. Pure fruit people will give no assurance that they will allow marketing of fruit seriously attacked by molds and fermentation."

FALL SPRAYING WITH OIL EMULSIONS.

[Written for Pacific Rural Press.]

Fall spraying with crude oil emulsion after the leaves have fallen is considered more destructive to aphis eggs and San Jose scale than spring spraying by F. W. Orchard, a Sonoma county apple and pear grower. He has sprayed for himself and neighbors for eight years and uses a 16 per cent emulsion, which is stronger than he would care to use in spring.

He prefers the oil spray because it spreads better—"crawls" under rough bark edges and crevices not touched directly by the spray. He also says that the condition of the bark is softened and improved by the emulsion spray.

LIMA BEAN ASSOCIATION EXPANDING.

The California Lima Bean Growers' Association is this year for the first time marketing other kinds of beans grown by its members, according to Manager R. L. Churchill. These are principally bush limas and small whites. The association has more than doubled its membership over last year, and will market about 40 per cent of the total crop.

NEVADA COUNTY PEAR CROP.

D. F. Norton, Horticultural Commissioner of Nevada county, reports 57,341 boxes of pears shipped from his district to the 1st of October. He says there will be over 60,000 boxes altogether and largely from young orchards.

APPLES NEED POLLENIZERS.

[Written for Pacific Rural Press.]

Both Newtown and Bellflower apples really need another variety growing nearby to act as a pollenizer, according to E. A. Hall of Pajaro Valley, who grows both kinds. The Bellflower especially needs a pollenizer and it is becoming a common practice to intersperse other varieties for this purpose. Mr. Hall's orchard consists of three-fourths Newtown Pippins and one-fourth Bellflower.

T Peach Apricot Almond R Plum Prune Pear E Apple Cherry Olive E Fig Orange Lemon, Etc. S

MORE THAN A MILLION PER YEAR FOR CALIFORNIA PLANTERS

Kirkman Nurseries, Incorporated $100,000

Established 1888

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"That's the Kind of Fruit You Want"

"And that's the kind you'll always get from us. Of course they can't all be 'firsts'—there is bound to be a runt here and there—but you'll get the biggest percentage of first grade fruit if your trees are always in prime condition—as ours are."

"You see—the reason that we are successful with our trees is because we start them right. When we plant we blast out the holes with

HERCULES DYNAMITE

That loosens up the soil and gives the young trees a chance to get their roots well started. The trees need nourishment and can't get all they need unless the ground around them is loosened more thoroughly than it can be with a spade. Then, when the trees begin to bear we keep the ground around them well loosened by blasting between the rows every year or so. This keeps them in good, healthy condition; and healthy trees bear prime fruit."

"I found out about dynamite for farm use about four years ago. Sent to the Hercules Powder Co. for their free book 'Progressive Cultivation.' It tells you all about the uses of dynamite on the farm and in the orchard. The book has put money in the bank for me and I wouldn't be without it."

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San Francisco California

Hercules Powder Company,
1016 Chronicle Building, San Francisco, Cal.

Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for _____

Name _____

Address _____

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Butte County Advances.

W. L. Sweet, the newly appointed Farm Adviser of Butte county, has made a good start in his field of action and, with the co-operation and support of the leading farmers, which will undoubtedly be his, good tangible results must follow his efforts. He will follow out the projects in the various sections of the county according to their needs, as the olive and citrus, the deciduous fruits and the grain-growing sections are each of them distinct. The committees have been formed and the year's work outlined at their last meeting. It is Mr. Sweet's intention to follow out all known suggestions to control June drop in oranges. A record of this work will be of interest to all citrus growers in the State. At Chico the bureau will consider the installment of both community and individual evaporating plants for dehydrating fruits and vegetables of all kinds. The increased demand for these two commodities had focused the importance of such a step and the recent rains have brought the matter to a climax.

Gridley Notes.

W. H. Becker at Gridley has a nice grove of White Adriatic figs, from which he only saved one-third of the crop this year. He also has a 10-acre prune orchard on the bottom that is coming into bearing. We venture the opinion that in this whose section east of Gridley French prunes should be allowed to go after pruning the second year's growth, as it is good land and the trees are built by then. As there is quite an acreage in this splendid section of young prunes, we shall watch its development with much interest. Prunes are safer than almonds in this section along the Feather, and pears on heavier soil. T. B. Hutchins of the Central House district has 75 acres of prunes, of which little more than half the crop was saved. He also has about 3000 pear trees along the river that are good bearers and strong, large trees—good for 100 years, from their appearance. Shipping is from East Gridley, close by, and there is room for more pear development here.

Almonds in the Northern Counties.

A very large proportion of the almonds in the northern counties were harvested in a clean, bright condition, with fine quality meats, and there will be no absolute loss that we have discovered anywhere in commercial orchards. The trees generally look well—the young orchards exceptionally well. Plantings of almonds in the Wyandotte and Bangor sections will continue, as it seems well suited to this fruit. Fewer almonds and more prunes will be set in the valley sections of Butte, Sutter and Yuba counties. Some vigorous young almond orchards are to be worked over to French prunes where cropping conditions are precarious. This seems to be a good move. To work over very old almond trees is generally to court disappointment unless the limbs be thoroughly vigorous and unaffected with wood rot.

Prune and Apricot Growers' Ass'n.

The Prune and Apricot Growers' Association reports that the 1917 crop of apricots are almost all sold and will soon be all packed and shipped out. A large portion of this year's crop has been contracted for, but the association has temporarily withdrawn from the market in the expectation of better prices by reason of damage to prunes and raisins by rain, and most of the peaches are asked for by the Government for men in the service.

A Good Crop.

G. L. Barham of Chico, who has 40 acres of eight-year-old prunes on the Humboldt Road, claims less than 25 per cent of a loss of prunes (October 14). The original estimate for this year's crop was 160 tons dried. Mr. Barham had 11,000 trays out and he stacked and laid out seven times in the course of the season. He had a crew of men and women hand picking the trays when we were there and everything had been re-dipped.

Nursery Stock May Be Late.

Although soil conditions for digging nursery stock will be good, it will probably be a late season for the nurserymen in California, owing to early rains in sufficient quantity to keep the trees in growing condition. A few frosts would expedite matters. The young trees should be of a good, sturdy nature, no matter what the grade this year.

Enterprising Fig Grower.

S. L. Barker of Yuba City has 12 acres of Calimyrna figs just coming into bearing in commercial quantities. He developed a market for his fruit in the East by buying up figs and turning out a good article so as to have an established connection by the time his own trees were producing. This is certainly seizing time by the "foretop."

Prunes for the Soldiers.

The Prune and Apricot Growers' Association received a rush order on October 9 from the Quartermaster's Office at Washington for one million pounds of prunes to be shipped to the army abroad, at three days' notice. The army inspector was on hand to inspect all fruit intended for the shipment and the association went right to the bat to

Prolific Avocado.

Harry Stabler, the well-known horticulturist from Yuba City, has an avocado tree five years old from which he gathered 50 fruits this year and there are still a number left on the tree. He has several other strong trees (seedlings) that will be worked over this season.

Syrup from Prunes.

Professor W. V. Cruess of the University of California has recently demonstrated that a good syrup can be made from damaged prunes. One ton of prunes will yield from 50 to 60 gallons, worth from $35 to $45, at a factory cost of not over $10 a ton.

Losse Blenheim
Apricots

One of the finest 'cots in existence. The fruit grows to a uniformly large size—is of finest flavor and quality—and brings a big price in the market.

We offer the Genuine Losse Strain—budded from the original Losse orchard.

Write for further information—also our latest price list.

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"The Nursery That Helped to Make Santa Clara Valley Famous."

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Partridge Peas

FOR COVER CROPS

Makes also a splendid crop for hog and cattle food. Splendid substitute for vetch seed, which is very costly this season and practically out of the market. Partridge Peas are sown broadcast 40 to 50 pounds per acre.

Write for sample and price.

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Sheep **Manure** Steer

From highest nitrogenous feed. Decomposed and concentrated by age in their own liquids, containing the highest percentages of Nitogen, Phosphoric Acid, Soluble Potash, and readily available Humus.
Shipped commercial dry. Cars average 22 to 24 tons. Saves four-fifths labor in application. Thousands of tons now being shipped to citrus and deciduous growers in California.
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It follows the tractor—in short circles and sharp turns. A demon for hard work. Send for illustrated folder.

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Gives practical information about planting, pruning and caring for orchard and vineyard.

Furnishes reliable information to planters relative to the best fruit trees adapted to certain localities.

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GAS ENGINE MACHINES ARE ABUSED

[Written for Pacific Rural Press.]

I am the farm tractor. I am capable of so multiplying the American food production per man that the withdrawal of men from farming will not decrease the total food produced. I am of a family that has within two decades sprung into such prominence in world economy as no other family has ever attained. As Abraham's race has multiplied until it is a vital part of every land, so our Abraham, the gas engine, in its own form or in the form of tractors, trucks, automobiles, etc., has become a vital part in the life of every nation, especially among its food producers. Conscious of our importance, my family is also proud. We are too proud to notice occasional neglect and abuse, but, where we serve, there also we believe the workman is worthy of his hire. Our hire is naught but fuel, water, lubrication, and adjustment of loosened or worn parts. We insist on these essentials. He who withholds our hire is worse off than if he had a millstone around his neck. It means naught to us that neglect and abuse are due to ignorance. Those we serve have no excuse for ignorance. They can find in the Pacific Rural Press announcements inexpensive opportunities open to every Californian to dispel his ignorance. When he shall have done that, we will do more work than his abuse permits us to do now. The University Farm at Davis provides a practical lecture and demonstration course for beginners with tractors, November 11 to 19, and for experienced operators, November 20 to 22. The University Extension Division provides night lectures on automobiles in San Francisco for men in classes of 15 or more whenever so many apply. Similar lectures, with practical work on various machines, are provided for women exclusively in daylight hours. The University of California at Berkeley gives a correspondence course of 15 lessons to any Californian who applies. The State Council of Defense is "launching" three moving schools for tractor drivers, one to start southward from Madera, one to start northward from Modesto, and one to start northward from Saticoy, Ventura county. At designated high schools on dates to be announced soon expert instructors, with supplies of tractor parts, will give a two weeks' course of lectures, at the conclusion of which they will move on and a corps of real tractors, accompanied by mechanical experts, will at once appear, ready to be taken apart, assembled, started, and driven by the students in these courses. Instruction will also be given in soil handling with tractors and in the handling of tractor implements. Now, if you are a producer of food and if you want your gas engine family to have the morale to win the war, apply to these agencies or to the commercial automotive schools and quit abusing your faithful servants.

You Can Sell Your Wheat

[Written for Pacific Rural Press.]

A report to the Pacific Rural Press that Australian wheat was occupying so much space in California warehouses that California wheat could not be promptly accepted is erroneous, according to J. T. Brown of the Food Administration Grain Corporation. Nobody who has offered wheat to the Corporation has been refused shipping instructions. Storage space has been reserved for all such offerings. A large quantity of Australian wheat has been received and is constantly being sent through. A small amount of it has proved weevily and has been sold for chicken feed, but practically all is available for milling. This does not justify any let-up on wheat conservation, however, for it is just as necessary now as ever to keep ships busy on the short Atlantic haul rather than on the long Pacific haul; and we want to accumulate a reasonable reserve for use next year in case of poor crops. Inquiry for seed wheat at the Grain Corporation offices, as well as from seed houses, justifies prediction of tremendously increased acreage in California next year.

BIG PRICES FOR LATE PEACHES.

Late freestone peaches shipped from Porterville, from the Ernest Rockholt orchard, recently, brought 10c a pound in Chicago. The returns netted the producer $1.15 a box.

60 lbs. PER H.P.

That's Enough For Any Engine to Weigh

Any engine that weighs more than 60 pounds per horsepower is too heavy for farm work. It wastes gasoline, material, time and energy.

Cushman Engines weigh only one-fourth as much as ordinary farm engines, but they are balanced so carefully and governed so accurately that they run even more steadily and quietly. No loud explosions—no fast-and-slow speeds—but smooth, steady running like automobile engines.

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CUSHMAN Light Weight Farm Motors

4 H. P. weighs only 190 lbs., being only 48 lbs. per horsepower. Besides doing all ordinary jobs, it may be attached to any grain binder, saving a team, and in a wet harvest saving the crop. Also it may be used on corn binders and potato diggers.

8 H. P. weighs only 320 lbs., being only 40 lbs. per horsepower. For all medium jobs. Also may be attached to hay presses, corn pickers, saw rigs, etc.

15 H. P. weighs only 780 lbs., being only 52 lbs. per horsepower. For heavier farm jobs, such as 6-hole corn shellers, ensilage cutters, large feed grinders, small threshers, etc.

20 H. P. weighs only 1200 lbs., being only 60 lbs. per horsepower. For heavy duty jobs, such as shredders, shellers, grain separators, heavy sawing, etc.

Cushman Engines do not wear unevenly and lose compression. Every running part protected from dust and properly lubricated. Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and Water Circulating Pump. Ask for Book on Light Weight Engines.

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The Bean TrackPULL Book tells plainly why you need a Bean Tractor if you want orchard and vineyard work. Worth its weight in gold because it posts you on vital qualities in such a tractor. You know what your tractor must do. Send for catalogs of all tractor makers and compare with Bean TrackPULL Book. Then decide on your tractor.

The Bean TrackPULL operates through single track which does all pulling and steering. Full power on turns same as on straightaway. Makes no difference how far off center you hitch — pulls just the same. Works close to trees and vines. Pulls, "gees," "haws," and backs just like team. 12-year-old boys can handle.

Made by manufacturers of orchard machinery for 34 years. All their specialized experience built into it.

Advanced improvements in Motor, Track Rollers, Drive Sprocket, Bearings, and Rear Wheels make the Bean the most efficient orchard and vineyard machine ever manufactured.

Get invaluable Bean TrackPULL Book Now — send the coupon before you forget it. Save money. Learn name of nearest agent who can show machine.

See These Valuable Improvements Which Mean Increased Reliability

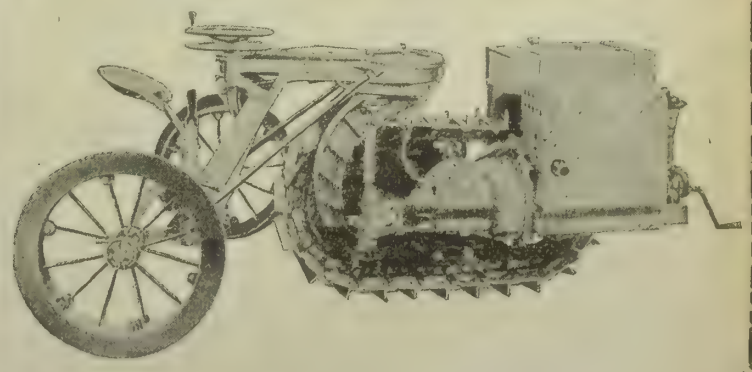
1. Motor — Improved oiling system. Improved carburetor control. Governor equipment if desired.

2. Track rollers — Provided with hardened steel thrust bearings.

3. Drive Sprocket—Solid steel ring, machine cut, hardened and heat treated assures long service.

4. Bearings — Provided with improved dust protected greasing facilities.

5. Rear Wheels — Provided with dust cap, wear resisting bushings and improved greasing facilities.



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Send me catalog and full information without obligation on my part.

Name.....

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Number of acres..... Kind of crops grown.....

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Superior Asparagus Variety.

To the Editor: Your article on asparagus, October 26, suggests the desirability of communicating to interested growers our experience with a superior variety. In 1904, at the request of the Massachusetts Asparagus Growers' Association, I established an asparagus breeding station for the U. S. Department of Agriculture at Concord, Mass. I secured seed of all known kinds of asparagus, about 76 varieties. Among them was the Reading Giant, secured from Sutton Bros. of Reading, England. This variety proved superior to all others, particularly in yield, size of stalk, tenderness, quality, and rust-resistance. In California I have tried it out on about three acres near Riverside. This bed is now in its fifth year and shows the superiority of Reading Giant as it did at Concord. If anyone desires to try this variety, I will be glad to go further into the matter. — A. D. Shamel, U. S. Department of Agriculture, Riverside.

[There is every reason for Delta growers and gardeners everywhere to try this variety in comparison with the best varieties locally grown if Mr. Shamel can supply seed or roots.—Ed.]

Beans in Monterey County.

Our previous estimate of 50 per cent damage to small whites in Monterey county seems about right, as observed last week. Many fields will not be threshed. Many of them have lost 30 to 50 and 70 per cent. Where pods rested on the ground, the beans sprouted or rotted, or at least became discolored. Many of these are light weight and can be blown out, but practically every crop will have to be hand picked. Already the warehouses are full and very few of the beans can be moved. One man said he could sell at 9½c, but most buyers are going slow until the Government sets the price for its requirements. Meanwhile the growers are needing money.

Harrow Barley in Spring.

Forty-nine sacks of common barley per acre on 47 acres is the crop harvested by Ross Nissen of Monterey county in the dry year of 1913. Forty acres did not go so high, but ten acres went so much higher that they raised the general average to 49 sacks, averaging 115 pounds per sack. The reason for the good crop on the ten acres was that when it was about five inches tall Mr. Nissen harrowed it, in spite of the fact that harrowing made the barley look like it was practically destroyed. It broke the surface crust and saved moisture much needed later but unavailable for crops grown without harrowing.

Sugar Beets on Alkali.

Sugar beets, once well started, will stand quite a lot of alkali, according to M. A. Klein, investigator at the Spreckels factory. To get them up on alkali land, however, the alkali must not be concentrated at the surface. One way to weaken such concentration is to flood and drain the land shortly before planting. If flooding is impracticable, plant them as early after winter rains as possible while the alkali is spread through the soil and before it comes back up. Alkali is washed from sandy soils much easier than from heavier land because water moves more freely in the former.

Boys and Girls Enlisting.

"Victory Boys" and "Victory Girls" are being enlisted by Acting Principal A. B. Scofield in charge of agricultural work at the Salinas High School. These organizations will make a business of working for the United War Work Funds. The drive is to commence early in November.

Deep Plowing for Grain.

Though in places on the ranch of the Salinas Land Co. the cow manure had not been plowed under for two years and a thick plowsole had resulted from repeated shallow plowing, part of it was plowed deep, coming up in big chunks. Rains prevented proper working down, but the crop showed distinct improvement from the line where deep plowing commenced.

Castor Bean Prices Raised.

A dollar a bushel increase over the Government contract price for castor beans has been allowed to recompense growers for high costs of production. The new price is $4.50 per bushel. We have observed some castor beans in Butte county sprouting in the burs and some plants putting out burs which cannot mature.

North Sacramento Valley.

Many places where poor corn stands were obtained, enough has sprouted since the rain to make a good stand, though of course it will never mature. Teparies and blackeyes planted in some places as a second crop are also too young to mature before reasonable frost time.

Farm Loans Made.

The Federal Farm Loan Bank at Berkeley closed loans for $436,900 in September. This is one-sixteenth of all the loans closed by similar banks in the United States in the same month.

Investigation in Texas by the Federal Horticultural Board has shown no instance of infestation of any plant other than cotton by the pink bollworm.

2½ more tons to the acre!

Plant Germains Hairy Peruvian Alfalfa!

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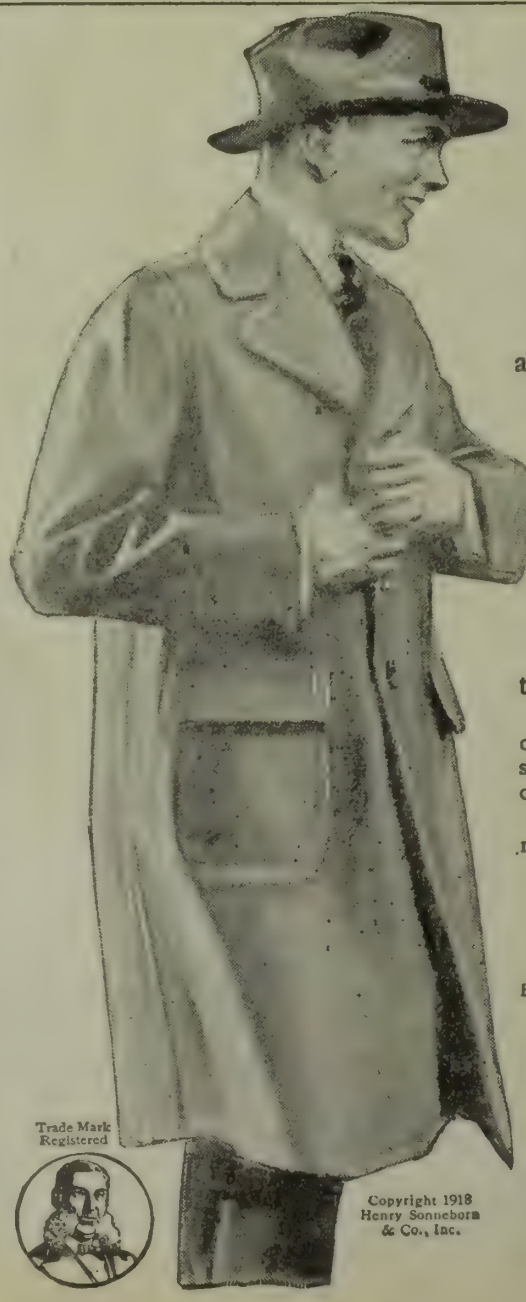

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"Each grade one price the nation over"

America's only known-priced clothes

SIGNAL SUCCESS IN STATE LAND COLONIZATION.

(Continued from first page.)

an irrigation district to be controlled and maintained by themselves. Meantime an annual charge is made to meet only the cost of maintenance and operation.

STOCK BREEDERS' ASSOCIATION.

Settlers under the first unit have already formed a co-operative stock breeders' association and it is expected that every settler who intends to keep livestock will become a member. The association will buy nothing but choice purebred stock, and then charge their members a reasonable fee, just so as to come out even. They have adopted the following breeds for the colony: For dairy, Holsteins; for beef, Durhams; hogs, Duroc-Jerseys; sheep, Rambouillets and Romney Marsh—all large breeds, be it observed, well suited to the strong productive land they will help to enrich. The superintendent aids in the organization of the co-operative associations and also assists new men with practical advice and direction. It can reasonably be expected that with this large area of rich land in the hands of chosen practical settlers it must become not only a very desirable community to live in but one that will become widely known for the quality of its livestock.

FARMS, NOT LOTS.

The fact that these farms will furnish their owners a good, comfortable living and not merely a bare, hard-earned subsistence, will lead to that community spirit and progress which is the very soul of a settlement. The success of the Durham State Settlement may lead to unlimited projects of a like nature. It is a pattern whereby private colonization corporations may learn to administer their subdivisions and make good.

Here the cards are all on the table and the buyer knows, so far as can be shown, his soil and the terms of payment. No specious arguments are needed to induce the wary stranger to part with his coin—the price is plain and is never changed. He may be considered fortunate if he is accepted as a colonist. Where a large number of farmers are the individual units of a co-operative community, with all the advantages that the State has to offer in the line of scientific and practical aid, this settlement should become a center of attraction for visitors and farmers throughout the State.

A beautiful setting in a park of stately oaks and maples has been reserved for a community hall, which will belong to the settlers. There are good sites for building on both sides of the main road which bisects the project, many of which are set in a cluster of large valley oaks. Much of the permanent improvement in the shape of larger buildings will be postponed until after the war is over and both labor and materials have returned to normal prices and accessibility.

Agriculture, with its numerous ramifications, is the greatest and most inspiring profession in the world. Each branch of it, whether the productive effort be for stock, fruit, cereals, vegetables or what-not, has been reduced to a science. To be successful it is necessary to pursue the best methods that accumulated knowledge and experience has to offer.

And no farmer has a better opportunity of doing this than at the Durham State Land Settlement.

May its functionaries increase and multiply and replenish the earth.

WHEAT WORTH MORE THAN LAND.

A wheat crop worth five times the value of the land it was grown on would look good to lots of people. A piece of pasture in Butte county had been appraised at $6 per acre. On 88 acres of this 512 sacks of Early Baart wheat were grown last season, worth $2,636.78—five times the appraised value of the land it grew on.

Raynster

Trade Mark Reg. U S. Pat. Off.

Look for this Label in your Raynster

A Mark of Value

There are many kinds of raincoats at varying prices. You cannot estimate their value by their looks.

But you can recognize the Raynster Label and avoid uncertainty. The Raynster Label identifies honest worth—it is the manufacturer's assurance of full value in materials and workmanship.

The Raynster Label is found in a complete line of weatherproof garments—heavy rubber surfaced work coats, smart cravenetted cloth coats, slip-ons, featherweight silks, and warm, heavy ulsters.

Many of these coats look like good overcoats and are generally worn as overcoats as well as raincoats.

Outfit your family with Raynsters. There are Raynster models for women, men, girls and boys. You'll find a Raynster at just the price you want to pay.

United States Rubber Company
Clothing Division, New York and Boston

Raynster
Reg. U. S. Pat. Off.

Cash for Raw Furs!

If you don't send for our price list we are both losers, because you want our high prices and we need your raw furs.

L. BRIEFNER & SONS
(Est. 1861)
154 West 25th St., New York City.

ALFALFA SEED

Common variety .....21c per lb.
Smooth Peruvian .....30c per lb.
Hairy Peruvian .....40c per lb.

SELECTED SEED
Delivery to you by prepaid Freight
Delay buying until you have compared my samples with seed others offer.
E. F. SANGUINETTI
YUMA ARIZONA

The Choice of Those Who Know

Manufacturers and leading motor car distributors *recommend* ZEROLENE. The majority of motorists use ZEROLENE. ZEROLENE reduces wear and gives more power because it keeps its lubricating body at cylinder heat. Gives less carbon because, being refined from selected California asphalt-base crude, it burns clean and goes out with exhaust. ZEROLENE is the correct oil for *all types* of automobile engines. It is the correct oil for your automobile. Get our lubrication chart showing the correct consistency for your car.

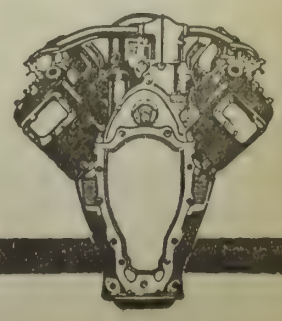
At dealers everywhere and Standard Oil Service Stations.

STANDARD OIL COMPANY
(California)

ZEROLENE
The Standard Oil for Motor Cars

Correct Lubrication for the "V"-Type Engine

This, the "V"-Type of automobile engine, like all internal combustion engines, requires an oil that holds its lubricating qualities at cylinder heat, burns clean in the combustion chambers and goes out with exhaust. Zerolene fills these requirements perfectly, *because it is correctly refined from selected California asphalt-base crude.*



General Agricultural Review

Field Crops.

Thirty thousand acres of beans, mostly large whites, are growing in one block in Sutter basin.

Indications are that Stanislaus county will this year turn out 60,000 sacks of rice. Harvesters are now at work.

The sweet potato crop around Merced will be 25 per cent heavier than last year's. Growers are reported to be getting $2.50 per cwt.

The variety of lettuce known as the Los Angeles Market lettuce is said to be worth one million dollars to the growers of the Southwest.

Indications are that the Oakdale district will have almost 30,000 sacks of rice this year, while the county output will be double that amount.

Word received from Washington says that the price of castor beans has been raised to $4.50 per bushel to the grower by the War Department.

Bean straw is bringing $13 a ton in the field in the vicinity of Sawtelle. The prevailing prices before the war ranged between $4 and $5 a ton.

It is thought that the rice crop of Yolo county this season will total 700,000 sacks. The Globe Rice Mills at Woodland have begun milling the season's crop.

The Federal Government is calling on California farmers to plant 538,000 acres of wheat this fall and winter in order to meet the war demand for foodstuffs.

A call for laborers to harvest the $15,000,000 rice crop in the Sacramento Valley and other districts in the State has been sent out by C. B. Sexton, superintendent of the State Public Employment Bureau. Men will be paid at least $4 a day, with board and lodging, according to Sexton.

Honey sorghum in Stanislaus county is reported to be a profitable crop. Some farmers are getting from 100 to 300 gallons of molasses per acre. In several districts thirty tons of sorghum is being taken per acre. Many of the farmers are using their sorghum for silage and the surplus is being put into molasses.

Deciduous Fruits and Nuts.

Owing to the epidemic of influenza, it has been decided to postpone the Mendocino Apple Fair two weeks until November 6.

Co-operation in the purchase of manures, oils, sprays and lime are being considered in these days of scant labor in handling carload lots.

The apple crop of 1918 is estimated to exceed that of 1917 by 7 per cent, the great increase being in the State of New York, where growers have large evaporating plants.

In view of the increased difficulties of transportation many farmers are ordering their supplies of spray, oil and other materials early. They have also to arrange for quick removal on delivery to avoid demurrage.

Inspectors are in Placer county examining orchards for pear blight while the leaves are still on the trees. From the holdover blight comes next year's trouble, and after the foliage drops it is difficult to recognize it.

Peaches, apricots and tomatoes to the amount of 7500 cases have been shipped by the cannery at Armona (Kings county) on orders from the British Government. Five thousand had been previously shipped to the United States Government.

Walnut growers outside of the association are said to be receiving big prices for this year's crop—higher prices than those fixed by the association. Two sales of 30c per pound, or $600 per ton, orchard run, are reported, the buyers furnishing the sacks.

The California Peach Growers' Co. has established a camp and sawmill at Hog Ranch, near the Hetch Hetchy Railroad. They are sawing from 50,000 to 60,000 feet of lumber daily. By next summer the company expects to ship to the San Joaquin Valley two carloads a day.

The Hercules Powder Company has expert chemists at work in efforts to salvage tons of fermented prunes, damaged by the unusual storm in September. The company believes that it will obtain acetone for high-grade explosive in sufficient quantities to pay for the cost of manufacturing it.

The fourth carload of almonds was shipped last week by the Oakdale Almond Growers' Association. They were of varieties undamaged by the rain. Investigation has disclosed that the almond meats are not damaged, no matter how much the shells have been discolored, and unless there is a good market for these damaged nuts they will probably be shelled and the meats sold.

Growers in the vicinity of Morgan Hill, Santa Clara county, forecast a big prune crop for next year. They point out that the trees are holding their leaves in a natural condition, buds seem to be thrifty and cover-crops are making an unprecedented growth for this season of the year, promising an abundance of nitrogenous plant food for the development of new wood and more vigorous bud systems and all that goes to produce a large quantity and high quality of fruit.

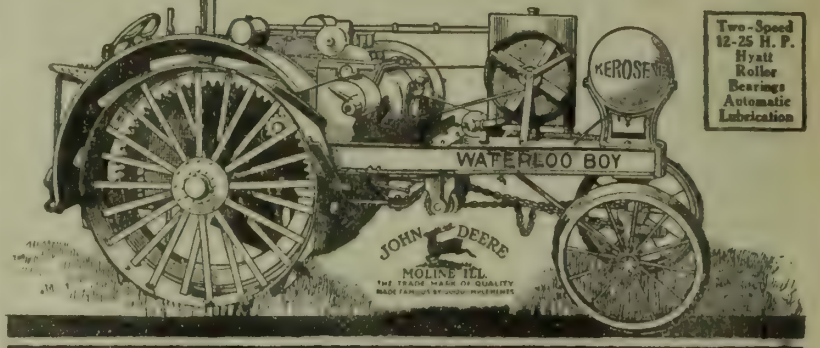
Citrus and Semi-Tropical.

Uncle Sam takes from 500 to 1000 boxes of oranges every month for the troops stationed in the Philippine Islands.

The first Mandarin oranges of the season shipped from Oroville to the San Francisco market arrived this week. They brought $2.75 per small crate.

Orchardists at Chico are getting in their fuel oil for orchard heating while the getting is good and the roads leading to their orchards are hard.

Meets All Power Requirements



Two-Speed 12-25 H. P. Hyatt Roller Bearings Automatic Lubrication

WATERLOO BOY
ORIGINAL KEROSENE TRACTOR

Experience has demonstrated that this three-plow tractor, with 25 H.P. at belt is the ideal "general utility" tractor for any size farm. Its light weight, simplicity, great durability, ample power and economy give it

The Widest Range of Availability At Minimum Operating Cost

Discriminating buyers are choosing the Waterloo Boy because of its demonstrated success in the hands of users under all conditions; because it is built and fully guaranteed by a responsible manufacturer; because of its dependability in emergencies, unusual fuel economy, and because conveniently located distributors insure prompt and courteous service when needed.

Write for free illustrated catalog giving full information.

Geo. W. Branding, Milford, Ill., writes: "Your tractor has given complete satisfaction. I plowed seventy acres in eight days with a three-bottom John Deere Plow; did most of my discing with it using two 16 in. wheel discs at all times. Kept close record of operating cost—$2 per day paid for all fuel and lubricating oil when doing a full day's work."

Chas. W. Carlson, Stromburg, Neb., writes: "Your tractor is O. K. It is cheap to operate—not more than two gallons kerosene to the acre, plowing good depth, with 3-bottom 14 in. John Deere Plow. Plowed old alfalfa, sod pasture, stock and stubble ground without trouble. I use the tractor to pull 28 in. thresher and thresh 33 loads of wheat to a barrel of kerosene."

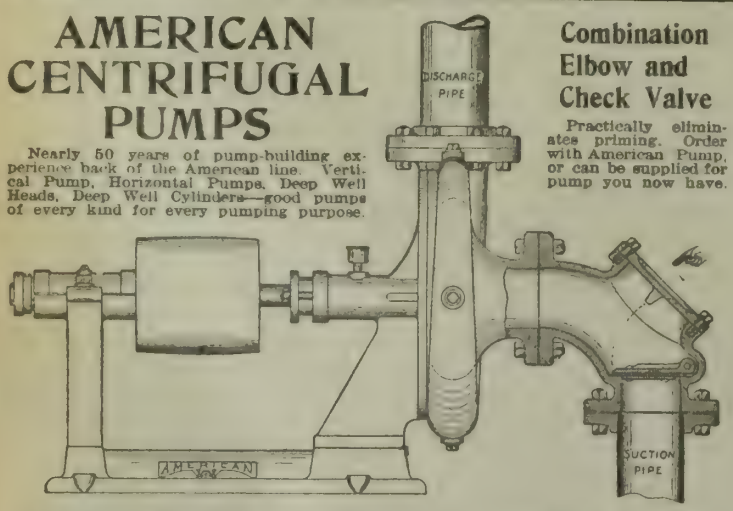
JOHN DEERE, 6006 W. Third Ave., Moline, Ill.

AMERICAN CENTRIFUGAL PUMPS

Nearly 50 years of pump-building experience back of the American line. Vertical Pump, Horizontal Pumps, Deep Well Heads, Deep Well Cylinders—good pumps of every kind for every pumping purpose.

Combination Elbow and Check Valve

Practically eliminates priming. Order with American Pump, or can be supplied for pump you now have.



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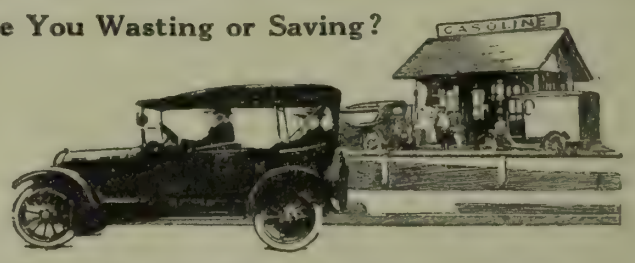
Put your irrigation problems up to irrigation experts. We'll show you how to get the MOST WATER with the LEAST TROUBLE at the SMALLEST COST. Write for our catalogs of Gas Engines, Oil Engines, Motors, Direct-connected Motor-and-pump Outfits, or any of these in which you are interested. We'll answer your inquiry fully and carefully.

CALIFORNIA HYDRAULIC ENGINEERING and SUPPLY CO.

68 Fremont St., San Francisco 424 East Third St., Los Angeles

Are You Wasting or Saving?



Is Your Motor Producing or Consuming?

Thousands are running old cars this winter as a necessary measure of loyalty and economy. But it is not necessary to put up with an old car's loss of power and waste of gas and oil.

Renew your old car's power—stop its waste of gas and oil—check its carbon troubles—make it economical transportation by installing a full set of

McQUAY-NORRIS LEAK-PROOF PISTON RINGS

They repay their cost many times over in saving gasoline and oil. They increase power, reduce carbon, save trouble, delay and expense.

Send for FREE Booklet—"To Have and To Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

McQUAY-NORRIS Superoyl RINGS

A special ring for engines that pump oil. Used in top groove only of pistons to control excess oil, with McQuay-Norris LEAK-PROOF Rings in the lower grooves.

Your dealer can get you any size or oversize quickly. Over 300 jobbing and supply houses in all parts of the country carry complete size assortments. If you have any difficulty getting them, write us.

Manufactured by
McQuay-Norris Manufacturing Company
2838 Locust St. St. Louis, U. S. A.

This has been a trying season for citrus fruits and orchardists in all districts have had light crops. Fancy prices, however, have made up, in a measure, for the crop deficit.

The Klink (Tulare county) Citrus Association packing house began packing grapefruit and lemons this week. There is a heavy crop outlook in the Klink-Venice district.

Orange growers of Riverside district, according to the Arlington Heights Fruit Exchange, are making a price of about $10 a box on Valencias selling on the New York and other Eastern markets at record-breaking prices.

Some olive trees growing in the dooryards of farmers near Escalon, planted originally as novelties and whose yields have heretofore gone to waste, are this year bearing good marketable crops of Manzanillos and putting some good money into the pockets of the thrifty owners.

Visalia orange growers are considering the possibility of an earlier start than usual in the harvesting of the Washington navel crop. The 8-to-1 test will be observed. Oranges in the vicinity of Red Bank last week passed a 9-to-1 test. It is believed that picking will begin in a week or two.

A new variety of decay has attacked a proportion of the late pomegranates in the Porterville section. The fruit rots from the inside, and in the early stages can only be detected by an expert in the handling of fruit. Samples of the fruit have been forwarded to the State University for investigation.

Grapes.

The average crop of Thompson's Seedless raisins in California is one and a half tons to the acre. Fifty pounds to a vine means three and three-quarters tons to the acre.

Grapes from the United States henceforth are to be allowed entrance into New Zealand. Heretofore imports of the fruit into New Zealand have been allowed only from Australia.

A carload of wine for the Eastern trade was made on the Santa Cruz island. Importations of French and Italian wines having been stopped by the war, New York is making heavy demands on the California vintage.

It is reported from Ontario, Cal., that the wineries there and in the surrounding country are being turned into plants for the manufacture of grape syrup, said to be equal to maple sugar both as a table syrup and as a substitute for sugar.

The California Raisin Co. asks growers to make sure that no fruit unfit for human consumption is sent in and to grade their fruit carefully and so avoid losses on the quality. When the fruit is sent in without proper hand sorting, it loses its grade and is reduced in food value and in price.

More Light Than 20 Oil Lamps

AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

Most Brilliant Light Made

Brighter than the brightest electricity. More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

Coleman Quick-Lite

Lights with a Match. 300 Candle Power.

No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. —will last a lifetime.

Write our office for Catalog 21-R. P.
COLE LITE & SALES CO.
216-18-20 East 41st St.
Show Rooms:
324 So. Hill St.

There's Cheer in the

Pictures from Home

To a homesick boy at the front, a picture of Dad waiting at the end of the lane while "Shep" brings up the cows is worth more than the Croix de Guerre.

Pictures of mother, how much they mean to him now! And of kid sister—perhaps she is "wearing her hair up" by this time—all the old familiar scenes around the farm, yes, and that little girl with the big blue eyes that lives down in the village—these will mean a world of comfort to the boy who is lonesome among a million strangers.

The Y. M. C. A., the Red Cross, the Knights of Columbus and kindred organizations are doing a world of good in ministering to the bodies and minds of our boys. But in their hearts, homes are first. Cheerful letters and cheerful pictures from home—these will keep their hearts light and their courage high.

EASTMAN KODAK COMPANY

476 State Street ROCHESTER, N. Y., *The Kodak City*

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

TRUCKS HAULED BULK GRAIN.

[Written for Pacific Rural Press.]

One hundred and eighty horses and mules were used on 45 three-ton wagons for 65 days in 1917 to haul bulk grain from seven combined harvesters, each cutting a swath 34 feet wide, as told us by A. E. Denton of Moreing Bros.' ranch in Sacramento county. The crop was 1225 pounds per acre on 24,000 acres and the haul was one to eight miles.

This year seven 3½-ton Republic motor trucks kept six harvesters busier than they had been kept the year before by the horses, though in justice be it said that the crop was only 828 pounds per acre from 20,000 acres.

Several reasons led to the change from horses to trucks. The draft stock was sold at $150 per head average for all that had been owned on the ranch. The rest had been hired at $40 per month and feed for each four-horse team. The trucks cost $20,000. There was a tremendous saving of high-priced barley last winter. About 45 teamsters were saved, besides the man who had kept busy the previous season hunting teamsters to replace those who didn't want to work too long at a time, especially those who didn't show up Mondays. It saved a lot of leather harness and iron horseshoes, besides some veterinary fees. The trucks required drivers not much higher priced, they required practically no repairs, they carried four and a half to five tons per load, and their fuel and oil cost but little as compared with feed of the horses they replaced. The trucks were fitted with 6x12-foot bodies 3 feet deep, with three heavy braces crosswise and 3½-inch iron rods under the braces about a foot below the top edge. They ran alongside bins built onto the sides of the harvesters, received their loads by gravity, ran quickly to the elevators and up a sharp incline with the front wheels, leaving the back wheels low enough so the grain ran out into a hopper when the end gates were opened.

FIX THE ROOF IN DRY WEATHER

The Arkansawyer was huddled in a semi-dry corner of a leaking roof during winter rains because it was too wet to fix the roof then; and in dry weather he didn't need to have it fixed. Are you his prototype with regard to pump irrigation? Are you going to wait until your crops will be lost unless you have a pump because you think next winter's rain will be enough? If you do, will you be able to get well drillers, a pump outfit, and freightage to carry it promptly when you must have it? We know that crops could have been greatly better in many districts if more water had been available, one of them being the country around Merced. We are told that there is plenty of water in the ground there, with an average lift not over 18 feet and not able to be pumped down over four feet any time during the year. Ditch water has been unreliable, but some ranchers did not wait till they needed water before contracting for wells and equipment. One man with two wells irrigated 87 acres and probably made enough more than he would have made without the wells nearly to pay their cost in this one year.

RIGHT MACHINE SAVED BEANS.

[Written for Pacific Rural Press.]

Some people plant beans with a sugar-beet drill. This requires 30 to 35 pounds of small whites per acre, according to Ed Corda of Monterey county, because if set for a smaller amount it crushes many beans. Mr. Corda expected to use a beet drill, but beans were selling at 11c or 11½, so he bought a regular bean planter. With this he got as good a stand as he wanted by using only 12 to 14 pounds of seed per acre. On the 30 acres planted last spring he saved about 540 pounds of beans. These now look beautiful beside the present year's crop, which is full of discolored ones. Figuring them at 9½c per pound, the beans he saved by planting with a machine built for the purpose are now worth $51.30. As the drill cost $110 cash, it repaid nearly half of its cost in planting only 30 acres one season.

MAN OR ENGINE?

The pleasure of cranking a fanning mill to clean several sacks of small white beans was recently permitted to us on a ranch in Monterey county. The beans went in at the rate of 20 to 25 sacks per hour and the sweat came out aplenty. Also came the notion that a 1-horsepower gas engine would have used less gasoline than we were using of elbow grease and would have liberated a man for other work. The engine would have kept the fanning mill busy, whereas it stood idle much of the time while its operators rested or sacked the beans. The engine could have been used for numerous other similar jobs about the ranch the year around which are being done by man power.

(K) Tractor Chisel

KILLEFER QUALITY

KILLEFER EFFICIENCY

Our Heavy Tractor Chisel is made to use with the larger Tractors for extreme deep chiseling and is an excellent tool for preparing the ground for Beans, Beets or other crops. If used before the winter rains it will open up the ground to a depth of ten to fourteen inches, aerating the soil and allowing the moisture to penetrate below the usual plow pan, which is to be found in almost all of our land.

The chisel is the "A" frame type. The depth is regulated by turning the hand wheels; one hand wheel for the foretruck and one each for the rear wheels. This gives a three-point suspension, making the tool follow the contour of the land perfectly. **Made in 6 and 8-ft. widths.**

The Killefer Manufacturing Co.

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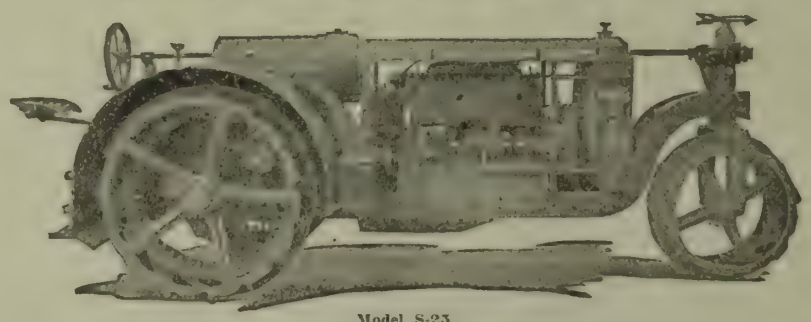
GMC TRACTORS SIEVE-GRIP GMC TRACTORS

Tractor



Model S-23

Simplicity, dominant feature of the **GMC SAMSON SIEVE-GRIP TRACTOR**, goes hand in hand with efficiency. Correct design and few and accessible working parts assure low up-keep cost and long life to the **GMC SAMSON SIEVE-GRIP TRACTOR.**

Thousands of owners testify that where the **GMC SAMSON SIEVE-GRIP TRACTOR** goes the farmer's trouble ceases. This is its record for nearly two decades of trying service here and in far corners of the earth.

Mere youths are successful operators of the **GMC SAMSON SIEVE-GRIP TRACTOR, and in the emergency, even women have proved equal to the task.**

The **GMC SAMSON SIEVE-GRIP TRACTOR** performs tasks requiring the power of ten horses and does the work better, faster and cheaper than any other power. It is also adapted for many farm labors for which horses are unsuited.

The **GMC SAMSON SIEVE-GRIP TRACTOR** is simplicity itself.

Further information is furnished by our illustrated booklet, Better Farming.

Samson Sieve-Grip Tractor Company

DIVISION OF

GENERAL MOTORS CORPORATION

STOCKTON, CAL.

ARE YOUR LIGHTS LAWFUL?

[Written for Pacific Rural Press.]

Valorous San Jose traffic officials had probably been instructed to help out the treasury by capturing a few automobilists whose lights were not conforming to the law. There are many such; and we are in full sympathy with an impartial local enrichment by such means. But in a case that recently came to our attention the officials were apparently as discreet as they were valorous. So was the small boy we once saw robbing the blind beggar's box of pennies. Probably, we suppose, the traffic officials whispered together that it would be safest for them to begin on a Ford! So they hailed our friend one Sunday night recently and after about ten minutes of various kinds of testing found his Ford lights a trifle out of focus and told him to come back to see the judge a few days later. He lives near San Francisco and works by the week, so he could not afford the time or gasoline required for such a visit. He had scraped up a little money for the first payment on Liberty Bonds, but didn't like to let go of that. He wrote the judge, asking to be let off on the ground that he had so recently had the lights tested by responsible parties to conform to the law and because the infraction was so slight. The judge answered that he could avoid appearing personally if he would send $5! This reduced his Liberty Bond subscription by $50.

The writer, when driving at night and meeting other machines, aims to fix his eyes on the road ahead rather than on the approaching headlights. Even at that, when meeting some machines, the road is absolutely invisible until the glare effect has passed. It is frequently necessary to slacken speed to avoid possible accident to pedestrians who might step onto the highway at that time. This is bad enough, and such glare lights are 100 per cent too frequent, but they are not a circumstance to those on a machine which the writer recently met just after leaving San Jose. It was at least half a mile away, but not a particle of highway could we see until this arrogant, unlawful and supremely dangerous light-hog had passed. It was necessary to pull to one side and stop. We presume the hog passed safely through or at least into San Jose without official rebuke. He was not driving a Ford.

Valorous officials of San Jose, would it be in order for you to stop also these flagrant violators of all laws of safety, since you have so gloriously conquered a dim little Ford?

TRACTOR CORN BINDER ON PEAT.

[Written for Pacific Rural Press.]

Can a wheel tractor operate a corn binder satisfactorily in the peat soil of the Delta, where ordinary farm implements require extensions to make the wheels broader? F. F. Lyons has demonstrated that it can. His soil is about as peaty as any, though a little sediment has mixed in from river overflows onto what is now the Terminus tract of San Joaquin county. Half of his 400 acres of corn were bound into bundles to shred for cattle feed this fall—and it was some corn, too, most of it 10 to 12 feet tall and plenty sturdy. He figured that with his 12-25 wheel tractor pulling two corn binders faster than horses would walk he could put the corn through a husker and shredder at about the same total price he could contract for it to be hand picked and hauled—$15 per acre. But with the binders and shredder he got it safely in with least possible labor irritation and had two and a half to three tons of dry fodder per acre in addition. Such shredded fodder last year fattened 500 cattle for prime market prices on Mr. Lyons' ranch. It is figured as worth at least $15 per acre. The left-hand tractor drive wheel had an extension, making it double width. A wheel on each binder had long lug extensions. Everything worked beautifully so far as traction was concerned, using one man to drive the engine and one to handle both binders.

SWATH ROD ON MOWER.

[Written for Pacific Rural Press.]

To the Editor: If W. R. of Maxwell will put a sleeve over the outside shoe of the mower and run a rod forward from it about 12 inches, then bend the rod sharply back, having it long enough to reach the rear end of the swath board by an upward curve, it will help in keeping the alfalfa from falling along the edge of the swath in the way of horses and mower on the next round. A rod about upright from the shoe will help support the long curved one, which should be of Norway iron, so it will bend to any curve desired. — F. D. Williams, Napa.

TRACTOR PARADE CALLED OFF.

The tractor parade on Market street has been indefinitely postponed on account of the epidemic.

A WADE does 10 mens work
Saws 25 cords a day!

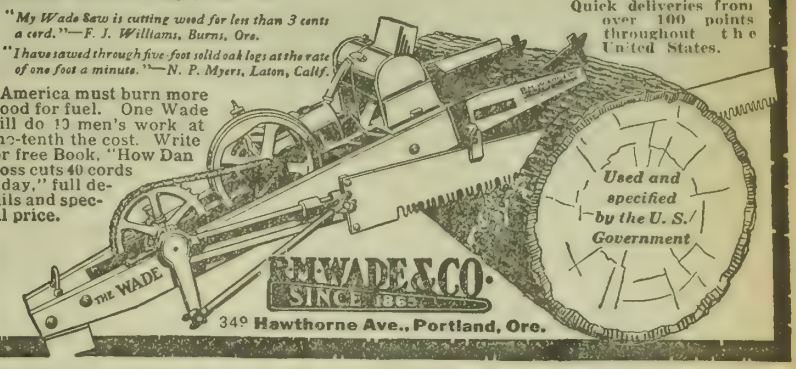
A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the U. S. When not in use for wood cutting, the 4 H. P. motor will run mills, churns, pumps, etc.

"My Wade Saw is cutting wood for less than 3 cents a cord."—F. J. Williams, Burns, Ore.

"I have sawed through five-foot solid oak logs at the rate of one foot a minute."—N. P. Myers, Laton, Calif.

Quick deliveries from over 100 points throughout the United States.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free Book, "How Dan Ross cuts 40 cords a day," full details and special price.



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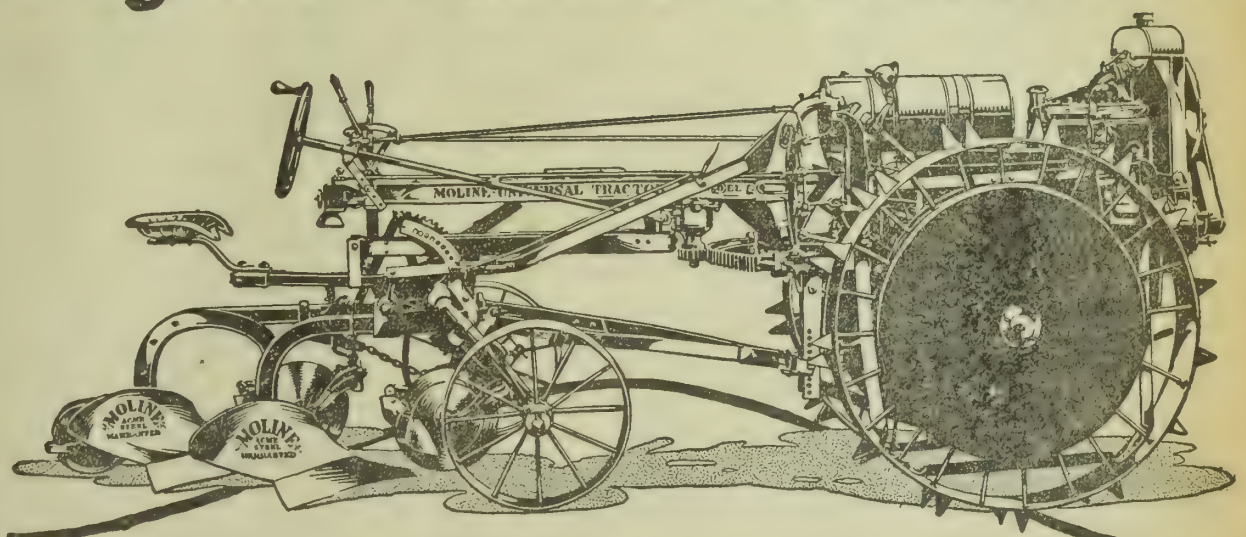
R. M. WADE & CO.
SINCE 1865
349 Hawthorne Ave., Portland, Ore.

Buy Your Moline Tractor Now



Because:

You may not be able to get a Moline-Universal if you delay ordering.

You will help relieve spring congestion of shipping by buying now.

You will have plenty of time to become familiar with its construction and operation before the spring rush and will be able to work your tractor in on belt work and other light jobs.

It is the only tractor which does all farm work including cultivating.

One man operates both tractor and implement from the seat of the implement where you must sit in order to do the best work.

Tractor and implement form one unit—backs as easily as it goes forward—turns in a 16-ft. circle.

It has plenty of power for your heaviest work, yet light in weight to operate economically on light jobs. All the weight on two big drive wheels—no dead weight—no extra expense.

Substantially constructed for many years of service.

Electric lights for night work and self starter for non-robust labor.

You can practically double your efficiency—you can produce more food with less help. You will need it, order now.

Write today for full information and name of your nearest Moline Dealer. Address Dept. 97.

Moline Plow Co., Moline, Illinois

MOLINE
UNIVERSAL TRACTOR

Purebreds Bring Bigger Profits

[Written for Pacific Rural Press by R. H. Whitten.]

RELEASED BY BOARD OF CENSORS FOR GOOD OF FARMER

IMPORTANT:—Over 85 per cent of the registered animals sold in the sales this fall have gone to farmers making their first purchases of purebreds. At the recent Modesto sale of Holsteins 50 animals went to thirty-one different buyers, and nearly every animal went to a beginner.

These facts show the way the wind is blowing. Have you made the start with purebreds? If not, don't remain among the leaves in the whirlwind. Join those who are making the future sure for themselves by buying the kind of stock that practically guarantees Sure Success.

Why raise purebreds? For just one reason—Greater Profit. With land, labor, feed and livestock all going higher, it is necessary to make each acre produce to its utmost, and this cannot be done with ordinary stock.

Beef cattle that weigh only 1000 pounds at three years and have thin backs and cat hams are not giving adequate returns for the precious feed they eat. Boarder dairy cows that produce worthless calves are pro-Germans of the insidious and damaging kind. Ewes that shear six pounds and produce peewee lambs are robbing the nation of food and clothing. The hog that eats five and a half pounds of feed for every pound of gain is not only a profiteer but an alien enemy.

Seriously, the problem is most important. The future of civilization, as well as the success of each individual farmer, depends upon making the maximum use of every resource, and ordinary animals cannot be permitted to go on wasting precious feed. They must go the way of the profiteer, the slacker and the enemy spy.

The purebred is the animal that solves the problem, because he produces the greatest amount of meat, milk or wool from the feed consumed. He can be depended upon not only to do this with certainty but also to transmit the same qualities to his offspring, because his good points have been bred in him, while if the grade has any good points he got them by chance and there can be no certainty about the quality of his descendants.

It is an established fact in breeding that "like begets like," but it does not necessarily follow that because certain features are prominent in the parents they will be in the offspring also, for the young partake quite as much of the characteristics of their ancestors for many generations back as they do of their parents. Consequently, not until breeding has been carried on long enough for desired qualities to become fixed characteristics can the reproduction of these qualities be depended upon.

A grade or scrub animal possesses mixed blood, each strain warring for supremacy, and even though it may be a very good individual it is apt to reproduce the undesirable qualities of some of its scrub ancestry, to the detriment of its offspring.

But for many years back the ancestors of the purebred were selected because they were able to produce more dollars' worth of meat, milk or wool than the average animal of the time. Their offspring were carefully selected and mated, and this process of scientific breeding has been kept up until today, when we buy a purebred animal, we buy the result of generations of breeding and selection. We buy a long line of ancestors, every one of which approached the ideal for a profit-making animal, and we can depend upon the animal to transmit its good qualities to its offspring.

So you see a pedigree simply represents a method of keeping track of the parents of an animal and keeping undesirable blood out. It is a guarantee of what is back of the animal—of what has contributed to its make-up. It is what enables you to carry on your work with certainty when otherwise it would be only a game of chance.

One of the national breed associations has proposed the slogan, "A purebred cow on every farm." This should be taken up by all breed associations and a universal slogan, "A purebred female on every farm," should be adopted. It isn't necessary to urge purebred herds. Let a farmer get one purebred female and give her an opportunity to prove herself alongside of grades, and nothing else will be necessary to persuade him to change his entire herd over. He will find purebreds best by every test.

How about you, Mr. Reader? Have you any purebreds in your herd? If not, why not? It is said that prejudice lives on ignorance, and if you are prejudiced against purebreds like as not it is because you are ignorant of their superior money-making qualities. Get a purebred female. Put her to the test. Make her prove her additional worth over grades. Give her a fair chance and she'll make good. She'll convince you that, no matter how well grades have been paying you, purebreds will pay you a whole lot better. She'll start you on the road to greater prosperity than you have ever before enjoyed. For that's her business.

Present Condition of Our Ranges

[Written for Pacific Rural Press.]

Not since 1904 have the ranges of California had anything like the start they have this year. Throughout the State there is a good thick setting of grass. The weather following the rain has been good growing weather, with enough sun to give some substance to the herbage. Under any circumstances our ranges are now practically safe for the season and prices on provender in the remoter districts have gone down to stay. Many a man who was wondering if he had saved enough hay and fodder to carry him through the winter now feels on easy street, for already the new grass affords sufficient feed to carry stock through till frost, snow or any other feed-time comes. For there are not many men who are badly overstocked this year. We have taken a long time to learn the lesson of overstocking our ranges, many of which have been sadly depreciated in value and carrying capacity by this practice. Sheep ranges have suffered especially. The forest service has done much to assist in rebuilding overfed ranges under its control by a strict limitation of stock accepted and a careful ranging of the stock by attention to old watering places and springs and by the opening of new ones to obviate unnecessary travel for range animals.

SPLENDID START THIS YEAR.

This year, with a good start on the range, there will be a good opportunity to let it grow and get a good seeding. John Gray of the forest service on South Mountain in Trinity county showed us a section of range which had been shut off from cattle to the second season. It had been getting very bare and suffering from serious erosion. When we saw it there was a good overgrowth of native grasses and wild oats and it was the best piece of range on the mountain side. If some portions of our ranges could be set aside for a year or two, or at any rate not grazed till fall, they could, with a little seeding and attention, be brought back to their old carrying capacity.

Now that stock is so valuable, it will pay to go to some expense in this matter of conserving our grass and putting it to the best advantage. Various conditions govern our choice of winter ranges and nobody can generalize on their management. But

Your Daughter and an Empire

can positively relieve you of the tiresome, irksome disagreeable task of milking. You and your sons can spend more time in the fields both morning and evening.

Empire Milking Machines are so simple—so easy to operate—that a boy or girl can milk the entire herd with it in less time than it took you and your hired hands.

Hard milkers or easy milkers—nervous or calm cows—large or small teats—even or uneven udders—make no difference to the Empire. It milks them all. And the teat cups stay on without surcingles.

The New Empire Super-Simple Pulsator has no piston. Nothing to wear and lose vacuum. Its action is regular and positive, gentle and soothing to the cow. Usually produces greater milk flow and lengthens period of lactation.

Learn the details. Have the Empire dealer in your locality give you a demonstration. Write for our 1918 Catalog No. 45,

EMPIRE CREAM SEPARATOR COMPANY
BLOOMFIELD, NEW JERSEY

Chicago, Ill. Denver, Colo. Montreal Toronto Winnipeg, Can.
Also manufacturers of Empire Cream Separators, Gasoline Engines and Farm Electric Plants

EMPIRE
MILKING MACHINES

FUIMUS FARMS JERSEYS

HAVE BOTH TYPE AND PRODUCTION.
We exhibited four calves at the California State Fair, 1918. We were awarded—
Reserve Grand Champion Cow, Junior Champion Heifer, Junior Champion Bull, First Senior Bull Calf, First Senior Heifer Calf, First Junior Heifer Calf, Third Get of Sire. If you want our kind write or call.
J. E. WHERRELL, • 1581 Sedgwick St., • Riverside, Cal.

CHESTER WHITES FOR PROFIT
We Have For Sale 5 Exceptionally Fine **MARCH BOARS**
They are the selection of all our pigs farrowed in March and give excellent promise. We offer these five at $50 each—first come first served.
HIGHLANDER, THE $1,000 GRAND CHAMPION BOAR, HEADS OUR HERD.
OAK KNOLL FARM Box 338 LAKEPORT, CAL.
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

We Offer for Sale a Son of
Colantha Sir Pontiac Aggie
and from a 28-pound dam. Beautifully marked, straight and right.
GOTSHALL & MAGRUDER, - Ripon, Cal.

California Breeders have sold more than **$350,000.00** worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.
CALIFORNIA BREEDERS SALES & PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

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EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
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CALIFORNIA HOG BOOK
Price $2 Postpaid
525 Market St. San Francisco

More Dollars From Your Dairy

NOW You Can Get *ALL* the Butter-Fat Profits from Your Herd

YOUR cows are all right. The butter fat is in their milk, but you are wasting this precious profit by using old-fashioned separation methods or an old or inferior separator. Swedish farmers won't tolerate such extravagance. They have to make every penny possible. That's why the best cream separator in the world—the **Viking**—is made in Sweden. You can profit **at once** by the work they do. Start today. Get a

VIKING CREAM SEPARATOR

Made in the Largest Separator Factory in the World

It is **lower** in price and **greater** in capacity than other separators of equal rating. It is guaranteed to skim down to a mere trace. It gets you every possible penny's worth of butter fat that is in the milk.

More Than One Million In Use

In every country in the world where good dairying is conducted, you will find **Vikings**, not only because of the profitable work they do, but also because of their construction. Made of the finest Swedish iron and best tool steel, the **Viking** is

Guaranteed for a Lifetime

It is the simplest and easiest-running separator on the market today. Operation starts at a touch on the handle. Bowl cleaned thoroughly in 3 minutes. Investigate. Go to the **Viking** dealer in your town and see it in operation. Get our books. They are full of facts for farmers. Every one a profit payer.

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Write for These Two FREE Books

Swedish Separator Company
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507 So. Wells Street
Chicago, Ill.

Quick Shipments Always Assured from Warehouses at 29 Different Distributing Points Throughout the United States and Canada.

wire fences will help. Farming for winter keep is being more widely practiced, so that silage, corn, stover and roughage of all kinds may help out the range. More cheap shelter sheds are being provided and, after the war, when hay is not so dear, more of it will be used—all to the lasting benefit of our range and grass lands.

RANGES INJURED BY PREMATURE PASTURING.

We often turn out on the summer range too early, without any regard to the season, and if the grass has not had a good start much damage is done to the young stand of grass. Range management is not the least important branch of the science of forestry, and it has to be backed by judgment and experience. If Mr. Gray's system of resting a portion of the ranges is carried out universally, it must result in permanent benefit to them and increased condition on the stock. The way some sheep ranges are mismanaged is a disgrace. As every stockman knows, overstocking is a losing game. To judge a range according to the year is his business. And to thin it down on a falling market requires courage and decision. To add to the grass-producing properties of a range by range management is not so often practiced. In times of peace prepare for war. In a year of good grass like the present one there is a good opportunity to prepare the range for dry years by not overstocking.

ATTRACTIVE FEATURES AT CALIFORNIA INTERNATIONAL.

According to the present plans of the projectors, this show is scheduled to open November 16.

Among the attractive features of the California International Livestock Show will be the horses from the R. B. Pemberton stables of Chicago. These horses are of international fame as high jumpers and exhibition horses, and among them will be several champions from various classes.

S. E. Kramer of the Seventh Avenue Riding School of San Francisco has entered ten horses in the various classes and has authorized the announcement of first and second prizes for the best lady rider, side or cross saddle.

Mrs. Winslow Anderson of San Francisco has entered two of her famous horses.

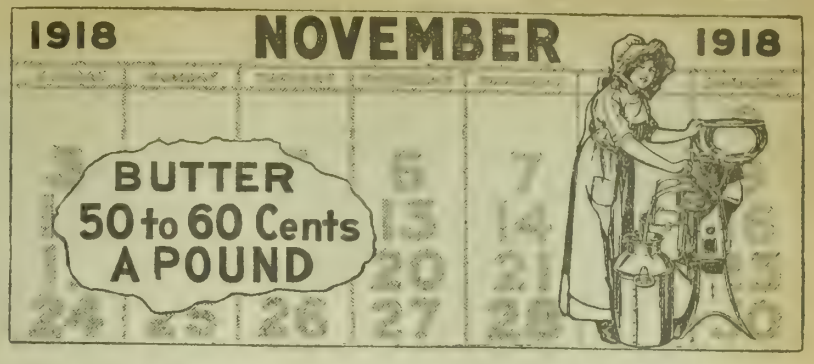
In the cattle classes the Congdon & Battles Company of Yakima, Wash., have entered the only Aberdeen-Angus cattle in the breeding classes in the entire livestock show. O. V. Battles, a director of the Aberdeen-Angus Association, has authorized the distribution of $500 in trophies in the various classes of this breed. The only other showing of Angus cattle will be those shown by the University of California, which will have a number of Angus steers.

From the present indications of the poultry and carload exhibits, the swine and sheep tents will be taxed to their capacity. In the poultry tents plans have been made for building additions to the present generous quarters.

Among the features in the moving picture and lecture halls will be the films from Frank Hardy, secretary of the Shorthorn Breeders' Association of Chicago, showing all the prize-winning Shorthorns at the Chicago International Livestock Show. Films of the famous Hereford prize-winners of Chicago will likewise be shown.

BEWARE OF THESE FAKIRS.

Several men are going through the rural sections of California, representing themselves as agents of the Internal Revenue Department, selling books to ranchers purported to explain how income tax returns should be made. They are asking $5 for a book that it is said can be bought at any book store for 25c. They do rapid-fire work, selling a large number of copies in a section, and then moving on to another section before the ranchers get wise to the fact that they have been duped. Don't let these bunco artists get you.



NOW IS THE TIME

to get your new

DE LAVAL CREAM SEPARATOR

WITH butter prices soaring no cream producer can afford to go another month without a New De Laval Cream Separator.

This is true whether you have no separator, or an inferior or half-worn-out machine, or even an old style De Laval.

In cold weather your waste of butter-fat is relatively greater, either with gravity skimming or a poor separator; and at present prices for cream a De Laval would very soon pay for itself out of its own savings.

Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

DE LAVAL DAIRY SUPPLY COMPANY

LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST.
Alpha Gasoline and Distillate Engines, Ideal Green Feed Silos, Acme Ensilage Cutters and Blowers, Irrigation Equipment, Centrifugal and Deep Well Pumps and Alpha Spraying Outfits. Catalogs of any of our lines mailed upon request.

61 BEALE STREET, SAN FRANCISCO

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Nobody Believes

that the registered Holsteins to be sold at public auction for A. W. Morris & Sons will bring anywhere near what they are worth, so it is bound to be bargain day for the shrewd buyers who are on hand on sale day.
But you can gamble your last dollar on one thing—**EVERY SINGLE ANIMAL WILL BE SOLD ABSOLUTELY WITHOUT RESERVE OR LIMIT TO THE HIGHEST BIDDER**, no matter how small the bid may be, for that is the Morris way of doing business.

90 Registered Holstein Cows
15 Registered Holstein Bulls

including some of the most famous producers and breeding cows in the Morris herd, three of them with records of 30 to over 33 pounds butter in 7 days, 30 of them with records from 20 to over 29 pounds butter in 7 days, 30 of them with yearly records up to over 24,000 pounds milk and over 1,000 pounds butter; daughters of Prince Gelsche Walker; King Mead of Riverside; Ignaro De Kol; Juliana King of Riverside; Segis Pontiac De Kol Burke; Alcartra Polkadot Corrector; De Kol Burke; De Kol Hengerveld Burke; Colantha Sir Pontiac Aaggie; and others of equally rich breeding.
Just weigh in your mind the tremendous accomplishments of those families past and present, and the wonderful future certainty of their performance, and then consider that 75 or more of these females are bred to

PRINCE GELSCHE WALKER—KING MEAD OF RIVERSIDE—KING MORCO ALCARTRA—SEGIS PONTIAC DE KOL BURKE—SIR AAGGIE DE KOL ACME —KING KORNDYKE PONTIAC 20TH.

EVERY ONE OF WHICH HAS SIRED A WORLD'S RECORD DAUGHTER OR HAS FOR A DAM A COW THAT HAS MADE ONE OR MORE WORLD'S RECORDS.

Dairymen:—This will be the opportunity of a lifetime to buy the world's most famous Holstein blood at bargain prices, and besides the great cows you will have an opportunity to buy a bull to suit your needs, whether for a registered herd header or a choice registered bull to head your grade herd.

The sale will be held on the Morris Farm, 4½ miles northeast of

Woodland, Cal., Tuesday, Nov. 12, 1918

EVERY ANIMAL POSITIVELY GUARANTEED TO BE A BREEDER.

NO ANIMAL IN THE SALE IS TUBERCULIN TESTED.

Write for catalog.

California Breeders Sales and Pedigree Company

J. M. Henderson, Jr., Pres. C. L. Hughes, Sales Manager, Sacramento, California.
Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO. LOS ANGELES

Growing a Boar Pig for a Herd Header

[Written for Pacific Rural Press by E. H. Whitten.]

A well grown out boar that shows breeding qualities as well as size.

Have you bought a young boar at one of the shows this fall? Or do you intend to buy one at the Los Angeles or San Francisco shows, or direct from some breeder? Good! Hope you get a corking good one, for the opportunities for a top-notch boar to make a name for himself never were better. But good breeding must be supplemented by proper care and feeding if you expect him to win fame for himself and profit for you.

When you buy a young boar for a future sire, or pick out one in your own herd for that purpose, don't put him in with a lot of other young pigs, for if you do he will not get the attention he should have. Put him in a pen with another boar of his own age or a little younger, and keep them together constantly so that they will not fight. If it is ever necessary to remove his companion for a long enough time so that they will forget each other, don't attempt to put them together again if they are over six months old. Instead, put a barrow in with him, or a smaller runt pig that will run instead of fight.

Often a growing boar can be induced to eat more by putting a runt in with him, for, true to his name, he doesn't want the runt to get any of the grain or slop, and he eats more than he otherwise would. But in this case his exercise must be increased to correspond.

Don't ever put a sow in with him. It may teach him to rant, and a ranting boar can ruin himself in a few hours. For the same reason don't have him in a field where he will be separated from gilts or sows only by hog fencing. Keep him in a field surrounded by a tight-board fence, or, if this is impossible, have the pens each side of him empty or occupied by barrows.

Don't stuff the boar and make him fat just to look nice to visitors and to have them comment on him. A real breeder knows that a boar's growth the first year should be in frame, bone and muscle, and that if he is developing properly he will not put on any fat, but will grow tall, long and rangy. He will be developing a frame that he can fill out later.

Don't let him gain more than 1½ pounds per day at any time. He cannot grow faster than this without a part of the gain being in fat, and if a young boar is allowed to take on fat he will be stunted and injured as a breeder. He will not be as large at maturity as the boar of lighter weight, whose growth is entirely in bone and muscle; neither will he have as vigorous a constitution.

Give him a variety of feed, but do not overfeed. Allow him only what he will clean up in twenty minutes, and if this is not sufficient to make the desired growth get him to eat more by increasing his appetite through additional exercise. Increase the feed only as his appetite increases and as he cleans up the feed quickly.

The importance of exercise cannot be emphasized too strongly. Generally if a boar is on alfalfa pasture he will take enough exercise of his own accord, but if he does not, or if he is in a dry lot where there is no inducement for him to exercise, and he acts sluggish and lazy, he should be forced to take enough exercise to keep him in "athletic" condition. Get behind him with a buggy whip and walk him about a mile a day. You can train him so that he will respond to a mere touch of the whip.

While the boar is young and growing he needs a ration heavy in protein, but as he matures the ration should be gradually changed so that he will have only enough protein for maintenance, except during the breeding season, when the amount of protein should be increased.

No young boar can develop the maximum of bone and muscle unless the proper feeds are provided; neither can he develop into a prepotent breeder without plenty of exercise, regardless of the feed provided. But the combination of the two strengthens bone, hardens muscles and develops constitutional vigor. It gives you a boar that will both look right and breed right.

DON'T MISS THE MORRIS SALE.

If anyone has any doubts as to the profitable future of the purebred dairy cattle business, he merely needs to read the reports of the fall sales. There never was a time when so many thinking farmers changed from grades to purebreds as right now. Not all farmers can own entire purebred herds immediately, but there are very few who cannot make a start in the right direction if they will make up their minds to do so.

At the A. W. Morris & Sons sale, to be held at their farm, Woodland, Thursday, November 12, farmers will be given an opportunity to secure foundation Holsteins of the highest quality. Over 90 cows and 15 bulls will be offered, all bred along heavy-producing lines, and many of the females carrying calves by some of the most noted bulls of the breed.

Plan to attend and take your check book along. You can't attend this great sale without wanting to take home some of the good stock that will be offered.

ELLIOTT-BRANDT HERD MAKES HIGH RECORD.

The Elliott-Brandt Rancho of Owensmouth was awarded the highest scores in the milk and cream testing contest at the Liberty Fair grounds last week. The score for both milk and cream was 98.5 per cent, which is above perfect, as scoring is always done on the basis of 98 points.

The judging was done by C. F. Hoyt, U. S. Milk Inspector. There were about forty dairies and creameries entered in the contest, but the Elliott-Brandt Guernseys carried off the honors with ease.

How the packers have helped to develop good stockyards

—and how this has benefited you as a producer

WHOSE job is it to provide and maintain stockyards, or markets, for the open buying and selling of cattle?

Who shall see that these markets have good pens where your stock can be properly watered, fed and taken care of until sold?

Stockyards, in early days, were not efficiently managed, and were not financially attractive to investors, except in the largest markets.

As the packers built their big-capacity plants at the various live-stock centers, they naturally became interested in helping to develop adequate stockyards facilities, where stock raisers could ship their animals.

The present high efficiency of most of the principal stockyards is due largely to the time, the effort, and the money the packers have put into them.

All stockyards, including those in which packers are interested, are conducted as *public* market places for the benefit of all.

They are open to all—to producer, commission man, dealer, speculator, the packer's buyer—and with exactly the same rights to each.

Packer-ownership gives no special advantages to the packer and no control over live-stock prices.

These spot-cash markets have been a factor of very great importance in promoting the growth of the live-stock industry.

If stockyards efficiency can be increased by Government ownership and operation, all well and good. Swift & Company is content to stand on its record of having helped the live-stock industry by the part it has played in developing these market places.

Swift & Company, U. S. A.

A nation-wide organization owned by more than 22,000 stockholders

LIBERTY FAIR ASSURED.

Rumors that the Liberty Fair will not be held have been squelched by a public announcement from the fair authorities and the Los Angeles Chamber of Commerce that the enterprise will be staged just as soon as the city health department will permit the opening of the gates.

An added entry list is promised for the California Liberty Fair on the opening date, and every exhibit will be in place. In addition to the many other features in connection with the opening there will be a gigantic celebration, which promises to be memorable in the annals of California history.

There is much that might be said regarding the great world war. However, at this time Californians are coming together in an effort to show that victory means a final end of carnage and bloodshed, and the world is to be made safe for democracy largely by the splendid work the American troops have done and are doing in the great world war.

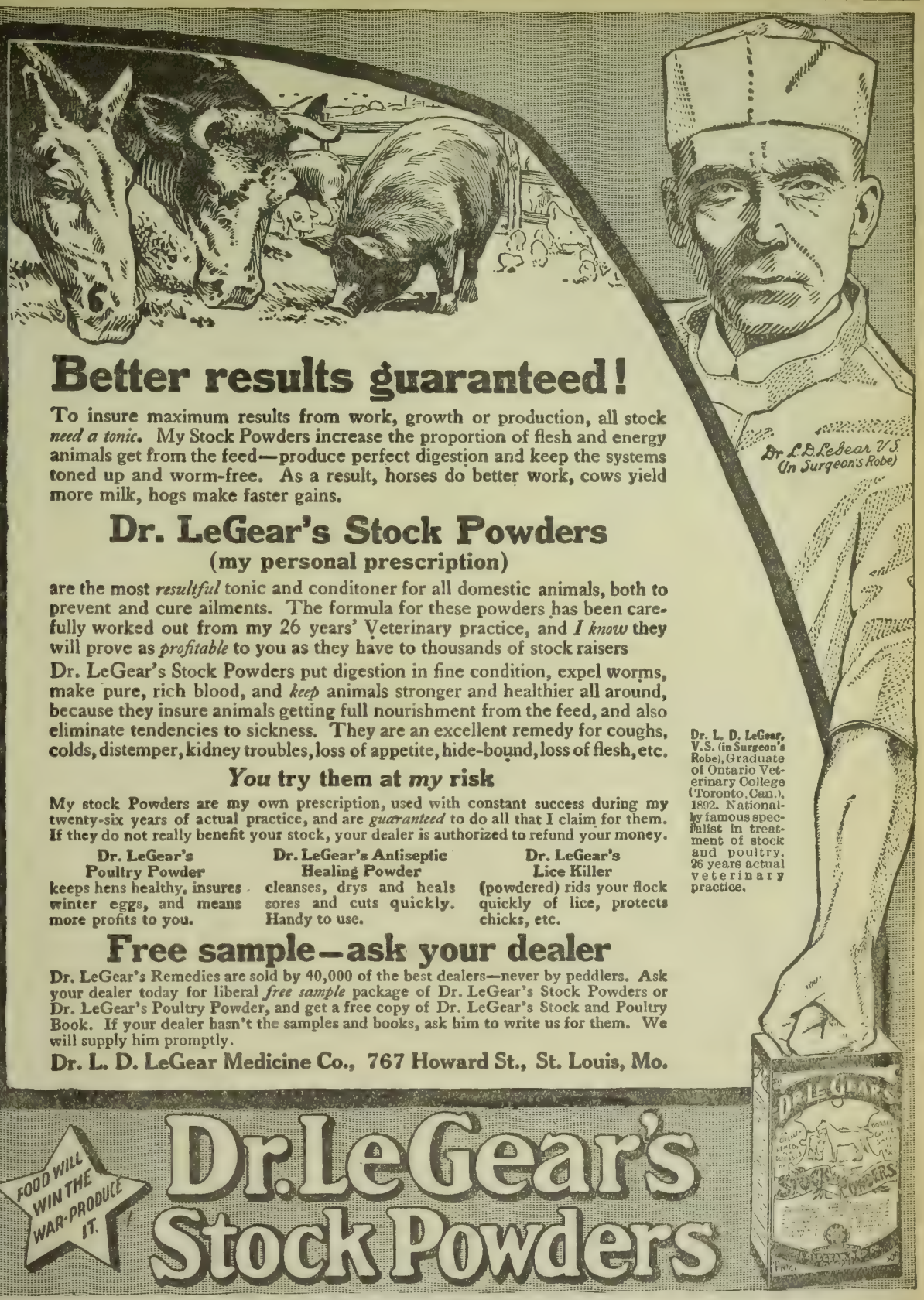
The Government exhibit, partly in place, is one of the most interesting and educational exhibits ever sent to the West. Much has been said regarding this wonderful display, but to be properly appreciated it must be seen. The student, the merchant, the manufacturer, the capitalist, the farmer and the laborer will have a part in this great display. It is not enough to say it is educational—it is instructive—and includes the minutest detail in connection with the world war and with the food plans for conservation now in progress.

With nearly 2000 head of livestock already on the grounds or in shipment to Los Angeles, the livestock display of the fair will be the largest in the history of any fair held in the Western States. These cattle have been sent here with the idea of giving the stockmen of California new ideas along breeding lines. This stock is the best the United States affords and many of the prize cattle will remain in Southern California. Arrangements have been made for an auction to be held on the grounds, and it is anticipated that the men who intend to take a leading part in stock raising and stock breeding in California will be bidders for these prize animals.

C. R. Thomas, manager of the livestock department of the fair, is overjoyed. Every pen has been taken and entries signed, and many of the pens are now occupied with prize stock. This means that this offering will again be educational.

Arrangements have also been made in the other departments whereby the goats, sheep and hogs will be taken care of, and the $60,000 in premiums will be distributed as soon as the judges' awards are made.

In the cattle barns are the herds of the Miller-Maxwell Company of Pueblo Springs; the ebony Aberdeen-Angus herd of Congdon & Battles of Yakima, Wash.; the Canadian prize-winning herd of the Curtice Cattle Company of Peaceful Valley Rancho, Calgary, Alberta; the Hereford herd of the Wyoming Corporation of Cheyenne; the Hereford herd of A. B. Cook of Townsend, Mont., and the Hereford and Shorthorn herd of William Henn of Kansas City, Mo.



Better results guaranteed!

To insure maximum results from work, growth or production, all stock *need a tonic*. My Stock Powders increase the proportion of flesh and energy animals get from the feed—produce perfect digestion and keep the systems toned up and worm-free. As a result, horses do better work, cows yield more milk, hogs make faster gains.

Dr. LeGear's Stock Powders
(my personal prescription)

are the most *resultful* tonic and conditoner for all domestic animals, both to prevent and cure ailments. The formula for these powders has been carefully worked out from my 26 years' Veterinary practice, and *I know* they will prove as *profitable* to you as they have to thousands of stock raisers

Dr. LeGear's Stock Powders put digestion in fine condition, expel worms, make pure, rich blood, and *keep* animals stronger and healthier all around, because they insure animals getting full nourishment from the feed, and also eliminate tendencies to sickness. They are an excellent remedy for coughs, colds, distemper, kidney troubles, loss of appetite, hide-bound, loss of flesh, etc.

Dr. L. D. LeGear, V.S. (in Surgeon's Robe), Graduate of Ontario Veterinary College (Toronto, Can.), 1892. Nationally famous specialist in treatment of stock and poultry. 26 years actual veterinary practice.

You try them at *my* risk

My stock Powders are my own prescription, used with constant success during my twenty-six years of actual practice, and are *guaranteed* to do all that I claim for them. If they do not really benefit your stock, your dealer is authorized to refund your money.

Dr. LeGear's Poultry Powder keeps hens healthy, insures winter eggs, and means more profits to you.

Dr. LeGear's Antiseptic Healing Powder cleanses, drys and heals sores and cuts quickly. Handy to use.

Dr. LeGear's Lice Killer (powdered) rids your flock quickly of lice, protects chicks, etc.

Free sample—ask your dealer

Dr. LeGear's Remedies are sold by 40,000 of the best dealers—never by peddlers. Ask your dealer today for liberal *free sample* package of Dr. LeGear's Stock Powders or Dr. LeGear's Poultry Powder, and get a free copy of Dr. LeGear's Stock and Poultry Book. If your dealer hasn't the samples and books, ask him to write us for them. We will supply him promptly.

Dr. L. D. LeGear Medicine Co., 767 Howard St., St. Louis, Mo.

FOOD WILL WIN THE WAR-PRODUCE IT.

Dr. LeGear's Stock Powders

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Grand Champion Herd of Hampshires

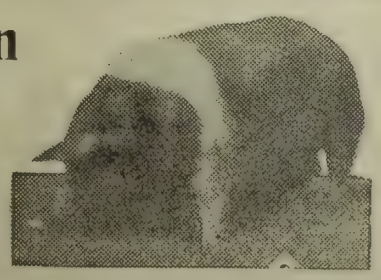
FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.

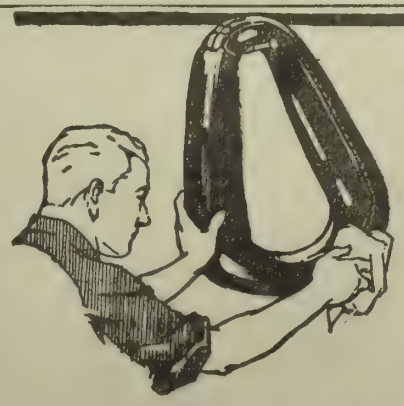
Best families.

Finest individuality and clean-cut markings.

Call or write.



Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.



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Eureka Harness Oil gives long life to harness. That means dollars to you. Protects leather fiber from dust, sweat and moisture, which cause rot. Replaces the natural oils that have dried out. Keeps harness strong, flexible and jet black. No animal oils in "Eureka"; rats, mice and other rodents dislike it and won't gnaw harness dressed with

EUREKA HARNESS OIL

MADE BY STANDARD OIL COMPANY (CALIFORNIA)

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

Sheep Bred for Fine Wool and Heavy Lambs

For many years I have used only the best registered Rambouillet rams I could find. The results are seen in the young stock now offered for sale. Investigate and you will get splendid stock.

E. C. SPEAR, St. Helena

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

W. H. Ginn & Sons' sale of registered Holsteins at Corcoran realized an average of $180 a head. The average was low because there were 33 heifer calves and 13 bulls in the sale. Thirty-four cows averaged $226.

O. J. Ames, Oakdale, has sold three Jersey heifers to George K. Taylor of Livermore. One of these heifers took first prize as senior heifer calf at the Modesto Fair in 1917. She was the youngest daughter of Elaine of Venadera.

The Oregon Dairy Council has issued a letter to every draft board in that State, calling attention to the shortage of farm labor and asking the boards to go slowly in depleting the material any further. It is about time to do the same in this State.

Tilly Alcartra, the world's record cow of A. W. Morris & Sons of Woodland, has produced 26,659.6 pounds of milk and 859.10 pounds butterfat in nine months. She will complete her year January 26 and is to calve about April 1. She has 2700 pounds lead on her world's record year and is still gaining.

Prof. W. H. Rider, the well-known dairy authority, who has been at the head of the animal husbandry department of Syracuse (N. Y.) University, has accepted the appointment as director of the Holstein-Friesian Association of America. Prof. Rider's numerous contributions to the dairy press have made him well known as a writer.

J. Henry Meyer of Elkhorn Farm, Watsonville, is rejoicing because May Mischief of Penhurst, a full sister of his Ayrshire bull, Penhurst Statesman, has just completed a senior two-year-old record of 11,543 pounds of milk and 474 pounds of butterfat, carrying a calf at the same time. Garclaugh May Mischief, the world's champion Ayrshire, with a record of 25,329 pounds milk and 1053 pounds butter, is the grandam of these animals.

Swine and Swinemen.

Carruthers Farms, Live Oak, has started H. E. Vogel of Fresno in the Berkshire game by furnishing him with two fine bred sows.

Llanno Vista Ranch of Perris has been showing its Hampshires this fall and has made a most creditable record. They have a fine lot.

Dr. Spencer, proprietor of Derryfield Farm, has moved from Fair Oaks to Placerville and will raise Durocs on a more extensive scale.

At the National Swine Show, recently held at Cedar Rapids, Berkshires won first, second and third on ham exhibit, also grand champion barrow.

J. W. Wilkinson, manager of Falfadale Ranch at Perris, is making Duroc history in that section. He has shown a large number of hogs at the shows in the southern part of the State this fall and has captured a good share of the ribbons.

Recently in one of the southern markets eight Duroc hogs, aged seven months, sold for $332.93. The same day eight razorbacks, one and a half years old, sold for $25.50. And still there are some people left who don't think that it pays to breed up.

Conejo Ranch of Newbury Park made another great clean up, winning 29 firsts, 2 seconds and 1 third on Hampshires and Duroc hogs at the recent Ventura County Fair. Councillor, the well-known Duroc boar, again carried off honors, as did Perfect Quality, the grand champion Hampshire sow.

J. Francis O'Conner, who started a herd of registered Berkshire hogs on his farm near Santa Rosa a short time ago, has purchased the National champion sow, Lady 110th, from the Frank Brush herd at Santa Rosa. This sow won at the National Swine Show last year when the Brush herd was exhibited there by C. E. Barrows.

The Chester Whites are making history back East. Wildwood Prince Jr., considered one of the greatest boars of the breed, recently sold at the record sum of $6,000. This boar was the sensation of the 1917 National Swine Show, and it was claimed that he represented the most improved specimen of modern-day requirements of a pork-making machine.

The well-known Uneeda herd of Duroc-Jerseys, owned by H. P. Slocum & Son of Willows, is to be sold. This herd was shown at the California and Oregon State Fairs this year and won a goodly number of the championships and other prizes awarded for this breed. Clayton Slocum, the manager, is in the draft, subject to call any time, and his father, H. P. Slocum, is not able to look after the herd.

Alex. D. McCarty of San Francisco, owner of Riverina Farm, Modesto, has just purchased the great young Corn Belt boar, King Jones Over, bred by Fred Sievers, Audubon, Ia. This boar is a son of Siever's King Jones and has been purchased to assist Kansas King in the Riverina herd. Kansas King was the first prize senior yearling pig at Topeka last year and was purchased for McCarty by Prof. Thompson of the University Farm.

The recent rise in hog prices has brought the Poland-Chinas more than ever into the limelight at markets throughout the country. At Denver an 80-head load of Poland-Chinas brought $20.55, going 30c over the previous record figure at that market. The $20.05 record at East St. Louis was made by 120 head of Poland-Chinas averaging 264 pounds, making the average price per hog $52.90. A record of $20.35 was established at St. Joseph in the sale of 39 Poland-Chinas that averaged 280 pounds.

Beef Cattle.

Carruthers Farms of Live Oak recently sold a year-old bull by Count Glory to Carlton Gray of Oroville.

At Chicago recently 21 head of 1107-pound high-grade Shorthorn yearling steers sold at $19.60. This is the highest price on the open market for beeves of any age and also creates a new "high" for yearlings.

T. J. Miller of the Maxwell-Miller Cattle Co., Steamboat Springs, Colo., reports that the demand for Shorthorns is growing greater all the while. Their quality, endurance and adaptability are steadily being recognized and appreciated as the ranchman's best investment.

Three public sales of Herefords held recently near Kansas City furnished the keynote for the season. Two hundred and three head, largely home bred and of ordinary quality, brought an average of $741, showing business is on a sound basis. At another sale of higher-class stock an average of $898 was reached.

A cablegram has been received from Buenos Ayres, Argentina, stating that in a sale which followed the recent stock show a Shorthorn bull sold for $38,700. The three top bulls averaged $24,510. Twenty-two imported bulls averaged $6,020. Enthusiasm for beef-making on South American ranches with Shorthorn bulls seems to have no financial limitations.

Sheep.

Sheep have decreased fifty million head in the world since the war began.

At the recent sheep carnival in Australia a ram sold at the record price of $13,125, but this record was short-lived, as $15,750 was paid for another ram a week later. The new record breaker is an ideal representative of the big-framed, plain-bodied, strong wool type of Wanganella origin.

L. C. Shirley, chairman of the sheep committee of Chico county, advises all farmers who have weeds, grass going to waste or extra pasture to buy sufficient sheep to utilize this feed. He says that if properly managed sheep will return satisfactory profit, even though they may cost $18 per head. He and his assistants will be glad to assist Chico county farmers in purchasing sheep.

At the Salt Lake ram sale two records were broken by the Rambouillet range rams consigned by Bullard Bros. of Woodland. Twenty-four yearlings sold for $300 per head and the entire consignment of 74 range rams averaged $195 per head. Among their individual consignments the top ram sold for $1,000, another for $575, another for $500, and 19 others sold at prices ranging from $425 to $125.

One thousand breeding ewes, composing the experimental flock at the United States Sheep Experiment Station at Dubois, Idaho, were moved to the national forest reserve for summer and fall grazing. They are being kept under practical range conditions, and the adaptability of range for different types of sheep is being studied and experiments conducted to determine economical methods of utilizing range. Also investigations will be made relative to the practicability of running sheep loose in fenced pastures as compared with the herding method which is now generally practiced.

R. B. Burviss, who owns 50 acres of valley land near Lakeport, finds it quite profitable to keep a few sheep to clean up the waste. He keeps about 20 during the fall and winter, and the increase in the spring brings the number up to 35 or 40. In 1915 they paid him 30 per cent on the money invested; in 1916 40 per cent and in 1917 better than 50 per cent, for they cost him almost nothing.

CARRUTHERS FARMS
LIVE OAK, CALIFORNIA
Shorthorns and Berkshires
Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

Shorthorn Bulls
Four Head—Two to three years old.
Six Head—Ten to twelve months old.
BRIGHTON FARM HERDS.
H. L. & E. H. MURPHY PERKINS, CAL.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

Choice Herd of
SHORTHORNS
Headed by
Princely Stamp
Grand Champion of the West at Denver, 1918,
—and—
Lothian Marmion
THE KIND YOU WANT.
See us at Los Angeles Liberty Fair and San Francisco Livestock Show.
Will sell any quantity of stock—from a single animal to a carload.
Maxwell-Miller Cattle Co.
Steamboat Springs, Colorado.

Hopland Stock Farm
Hopland, Cal.
Fifty Berkshire Suckling Pigs eligible to registry, sired by Iowana Rival Majestic 194736, Son of Rival's Champion 112500, and sons of Iowana Rival Majestic, at $12.50 weaned.
Registered Sows, Gilts and Boars fore sale.
San Francisco Office
226 Southern Pacific Building

MILK and WAR TIME
In these days of high prices for dairy products, the "poor milker" is more than ever a liability.
But before you sell the cow that is not producing well, try to improve her condition. Her milk value is much greater than her meat value.
Most poor milkers are non-productive because of some defect of health, which can be quickly remedied by intelligent treatment.
Kow-Kure is a medicine that acts quickly on the organs of digestion and milk production. Its widely known tonic and curative qualities have made it the standard cow medicine for the prevention of disease and the treatment of Abortion, Barrenness, Retained Afterbirth, Scouring, Lost Appetite and Bunches.
Give Kow-Kure a trial; it will do for you what it is doing for thousands of others. Feed dealers and druggists sell Kow-Kure; 60c and $1.20 packages. Send for free treatise, "The Home Cow Doctor."
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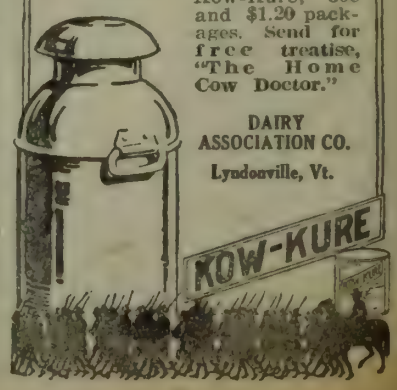

LIVESTOCK DIRECTORY.

SWINE.

Poland-Chinas.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength and quality, everything that goes to make the **Profit Producing Hog.** Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

BIG, SMOOTH POLAND-CHINAS — with plenty stretch and bone. Stock for sale—the kind that will make money for you. A son of Gerstdale Jones, the $6600 boar, just arrived. A. Buckland & Son, Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

WATCH FOR OUR AUCTION SALE of great sows bred to Big Bone Leader, grand champion 1918 State Fair. Chas. Gatewood & Sons, Fresno, Cal.

A FEW EXTRA GOOD POLAND-CHINA boars, ready for service. Prices reasonable. Write for description and breeding. E. Miner, Lodi, Cal.

ONBONE HERD offers March boars for sale from King's Big 'Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto

BOAR PIGS—Farrowed April, 1918, sired by Baron Duke 201st, National Grand Champion, and from Riverby Princess 3rd, litter mate to World's Champion Sow. Other spring boar pigs from same boar and 650-pound prize-winning sows—all at very reasonable prices. Natomaris Rancho, office 906 K street, Sacramento.
Owners: Sandercock Land Co.,
In charge of sales of Natomas Lands.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typcy, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Pas Robles, California.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Chester Whites.

"BILLIKEN"—CHESTER WHITES — Time to breed for 1919 spring farrows. Do you need a boar that will produce those fine growthy pigs? Have only 10 yearling boars left. For December delivery have a nice lot of yearling gilts that are bred for March farrow. Weaned pigs, both sexes. C. B. Cunningham, Mills, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

OPEN GILTS and young boars from Taxpayer 13th, Burks Good Enough, Kings Col. strains; one dandy boar sired by Kings Col. de Lux, out of Miss Good Enough II, by Burks Good Enough. Shipped on approval. F. W. Gardiner, Rt. 4, Box 735, Sacramento.

RANCHO RUBIO DUROCS closing out sale. Tried sows, open and bred gilts, boars all ages, weaned pigs, everything goes at attractive prices. Write what you want and I will sell you the hogs. Elmer Lamb, Ceres, Cal.

A LIMITED NUMBER OF DUROC service boars for sale, sired by Uneeda Alberta Crimson and from Model Queen 3rd, a wonderful sow. Dibban Bros., Woodland, Cal.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

CHERRY CHIEF CRITIC is our herd boar. Good enough to please anyone. Stock for sale. Write us. Craig's Ranch, Owensmouth, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROCS—Defender, Clinton B, and Golden Model strain; the big type. Allen Thompson, Tulare.

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

NO MORE BOARS sired by my 1917 State Champion, but can furnish a few sows. J. M. DeVilbiss, Patterson, Cal.

RANCHO DEL SUR DUROCS are the large, smooth, prolific, easy feeding kind that pay. Donald H. Graham, Lancaster, Cal.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

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ANDREW'S QUALITY DUROCS—Young boars, open and bred gilts, weanlings, priced to sell. W. P. Andrews, Rt. A, Modesto, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

AUCTION SALE OF DAIRY COWS—Having sold their ranch, Leeman Dairy, Sacramento, will sell at public auction on their farm, four miles northwest of Sacramento, on Yolo side of the Sacramento River, 70 cows, mostly grade Holsteins, some Durhams, 25 heifers, and 35 steers and beef heifers. Also implements, including mowers, rakes, stackers, gang and walking plows, cultivators, and other equipment. Sale starts promptly at 10 A. M., Thursday, November 7, 1918. **Dairymen:** These are mostly good young cows. The 55 head now milking are returning a milk check of over $1200 monthly. Owners, Leeman Dairy, Sacramento. Sales Managers, Livestock Auction Co., 211 Ochsner Bldg., Sacramento. Auctioners, Col. Ben A. Rhoades, Col. Cy N. Clark.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

FOR SALE—Purebred Holstein bull, Alcartra stock, twenty-six months old. Grand Champion Community Fair. W. B. Chase, Bryant Ranch, Escalon, Cal

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

YOUNG SONS of Prince Gelsche Walker 11th and out of A. R. O. dams, for sale. Write me for prices. J. M. Campbell, Escalon, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS — Bull calves. Joseph Paxton, breeder, Athlone, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. R. King, Visalia.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal

calco troughs

Water and feed your hogs with Calco Sanitary Troughs—don't risk the loss from deadly disease germs.

Calco troughs—with smooth metal sides and round bottoms—are absolutely sanitary. Made of rust-resisting Armco Iron and cast iron—they are strong and rigid—yet light.

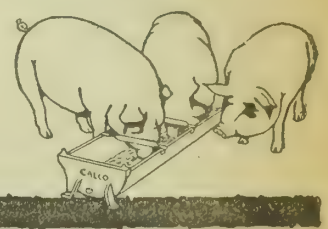
Many sizes—all low priced.

Size	Depth	Length	Price
10¼ inch	5 5/16 inch	40 inch	$3.70
10¼ inch	5 5/16 inch	60 inch	4.50
14 inch	7 3/16 inch	24 inch	4.55
14 inch	7 3/16 inch	60 inch	6.55

Other models from 24 inches to 120 inches, priced from $2.95 up.

Your check attached to this advertisement, with name, address and size wanted will bring immediate shipment. Circular on request.

for watering & feeding hogs



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CREAMCUP HERD — Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

Jerseys.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

FOR SALE—Young registered Jersey bull. Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City.

FOR SALE OR EXCHANGE—Guernsey bull, "Pilot of Menlo Park" 51688, fourteen months of age. Address, Box X, Menlo Park, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D. Berkeley.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

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REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. R. BLOOM, breeder of purebred Shropshire rams. Single or carload lots. Call on or write to J. R. Bloom, Dixon, Cal.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders, importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep

HORSES.

FOR SALE—A few nice young jacks, two years old; also two service jacks, five and six years old; six black jennets, two to five years. H. T. Crow, Modesto.

MAMMOTH JACKS AND JENNETS for sale; good ones; seeing is believing. Write or come and see. A. L. Allen, Perris, Cal

FOR SALE—Fine team bay mares; splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal.

FOR SALE—50 head of Percheron mares and colts, 2 imported stallions, 2 young jacks. A. H. Tilton, R. D. Box 164, Madera, Cal.

MISCELLANEOUS

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

FOR SALE—100 head high-grade dairy cows, Holstein and Durhams. None old; some fresh springers and dry; 100 head young stock heifers and steers from purebred Holstein and Guernsey bulls. Address Geo. A. Enos, Box 282, Williams, Cal

FOR SALE—A few Hampshire rams, 1 registered Duroc boar, 1 6-year-old jack—large breeder. H. M. Barngrover, Santa Clara, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

PREVENTION BETTER THAN CURE.

Constitutional vigor is a state of good health and good bodily resistance to disease. The fowl that is well bred, well fed and properly housed, without being pampered or coddled, possesses this quality to such a degree that it will not contract disease so long as the condition is maintained. At that we must go back to the parent or grandparent stock for the initial powers of resistance. If they were all right, then it ought to be an easy matter to keep their progeny all right. I find, however, that many who buy good stock fail at the very outset to give their poultry the proper housing and care, so that, little by little, the constitutional vigor is sapped, and it occurs in such a way that the blame falls on the stock.

Poultry that has been well bred—this does not mean feather breeding, but bred for vigor—will often go through epidemics and exposure to contagion without being affected at all; if, however, the housing is wrong, no matter how well they are fed the trouble will attack them. A poultry house ought to have more consideration than it usually gets. Most people arrange the house so as to have sunshine part of the day at least. I know from experience that sunshine is a great germ destroyer, but nevertheless I prefer to ignore it when building a poultry house. Cold winds do a great deal more harm than sunshine does good. That is my reason for ignoring sunshine in building. Build your houses fronting a direction where the least stormy wind and rain come from, and you will find that in different localities the direction differs, so that there is no one direction which answers for all. Study your own locality and build accordingly. If your strong windstorms come from the south, put your house fronting north. By doing this you save feed, save your poultry from sudden attacks of cold, save yourself the inconvenience of attending to poultry where the wind is blowing in, bringing gusts of sleet and rain with it. Next to good parentage I place housing as the most important in holding a flock up in health and vigor. A house built in the right direction, with three tight walls, back and two ends, and a good roof over them 12 feet deep and perches at back, is a properly built house, provided the whole front is wired instead of boarded. If the house is built any deeper than 12 feet, it is just so much waste, and if it is too high there is not only waste but the house will be too cold. We want a normal amount of light and air with the least amount of cold because a house where the temperature is too low takes its toll in feed to furnish heat in winter, though it may be a little cooler in summer. Cement is really much cheaper than lumber, and if built right is cooler in summer and warmer in winter, there are no cracks for the wind to drive in, nor to act as a harbor for mites; so that, all things considered, where a permanent house is being built one should figure out the cost of lumber and cement before making a choice.

Now if a person buys hens that have been housed under these conditions, and put them into damp, dark, poorly ventilated houses, where the wind and rain beats on them with every change of weather, while the fowl may hold up for a time they will eventually take colds one after another and eventually succumb to the ravages of some one of the ills the hen is heir to.

SIGNS OF LACK OF VIGOR.

If a bird droops its tail it is not at its best; it should be taken up and examined. If the skin is not clear and of right color for the breed, it is a sign of losing health; dirty, scaly skin indicates both lack of vigor and presence of lice. The legs should be of good color, free from dirt and scales, and they should always be plump; shrunken, withered looking legs indicate weakly specimens, but if the inside of legs is red there is health and vigor. Hot, inflamed legs mean sickness. The plumage should be smooth, clean, carried close to the body; loose, ruffled feathers indicate lack of vigor. Except in very hot weather or in broody hens, the wings should be kept well tucked up; drooping wings indicate discomfort, and when they are wet and sticky underneath there are catarrhal conditions that should be looked after.

The general appearance of healthy fowls is alertness, good carriage and a sprightly activity that tells the looker on that they are healthy and vigorous, ready for breakfast or anything that comes along. When a fowl is not ready to feed it should be an object for investigation to find out why.

TURKEYS HAVE SWELL-HEAD.

To the Editor: I have about 20 young turkeys, about half grown. Since the September rain they have taken the swell-head and the roup. They have it badly. What is the best known remedy?—I. J., San Benito.

[Give them a physic. An ounce of castor oil mixed in hot water and then made into a crumbly mash should be enough for 20. Then take each one separately and dip head and nostrils into a can of coal oil, hold the head under till the bird gurgles, then wipe off the extra oil and turn loose. Do this twice if necessary, with one day between, and feed extra well. See that their sleeping place is dry and free from draughts and they will get all right. Coal oil is a harsh remedy, but a sure one.]

Poultry Breeders' Directory

Rates 3 cents per word per week.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

WHITE CHINA GEESE—the best geese in California. Lay more eggs, finer grained meat and the most beautiful of all varieties. Trio, $20—commencing to lay now. Susan Swaysgood, Pomona.

ROSE AND SINGLE COMB Rhode Island Reds, 220-egg record. Breeding stock, hatching eggs. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks. Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock. $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

PRUSSIAN HILL POULTRY RANCH—Blue Andalusians, pens, trios, pairs, cockerels. Black Minorcas, trios, pairs, cockerels. Barred Rock cockerels. Prices low. Geo. I. Wright, Prop., R. F. D., Mokelumne Hill, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

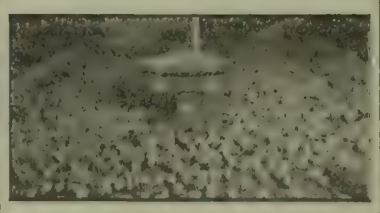
ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

PUREBRED Brown Leghorn Cockerels, $5 each. Geo. Loomis, Albion, Cal.

WANTED FOR BREEDING—White turkeys. R. S. Mossman, Antioch, Cal.

Entries for Livestock Show Exceed Anticipations

The entries for the Poultry Division of the San Francisco Livestock Show, postponed to November 16-24 on account of the influenza epidemic, are much in excess of the number that was anticipated by the San Francisco Poultry Association, but room will be supplied to accommodate them all. George H. Croley, the Show Secretary, reports that the entries by breeders who never before have shown their fowls demonstrate the increasing interest in purebred utility fowls. A number have asked if their fowls will be returned in case they are unable to be present at the closing of the show. The superintendent gives constant attention to all the fowls during the show and will carefully recoop and reship promptly all exhibits the day following the close.



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Get More Eggs Waste Less Feed

Increase income—reduce costs! Make your hens lay heavily now while eggs are bringing high prices. Prevent feed waste due to sluggish or imperfect digestion. Make every hen lay by using

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Pratts Poultry Regulator is not a severe stimulant which gives but temporary results. It does not force but induces hens to lay because it builds them up naturally, puts them in such fine physical condition that regular egg-production is bound to follow. And it keeps them laying right through the period of high prices. It assists the birds to thoroughly digest and make use of every particle of food, thus prevents waste and reduces feed costs. Test it with a part of your flock and compare results.

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STANDARD OIL COMPANY (California)

THE HOME CIRCLE

SERMON BY JACK-IN-THE-PULPIT

Grandma was spending the Sunday with a sick-a-bed daughter, auntie was taking her after-dinner nap, and Billie and Bettie were meandering through the cool and shady woods in search of a spot in which—as per directions—to "sit still awhile, without getting all het up a-running and a-romping," when they came across a slim white birch with a sturdy Jack-in-the-Pulpit straightly upstanding at the foot of it.

"Let's us sit down right here," proposed Bettie, "across the way from that lovely tree. My sakes! how many leaves do you 'spose it's got on it?"

"Millions of 'em," promptly responded Billie, adding, after a second look, "Why, I guess there must be's much as two hundred leaves on it."

"Let's count 'em," cried Bettie, fixing a pair of dancing brown eyes on the shimmering, quivering foliage, and immediately started in. "One, two, seven, thirty-nine, forty."

"Fifty-three, fifty-five," droned Billie; but before he could reach sixty the Jack-in-the-Pulpit before mentioned raised a thin, high voice and went on: "Fifty-nine, sixty, sixty-one, sixty-two; and that reminds me, all you dear children of the wildwood—all you beetles, bees; you birds and butterflies; and you two human children, also, who have strayed in to help us keep Sunday—of sixty-three most excellent reasons for obedience, which obedience, as you most likely know, is the unhesitating doing what you're told the minute that you're told by those who know best what is good for you. Obedience to parents, teachers and the law is what keeps us safe as to body and soul; so that we may all of us—whether we dwell in nest or burrow, in eyry, cobweb, cocoon or man-built small brown cottage on the edge of these woods—develop into straight and healthy, good and useful grown-ups.

"Let us, therefore, dear children, obey our kind, wise elders and 'the voice of the Lord our God, that it may,' as the Prophet tells us, 'be well with us.' Whereas, if we are not obedient, it may go with us as it did the other day with a dear little Fish I used to know.

"This small Fish lived not far from here in a little salt-sea creek that sends its blue waves a-lapping up on a sandy strip of beach which every rising tide covers with dancing ripples, and every ebb leaves full of soon-dry tiny pondlets; in which, while they last, the village children paddle, puddle and sail their chip and paper boats.

"This blue creek is quite as brimful of happy, busy creatures as are our own green woods; and among all these big and little finny fellows there's no one better known nor more highly respected than Mrs. Killie-Fish and her large family. All day long the Killies, like their eel, crab and shell-fish neighbors, work and play in the deeper mid-creek; but every once in awhile, when particularly hot, bright weather and specially high tides call the boys and girls down to the water and in a-wading, Mrs. Killie-Fish will take her small fry up on the tide into the foot-deep shallows for a game of 'catch-who-catch-can' with Ned, Nellie, Tom and Flora, and all the rest of them. And then such splashings, and such stampings with sun-tanned hands and feet; and such fun! with easy honors to the Killies, of which not one has ever yet been caught!

"Now, Mrs. Killie-Fish, though the most indulgent of mothers, expects her children to mind what she says; 'for how could I possibly,' she very sensibly asks, 'raise my enormous family if they couldn't be depended upon to come and go and do exactly as they're bidden?' And so each time before she lets them go in among those village water-babies she reminds them that they must keep in the creek and out of the little beach-puddles; that they must keep within sight and hearing of her and that they must always immediately come a-swimming after her when told to. And all of them always mind, and none of them ever even asks, 'But why, mother?' All of them, that is, but little Flip, and that's why something so dreadful happened to him one day.

"It was hot and it was sunny and so, of course, the beach was swarming with happy little paddlers; and up among and in and out between them swam Mrs. Killie-Fish and all her little Killies. 'Keep close as can be to me, children,' she told them, 'and don't stray into those little just-for-five-minutes puddles'; and all her sons and daughters obeyed her; all, that is, but Flip—heedless, adventurous, inquisitive, naughty little Flip. He lagged behind and wanted to know, 'Why can't we, mother, and why must we stay near you?' 'Because I say so,' said Mrs. Killie-Fish, heading for deep water across the rapidly receding tide with all her many, many children swimming after her; all, that is, but Flip, who, straying off among eel-grass, pickle-weed, and pebbles, soon found himself going round and round in a small (and, alas! rapidly growing smaller) pool. 'What fun!' he giggled; 'this surely must be one of those merry-go-rounds one hears so much about.' But when, in a very little while, the puddle had soaked entirely into the sand, he laughed no more, poor foolish little fish! but lay high and dry upon the gray sands panting and gasping for the breath that was beginning to fail him.

"Now, if little Sallie Sanders had not happened to catch sight of him, or if Sallie hadn't been just the very softest-hearted of small girls, this sermon and poor Flip would have come to an end together. But as Sallie did happen along and was so merciful, she picked Flip up very tenderly and, wading into deep creek-water, dropped him into safety in two feet and a half of surf; and just as soon as he got back a bit of breath he swam like a streak toward home and his mother; and it's safe to say that ever since then he's the best and most obedient member of Mrs. Killie-Fish's big fish-family."—Kate Hudson.

SPARKLETS.

The Nervous Guest (asked to sit next to his hostess and opposite the goose)—Am I to sit so close to the goose? (suddenly feeling this may be misunderstood) — er — I mean the roast one.—Western Christian Advocate.

"Do moind yez don't git hur-rt, Pat," said Bridget. "It's dangerous a-workin' in that quarry." "Thot's ahl roight, Bridget," said Pat, "Oi've borryed two dollars frim th' foreman, and he don't let me do any dangerous work anny more."—Onward.

"Do you think that the automobile will displace the horse?" asked the conversational young woman. "It will," answered the nervous young man as he gazed down the road, "if it ever hits him."—Sacred Heart Review.

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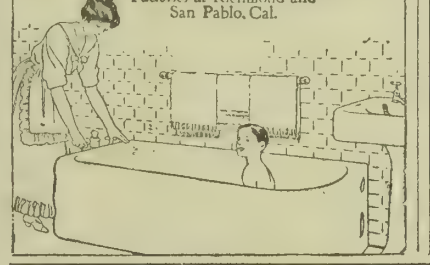

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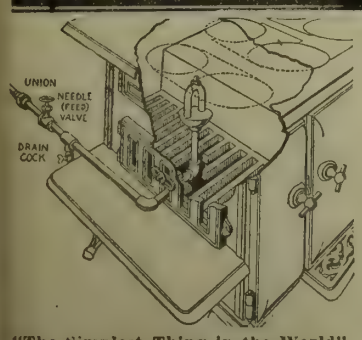

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Agricultural Summary

Eggs Close to the $1 Mark.

At this writing "extras" in San Francisco are retailing at 96c. It looks as though the dollar egg is a near reality and no longer a joke. This new record price is causing considerable comment and some concern in egg circles. There are those who charge "profiteering" on the part of dealers and suggest the formulation of some plan for fixing a maximum price or otherwise regulating egg prices. The fact is that prevailing egg prices, though high, and to some would-be consumers prohibitive, are economically legitimate and are simply the result of an abnormal, extreme scarcity of the commodity on the one hand and an unusual demand, coupled with unusual buying power, on the other. These two conditions of under-supply and over-demand are country-wide, and not susceptible of remedy by redistribution. Furthermore, if these two conditions of low production (whatever the causes) and heavy demand persist, the dollar egg will arrive, and that very shortly. There is a limit, however, to the price which the general public will pay for any commodity, and to the onlooker it would appear that that limit has been about reached in the present egg market. When that limit has been reached, housewives begin to rigorously exclude the egg from the household bill of fare; and the unfortunate fact is that when the habit of doing without a thing has once been acquired it is likely to become confirmed. On this phase of the subject George H. Croley, the well-known poultry expert, wrote this paragraph some years ago in the Pacific Rural Press: "It is our contention that if prices in the fall, which is the period of low production, could be kept nearer to an average yearly price, the public would consume more eggs per year, become better acquainted with the value of properly handled storage eggs, and this would ultimately result in a higher average yearly return to the producer for his crop of eggs." Extreme fluctuations are bad for both producer and consumer.

Government Will Buy Beans.

The army consumption of beans averages about 125,000 pounds per day, as announced by the Committee on Public Information. This ought to encourage those bean growers who are unable yet to dispose of their crops. All army, navy, and allied requirements for beans for the coming year will be filled through one purchasing agent, the U. S. Food Administration. H. Clay Miller, at the Lachman building, San Francisco, is the purchasing agent for the California Food Administration. He is wiring to Washington at this writing to inquire how many California will be called upon to supply and what will be the price. All beans will be bought on specifications which will require recleaning and probably hand picking of the rain-damaged crop. Anyone who can sell suitable beans to the Government with convenient arrangements is eligible as a seller. The U. S. Bureau of Markets, under date October 30, says the bean market is weak. "California limas declined quite sharply at shipping points, ranging from $10 to $10.50 per cwt. to growers. California small whites ruled $10 per cwt. to growers." G. A. Turner, president of the Bean Growers' Association, advises bean men not to lose heart.

San Francisco Butter Market.

Except for outside business, the market was extremely quiet today (October 30). A number of shipping orders were filled, most of them for the North, and these sales caused prices to advance 1c. Dealers are having to quote closely to get this business. Outgoing shipments help in a small way in reducing stocks, but with receipts so much in excess of local requirements stocks on dealers' floors are showing unusually heavy accumulations this week, compared with previous weeks. Storage holdings were increased about 12,000 pounds yesterday, says the U. S. Bureau of Markets.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, October 30, 1918.

WHEAT.

The following are Government prices per bushel for wheat in bulk at San Francisco. The quotation for recleaned is the price per hundred and the charges are strictly regulated by the Government. Per carload the quotation is $4.15. Less than carload lots is $4.25.

Per bushel—
No. 1 hard........$2.20
No. 2........2.17
No. 3........2.13
No. 1 soft........2.18
No. 2........2.15
No. 3........2.11
Club or Sonora, No. 1........2.16
do, No. 2........2.13
do, No. 2........2.09

Recleaned for seed, per ctl.—
California Bluestem........$4.15@4.25
Early Baart........4.15@4.25

BARLEY.

It is reported that only a few thousand tons of barley have been contracted for for shipment from Port Costa, in accordance with the recent request of the Grain Corporation. This is explained on the street by the statement that most of the California barley is suitable only for feed and very little of it is of the standard called for. The marketing of the crop is still an unsolved problem, according to best informed traders.

Choice feed, per ctl........$2.05@2.12½

OATS.

Oats are very quiet, but there has been some inquiry for red and black oats for seed, especially for the recleaned article.

Red feed, per ctl........$2.30@2.40
Red for seed........2.80@3.00
Black for seed........2.80@3.00
Recleaned Red or Black for seed 3.35@3.50

CORN.

Some of the local dealers do not believe that a quotable price can be made on corn before the end of November. The old stock is about cleaned up.

(First-hand prices on strictly first-class grain, San Francisco.)

California sacked........Nominal
Milo maize........"
Egyptian........"

HAY.

Receipts of hay for the past week were 852 tons. Most of the receipts continue to be of damaged stock, and some of this has sold as low as $6 to $7 per ton. To this, of course, cartage charges, etc., are added. The arrivals which have been in good order have sold well, considering conditions existing here at this time. The influenza epidemic is seriously affecting the hay market and sales are consequently light.

Wheat No. 1........$26.00@28.00
do. No. 2........20.00@24.00
Choice tame oat........25.00@27.50
Wild oat, new........20.00@22.00
Barley, new........20.00@22.00
Alfalfa........18.00@22.00
Stock........18.00@21.00
Barley straw........50@ .80

FEEDSTUFFS.

The north winds have done some injury to fresh feed, while helping to cure late crops of alfalfa.

New alfalfa meal, per ton........$35.00@38.00
Coconut cake or meal........Nominal
Cracked corn........$86.00@88.00
Oilcake........Nominal
Rolled barley........$46.00@48.00
Rolled oats........56.00@57.00
Bran, carload lots in S. F........None offered
Mixed feed, do. do........None offered
Middlings, do. do........None offered

POTATOES, ONIONS, ETC.

The whole commission district shows the ill effects of the prevailing epidemic. Most quotations are unchanged and receipts are reported light. Garlic has taken an upward turn and fancy sold at 20c. Some fancy summer squash sold at $1.25 and Livingston eggplant brought the same price. Wax beans were 2c higher.

String beans........4@5c
Wax beans, per lb........6@7c
Pole beans........4@5c
Carrots, per sack........85c@$1.00
Rhubarb, San Jose, per box........$1.00@1.25
Summer squash........50c@$1.25
Pumpkins........$1.00
Cucumbers, Alameda, lugs........75c@$1.25
Eggplant, per box........75c@$1.00
Livingston........$1.25
Lettuce, Sacramento, doz........15c
Celery, bunch........20@25c
Tomatoes, per crate—
Bay........$1.00@1.50
Potatoes—
Garnet Chile, on street........None
Whites........$1.65@1.90
Sweets, per sack........3.25@3.50
Onions—
River Reds........None
Yellows........75c@$1.00
Australian Browns........75c@$1.00
Garlic, new........15@20c
Green corn, Alameda, per sack........Nominal
Okra........5@7c

BEANS.

Beans continued weak. The new crop is now coming on the market in full swing, with little demand. The poor demand is due to some extent to the epidemic. Improvement is not looked for until the present scare is entirely over.

Bayos, per ctl........$7.60@7.75
Blackeyes, new crop........6.25@6.40
Cranberry beans........9.00@9.25
Limas (south, recleaned), new crop........$10.90
Pinks........$6.90@7.00
Red kidneys........Nominal
Mexican Reds........$7.00@7.25
Tepary beans........6.25@6.50
Garbanzos........8.00@8.75
Large whites, new crop........8.25@8.50
Small whites, new crop........9.75@9.90

POULTRY.

Receipts continue light this week and the principal demand is for hens. The number of invalids demanding chicken broth is one of the reasons for this. One crate of hens was auctioned off on the street during the week and brought 45c a pound. Turkeys are weaker, especially the live birds. The scarcity of pickers in this city makes live birds somewhat of a drug.

Turkeys, live, young spring, lb........32@35c
do, old........32@33c
do, dressed, old........40@42c
Broilers, 1½ to 2 lbs........39@42c
do, 1¼ lbs........45c
do, ¾ to 1¼ lbs........48c
Fryers........32c
Hens, extra, per lb., colored........40@42c
do, Leghorn........40@42c
Smooth young roosters, per lb. (3 lbs. and over)........36@37c
Old roosters, colored, per lb........24c
Geese, young, per lb........27@28c
do, old, per lb........25c
Squabs, per lb........55@60c
Ducks........29@30c
do, old........25@27c
Belgian hares........24@21c
Jack rabbits........$2.50@3.00

BUTTER.

A price of 60c, 59c and 58c was established on Monday of this week for extra, prime first and firsts. The system of making a weekly butter price on the exchange has not proved wholly satisfactory to the members and an amendment was adopted October 25 to the effect that "on every day except Monday members may trade in butter without price limitation, sales and purchases to be recorded in the usual way. It is further understood that such transactions shall in no manner interfere with or vacate the price established for the week." It is said that this resolution does not interfere in any way with the stabilizing influence of the original resolution, but merely permits members to transact business on the floor of the exchange instead of on the street.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	61	61	61	60	60	60
Prime first	..	..	..	59	59	59
Firsts	..	..	..	58	58	58

EGGS.

Extras continued on their upward path throughout the week. It is said that the great demand of invalids for eggs is responsible for their present price. On October 29 the exchange adopted the following resolution: "All sales of eggs on the exchange shall carry a trade discount of 8 per cent up to and including 60c. All trades at 60½c per dozen and upward shall carry a trade discount of 6 per cent." This rule becomes effective November 1. Figuring on the present discount of 8 per cent, eggs, for the purpose of comparison with last year at this time, are fully 25c a dozen higher for extras and 32c for extra pullets.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	83	85½	86	88	88	88
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	76	74½	76	76½	77	78½

CHEESE.

Oregon triplets were slightly weaker this week, but both fancy California flats and first California flats showed strength and were advanced in quotations on the exchange. The price of these two latter were 23½c and 21c respectively a year ago.

California Cheddar, flats, fancy........None
Fancy California flats, per lb........32c
First California flats, per lb........30c
California Y. A. fancy........Nominal
Oregon triplets, fancy........37c
Oregon Y. A. fancy........Nominal
Monterey cheese........24@27c

FRESH FRUITS.

The fresh fruit market is rapidly becoming restricted to strictly winter fruits. Alligator pears were somewhat cheaper and this fruit from California came on the market in good quantity. Both strawberries and raspberries continue to arrive, but their quality is not of the best.

Apples........$1.50@2.50
Peaches, 4-box crate........None
Figs, black, per box........None
do, double layer........Nominal
do, Single Row Whites........Nominal
Strawberries, per chest........$10.00@13.00
Blackberries, per chest........None
Raspberries, per chest........$9.00@12.00
Plums........Nominal
Cantaloupes, flats........None
do, ponies........Nominal
do, standard........Nominal
Watermelons, per lb........Nominal
Pears, Bartlett, per box........$1.50@3.00
Grapes, Tokay........2.00@2.50
do, Muscat........2.25@2.50
Persimmons........1.00@1.50
Alligator Pears........3.50@4.00
Cal.........1.00@1.25
Pomegranates, per box........$1.50

CITRUS FRUIT.

There is practically no new stock oranges on the market and the old stock is held very firmly. New grapefruit has appeared and sells from $4 to $6. Lemons are strong and still sell for $9 for the best.

Oranges........$12.50
Lemons, fancy........9.00
do, choice........7.50
do, standard........6.50
Grapefruit........Nominal
Grapefruit, new........$4.00@6.00

DRIED FRUITS.

The market for dried fruit is quiet but steady. Prices are well maintained.

RICE.

Paddy rice, 1918 crop........$4.32
Clear No. 1, 1918 crop, at mill........7.00

HONEY.

Some honey is arriving from Hawaii and is being taken over by the bakers and candy makers. As a whole, the honey market is weaker, although prices are quotably the same.

LOS ANGELES

Los Angeles, October 29, 1918.

BUTTER.

The demand holds up well for what is coming in. Receipts the past week were not heavy, 280,300 pounds, against 314,300 pounds the same week last year. Yet at the high prices the supply met all requirements. There has been a little Eastern butter in since our last and there was taken into cold storage during the week 16,767 pounds, against 10,046 pounds the same week last year, making the cold storage holdings now 250,098, against 208,934 pounds this time last year.

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	60	60	60	60	60	59
1917—						
Extra	46	46	46	45	45	45

EGGS.

There was a further sharp advance in this market the past week under scarcity. The supply of fresh ranch eggs for the week was even lighter than the week before. Receipts of fresh ranch eggs for the week were 1650 cases, against 2035 cases the same week last year. Under this showing, what few eggs offered on 'change were snapped up and extras and case count advanced, up to Monday, 2c and pullets 3c, making extras 20c higher than this time last year, case count 13c and pullets 18c higher. There were withdrawn from cold storage during the week 1719 cases, against 3008 cases the same week last year. The cold storage holdings now are 52,156 cases, against 38,309 cases this time last year.

Daily quotations:

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	76	76	76	76	76	78
Case count	68	68	68	68	68	70
Pullets	63	63	63	63	63	66
1917—						
Extra	56	57	57	59	58	58
Case count	54	54	54	57	57	57
Pullets	44	45	45	45	46½	48

POULTRY.

Receipts of broilers were light in weight and poor condition and the market for them showed less life than the week before. Fryers in light supply and very good demand and little higher. Heavy hens also sold very well. Light hens were dull and so were roasters. Turkeys coming in more freely and slow sale and weak. No ducks and geese in and the market for them was dull.

The following prices were agreed upon last Friday, October 25, and held good until the coming Friday:

Broilers, 1@1¼ lbs........41c
Broilers, 1¼@1¾ lbs........41c
Fryers, 2@3 lbs........33c
Roasters (soft bone), 3 lbs. and up........30c
Stags and old roosters, per lb........20c
Hens........26@30c
Tom turkeys........31@34c
Ducks........22@28c
Geese........15c

VEGETABLES.

Potatoes were in good supply and fancy stock brought a little more money. Poor lots, however, were dull. Onions were in lighter supply and fair demand. Sweet potatoes were dull and lower. Cabbage slow sale and lower. Tomatoes firm and the best in good demand. String beans higher. Lima beans unchanged. Peppers slow sale but steady.

We quote from growers:

Bell peppers, per lb........2½@3c
Chile peppers, per lb........2½@3c
String beans, per lb........5@6c
Lima beans........3½@4c
Potatoes, northern, per cwt........$1.75@2.25
do, Idaho Russets, per cwt........2.00@2.10
Sweet potatoes, per cwt........1.25@1.40
Garlic, per lb........20c
Onions—
Australian Brown, per cwt........$1.20@1.35
White Globe, per cwt........1.50@1.65
Cabbage, per 100 lbs........1.00@1.25
Celery, crate........3.00@3.25
Tomatoes, No. 1 lug........65@75c
do, No. 2 lug........25@35c

FRUITS.

Offerings were lighter and fancy stock was in very good demand. Apples attracted most attention. Peaches are out of the market. Pears are getting scarcer. Grapes are also selling better; Muscat, Liberty and Black Morocco are out of the market and other varieties are higher. Figs are getting scarcer and bring little more money.

We quote from growers:

Figs, Black Spanish, per lb........5@7c
do, White, per lb........5@7c
Pears, local, per lb........4@5c
Pears, Mountain........4@6½c
Grapes—
Malagas, per lb........4½@5c
do, Rose Peru, per lb........6½@5c
Tokay, per lb........4@5c
Cornichon........4@4½c
Apples—
King Davids, 4-tier........$2.75
Black Twigs, 4-tier........2.75
Baldwins, 4-tier........2.00
Red Pearmains, 4-tier........1.75
White Pearmains, 4-tier........1.75
Rhode Island Greenings, 4-tier........1.50
Yellow Newtown Pippins, 4-tier........1.75
Apples, Bellefleur, 4-tier........$1.65@1.75
do, 3½-tier........1.70@1.80
do, Gravenstein, 4-tier........2.25

do, do, 4½-tier 2.00
do, Bellefleurs, local, per lb......2½@3c

BERRIES.

Few coming in and market higher under scarcity. Demand, however, light at the prices.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate.....$3.50@4.00
Poor to choice, 30-basket crate. 2.50@3.00
Raspberries, 30-basket crate..... 5.50@6.50

MELONS.

Not much good stuff coming in. Watermelons were slow sale and lower. Casabas and Honeydew melons were unchanged.

We quote from growers:

Casabas, per lb........................1@1¼c
Watermelons, per 100 lbs...........50@75c
Honeydew melons, jumbo crate..$2.75@3.00

WALNUTS.

But few offering the past week and they by independent growers. Demand fair and prices quoted below were well sustained. The association is still moving on contract about 25 cars a day. They have no nuts for sale.

We quote f. o. b. California points:

	1918	1917
Fancy budded	34½c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

BEANS.

There was a further break in this market the past week and sales were slow. Now that threshing is pretty well along the offerings are more liberal and buyers are disposed to hold back and bear prices. Limas in fair demand and steady, but small whites, pinks, and tepary were both dull and lower. Blackeyes quiet and unchanged.

We quote from growers—

Limas, per cwt. $10.50
Large white, per cwt. 9.00
Small white, per cwt. 9.00
Pink, per cwt. 7.00
Tepary, per cwt. 5.00
Blackeyes, per cwt. 6.00

HAY.

The market is a little better. Prices not quotably higher. Alfalfa was in fair demand and there was some little movement in the best grain hay.

We quote f. o. b. Los Angeles:

Barley hay, per ton...........$23.00@24.00
Oat hay, per ton .... 25.00@27.00
Alfalfa, northern, per ton...... 20.00@21.00
Alfalfa, local, per ton......... 21.00@23.00
Straw, per ton .... 9.00@10.00

COTTON.

It was a cautious market the past week. As the ginning returns were more bullish than expected the market firmed up a little on its being made public. It showed that the number of bales ginned up to October 18th were 6,790,002 bales, compared with 5,375,606 bales the same time last year. The trade was looking for over 7,000,000 bales. On Monday the market opened the current week quiet. It being near the end of the month traders were inclined to keep close to shore. December closed in New York at 29.70c and January at 29.25c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, October 28, 1918.

There was quite a noticeable advance in all markets this past week over the week previous, in some instances the sales realizing top prices for the season.

Wine grape shipments have practically discontinued, though there are several cars in transit, and if these arrive in Eastern markets before the extreme cold weather they will sell to good advantage, as the demand is particularly acute.

Quite a few carloads of Malagas and Tokay strippings, unfit for table use, have been shipped this season, and where the fruit arrived in condition suitable for wine sold to good advantage and realized prices for the growers that compensated them in a great measure for the losses they received on account of the damage from rain, which prevented the different varieties from being sold for table purposes.

Quite a few carloads of Red Emperors are en route and in most instances arriving in good condition and are bringing even higher prices than was anticipated earlier in the season.

There is an unusual demand for late winter pears for storage and for export. Shipments are light, but fortunately those favored with late varieties are realizing exceptional prices.

Averages for the week:

New York: Grapes—Malagas, $1.83; Emperors, crates $2.42, drums $5.66; Tokays, $1.84; Cornichon, $2.30; Muscat, $1.67; Alicante Bouchet, $1.86; Zinfandel, $2. Pears—Winter Nelis, $3.15; Glout Morceau, $3.42; B. Clairgeau, $4.09; Easter Buerre, $3.25; Bartletts, $2.55.

Boston: Grapes—Tokays, $2.11; Cornichon, $2.28; Emperor, crates $2.71, drums $5.15; Malaga, $1.92; Zinfandel, $1.62; Petit Bouchet, $1.59. Pears—B. Clairgeau, $4.65; Easter Buerre, $3.50.

Chicago: Grapes—Mission, $1.50; Cornichon, $2.15; Malaga, $1.70; Emperor, crates $2.19, drums $5; Tokay, $1.44; Zinfandel, $1.15. Pears—Winter Nelis, $2.22; Glout Morceau, $2.30.

Shipments from October 19 to 25, inclusive: 59 pears, 1984 grapes. Total shipments to date, 1918: 23,135 cars (not complete. Total shipments to date, 1917: 21,124 cars.

Special Livestock Market Report

San Francisco, October 30, 1918.

CATTLE—There is very little change in the cattle market this week. Shipments from Oregon have about closed for this season. Slaughterers are getting the bulk of the supplies from Nevada and California. The cattle coming in are running rather light in weight, but are fair to good in quality, with very few choice steers.

Grass steers—
No. 1, weighing 1000@1200 lbs.12¼@12½c
do, weighing 1200@1400 lbs.....12@12¼c
do, second quality ....10½@11c
do, thin ....8@9c
Cows and heifers—
No. 1 ....8@8¼c
do, second quality.....................7@7½c
do, common to thin....................5@6c
Bulls and stags—
Good ....6@7c
Fair ....5@6c
Thin ....4@5c
Calves—
Lightweight 11c
Medium 10c
Heavy ....8@8½c

SHEEP—Ewes are very plentiful; wethers are rather scarce, while lambs are in fair supply. In the East live mutton is gradually recovering from the recent heavy slump.

Lambs—
Yearlings ....12@12½c
Milk ....14@14½c
Sheep—
Wethers ....11½@12c
Ewes ....9@9¼c

HOGS—Hogs are offered very freely at the present time, but the packers have not been able to handle them on account of their hog- and cattle-killing gangs being much reduced in number through the influenza. Packers are optimistic, however, and expect conditions to improve sufficiently to permit them to buy hogs freely next week. Heavy hogs are regaining favor again in the East.

Hard, grain-fed, 100@140 ....16c
do, do, 140@250 ....16½c
do, do, 250@325 ....15½c

Los Angeles, October 29, 1918.

CATTLE—There is a scarcity of really good fed steers and they are in very good demand and steady. An abundance of poor and medium stuff, however, is being forced upon the market by the scarcity and high price of feed. Such cattle continue dull and weak.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers........ 8.00@ 9.00
Good cows and heifers.......... 7.00@ 7.50
Canners, per cwt................ 5.50@ 6.00
Calves, per cwt.................. 8.50@10.00

HOGS—Few hogs came in the past week. Yet, in sympathy with further declines in the Central West, the market broke 50c a cwt. on the best packing hogs and demand is only fair. Since the breaking out of the influenza there is a noticeable falling off in the demand for fresh pork.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs..$15.00@16.00
Mixed, 225@275 lbs............ 15.50@16.50
Light, 175@220 lbs............. 16.00@17.00

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—The demand for both sheep and lambs continues light. What few coming in, however, are bringing steady prices.

Per cwt. f. o. b. Los Angeles—

Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....15.00@16.00

What's the News Out Your Way?

"I want the help of every farmer in the land," says Uncle Sam. But you as one of these farmers can do more than simply raise bigger and better crops. You can tell others how you did it.

Did you ever attend a convention and notice people gathered together in groups telling their experiences? The speeches may have been good, but the most helpful part of the gathering came from this swapping of experiences—this interchanging of ideas.

It is impossible for us to hold a convention of subscribers, but we can have a continuous correspondence convention—a regular mutual benefit association. Don't be over-modest and think that nothing you do will interest our readers. We don't want unusual experiences. We want to know how you solved the problems that are puzzling other farmers.

You have raised a big crop of some kind. You have built a new style building, a gate that won't sag, a trough that is easily cleaned. You have cured a certain disease. You have worked out plans that have proved winners. Write us all about them. Give us news items, too. Don't wait for a $10,000 sale or a 40-pound record. Tell us the everyday happenings—they are what make a paper interesting. Just write us the facts; we'll do the rest.

Don't look at the matter in a narrow light and feel that you can't take the time to write these things. Franklin compared his brain to a razor, and said that he kept it fresh-edged by stropping it on other men's minds. You need to do the same. Hundreds of others are willing to contribute and you will get the benefit of their successful experiences, but they in return need a little stropping and want to know what you are doing. That's fair enough, for you'll always receive a hundred times more than you give.

What's the latest? May we hear from you real soon?

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WANTED, USED IMPLEMENTS—Three or four gang, 12 or 14-inch mouldboard, light tractor plow; 7 or 8-foot double disc harrow, corrugated pulverizing roller. Give full particulars regarding price, age, location, make. Box 175, Hopland, Cal.

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FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dept., Chico, California.

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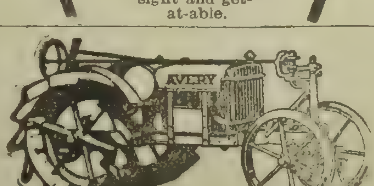

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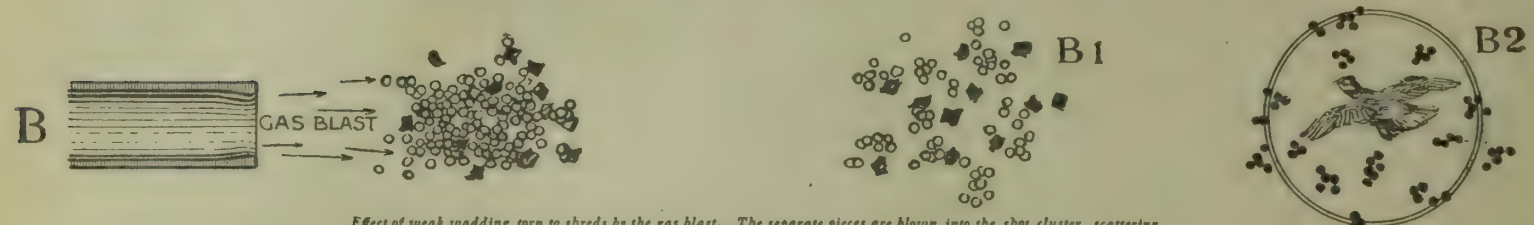
Effect of hard wadding that fits the barrel loosely. Unchecked by friction or muzzle choke, it is blown through the shot cluster, scattering the shot charge. Actual test target, 221 pellets out of 431 or 51% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-in. circle at 40 yds



Effect of weak wadding torn to shreds by the gas blast. The separate pieces are blown into the shot cluster, scattering the pellets in all directions. With no resistance to the explosion, the pressure is low and penetration poor. Actual test target 178 pellets out of 431 or 41% of the shot charge (1¼ oz. of No. 7½ chilled) inside a 30-in. circle at 40 yds

The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where it is checked by the "choke" or constriction. Shot cluster travels on ahead unbroken. Actual test target, 320 pellets out of 431, or 74% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-in. circle at 40 yds

Effect of wadding construction on shot patterns

Poor wadding responsible for more faulty patterns and lost birds than all other gun and shell troubles combined

A strong uniform shot pattern depends upon how perfectly the *wadding* in your shells controls the five-ton gas blast behind it.

The wadding, like the piston head of a gas engine, must give the explosion something solid to work against so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.

The illustrations at the top of this page show actual test patterns, 50% to 70% faulty, the result of poor wadding.

The Winchester system

Winchester wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the *Base wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work. Though the explosion is almost instantaneous, it is none the less *Progressive,* the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle*, where it is most needed.

Meanwhile, under the heat of combustion, the tough, springy Winchester *Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* up the shot evenly.

At the muzzle the shot pellets slip out without jamming, while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

The Crimp The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Water-proofing and Lubrication In the cold, damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester water-proofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and "splitting" in dry weather.

Uniform Shells From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. $100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps, be sure your shells are Winchester Leader and Repeater for Smokeless; Nublack and New Rival for Black Powder. Write for our Free Booklet on Shells. **Winchester Repeating Arms Co., Dept. Y-41 New Haven, Conn.**

Vol. XCVI—No. 19

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO | NOVEMBER 9, 1918 | LOS ANGELES

7-1-20
Stacks Library

California's First Exclusive Livestock Show

Written for Pacific Rural Press by R. H. Whitten

IT IS SAID that everything great in this world is born of necessity. If so, the California International Livestock Show, to be held in San Francisco November 16 to 24, is entitled to a high place in the Hall of Greatness, for certainly there has long existed a pressing need for such an event. And that need has been increased by the war-time demands for greater production and conservation.

As evidence that livestock shows are more necessary now than ever, we find that, as hard pressed as England has been, the Government has insisted that livestock shows should continue as usual. Our own Government has taken the same attitude, realizing not only the present importance of the industry to the nations at war, but also its absolute necessity for a permanently profitable agriculture.

A realization of the importance of the industry is needed in California even more than in the States east of the Rockies, for, although our State is one of tremendous livestock possibilities, the benefits of breeding purebred stock and our vast resources in connection with stock raising have never been properly brought to the attention of our people. No development will add more to the prosperity of the State than an increased output of meat- and milk-making animals, and no other method will do as much to develop the industry as livestock shows.

True, we have had fairs and fairs this fall—more large ones than ever before. But we have not had a show for livestock alone; in fact, no such show has ever been held in this State. Yet that is what we have needed—a show where the spectators' interests would not be diverted by exhibits of different kinds, sideshows and other attractions.

The importance of establishing on the Coast—of which San Francisco is the logical center—a livestock show to encourage the breeding of high-class stock was realized by several of the State's most prominent and influential men. They banded themselves together under the name of the California International Livestock Show Corporation—a non-profit institution, having solely for its purpose the elevation and development of the livestock industry. And, true to the slogan originated by former President Taft, "San Francisco knows how," they have planned a show along such elaborate lines and have met with such generous co-operation that its complete success is assured in advance.

First of all, they secured the backing of the San Francisco Chamber of Commerce, and were able to offer such liberal premiums that they induced many of the leading breeders of the North and Middle West to exhibit. Consequently, it is expected that competition will be much more keen than it was at the Panama-Pacific Exposition, where so many Middle West herds were prevented from showing on account of the foot-and-mouth disease.

Prize winners owned by breeders who will exhibit at San Francisco. Top, the $6,500 Holstein bull owned by W. J. Higdon, Tulare. Center, junior champion Aberdeen-Angus cow at Chicago International, 1917; Congdon & Battles, Yakima, Wash. Bottom, Shorthorn cow, winner at 1918 State Fair; T. S. Glide, Davis. Sheep, International prize winners; Bishop Bros., San Ramon. The Happy Hampshire, a State Fair prize winner; L. A. Denker, Saugus.

Nation-Wide Competition.

"International"—did you get that word in the official name of the corporation? Entries are open to the world, and while there will be no foreign exhibits on account of war conditions, we shall see some of the finest show herds in the United States and Canada, including animals that have been prominent winners at the leading Eastern shows.

We want to see these noted herds — these wonderful individuals. We want to compare them with our own. If we are raising just as good stock as Eastern breeders, we want the world to know it. If not, we ourselves want to know it so that we can buck up and breed better stock.

A livestock show is always valuable to the exhibitor as well as the spectator, because he has an opportunity to compare his stock with that of other breeders and see whether or not in the opinion of an expert—the judge—he is making satisfactory progress, and is breeding animals of the preferred type. At this show he can compare his animals, not only with others raised in this State, but also with the crack Eastern

(Cont. on page 512.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - Editor
R. E. HODGES - - - Assistant Editor
R. H. WHITTEN - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

DATE OF LIVESTOCK SHOW STILL UNCERTAIN.

As the last form of our paper goes to press, the date of the California International Livestock Show is still uncertain, for reasons well known. It is with deep regret that this announcement is made. As we pen these lines a letter is laid on our desk stating that a special meeting of the board of directors of the Livestock Show Corporation will be held November 7, at 3 p. m., to consider the situation of the show in connection with the untoward health conditions prevailing in the city. (Later—The board of directors decide to postpone show to Feb. 8 to 16, 1919.)

THE EARTH'S DUTY TO MAN.

THE EARTH needs no exhortation: it received its high commission from the Creator and has never forfeited it. Those who know plants assure us that four-fifths of the earth's verdure is grass and that possibly means that if you order all the trees into line and march them away to Mars, and if you gather up all inedible herbs and shoot them into the helial furnaces, this planet will still have four-fifths of its greenery in place and will still flash an emerald gleam in the eyes of the angels. According to our best conception of creative design, the earth was made for man—for every man, not for such as the kaiser and his servile sycophants. The lower animals were made for man—to live and to die in his service and nourishment. Four-fifths of the plants were made for animals—to enable them to render their dutiful service to man. Man was made for the soul that is in him and given speech that mankind could advance by communicable and progressive thought nearer and still nearer to that sublime estate in which mankind will "glorify God and enjoy Him forever." All through time and space the earth will be efficient and true to its duty to creative design—to sustain and advance mankind toward godliness in their relations toward each other and the Infinite. In the discharge of its duty the earth is no slacker nor passivist!

MAN'S DUTY TO THE ANIMAL.

THE EARLIEST recorded thoughts of man were of his co-operation with the several agencies of his environment. Out from the Infinite there came to him flashes from the far beyond. As he strolled on the shore of a boundless spiritual ocean he felt his soul fanned by zephyrs until a great storm arose and he found himself dashed hither and thither—as a babe may be tossed and rolled by breakers on the pearly beach of a sunlit sea. Then there dawned upon him the consciousness of his soul's duty in co-operation with the Supreme Power which had called him into being—but of that the priests and poets have amply spoken all through the ages and will hold forth until the end. It is nearer to our present purpose to emphasize the duty of man in co-operation with the forces and agencies of his material environment toward which there was given to him the primal order to "be fruitful and multiply and replenish the earth and subdue it and have dominion over it * * * and over every living thing that moveth upon the earth." It is then obviously the duty of man to co-operate with the earth in enabling it to discharge its full God-placed duty—which is to turn its idle wealth of nourishing plants to the sustenance and increase of animals, to the end that multiplied mankind shall be well fed and clothed and sped along toward higher manhood of soul and substance, to free themselves from the oppression and robbery of over-lordship, and stand forth in the nobility and God-likeness which is the birthright of mankind in the world. Not less than this is the ultimate purpose in the full discharge of man's duty to the animals over which he was given dominion in the creative design, as first revealed to the race.

MAN'S DUTY TO MAN.

MAN'S duty to man through the development of the very best in animal capacity to serve mankind is involved in man's duty to the earth and to the animal that each may itself be true to creative purposes, which have just been cited. The resultant of such forces is prosperity in all the forms which the word implies, and its motives may be short-sighted and called "personal" or far-sighted and called "patriotic"—but these two are but parts of a single motive. If a personal motive is true and noble, its extension is patriotic, just as every straight line leads to infinitude—but the line must be drawn straight. In the development of animal capacity to best serve mankind all lines must be straight; straight in conception of utility; straight in breeding toward that utility; straight in feeding toward fullest producing power; straight in financial phases of producing enterprises; straight in marketing products, and so on. Such lines will, if well drawn, converge in personal prosperity and the extension of personal prosperity of that kind is patriotism. Man's duty to man, in this connection, is simply to co-operate with the earth and the animal in enabling them both to render their best service to mankind.

THE OBJECTIVE OF SUCH SERVICE.

WE HAVE placed in an adjacent typographical corral what we conceive to be the relation of all such considerations to the development of California—the key to such development: the anchor to make it secure. We honestly believe both these things are true, but how a thing can be both a key and an anchor at the same time, or how a key can turn into an anchor, the brass-founders' and iron-founders' unions must explain. But passing such baffling metaphorical problems, we come to the real truth of the matter which the large type conveys: that it is the duty of Californians to give more thought, effort and money to advancing our livestock industries which during the last few years have manifested such quickened and increased interest and demonstrated such expansiveness in production. It is in its relation to such re-awakening of enthusiasm in California agriculture that other writers on other pages of this issue set forth in detail the purposes and motives of those who have been working for several months to secure the success of the California International Livestock Show, which may open in this city on November 16. We give this issue of our journal largely to this exposition because of the opportunities and advantages it offers to those who desire to know what is good for the State and how can be secured; also how the individual seeking such good, both for his own prosperity and for the State, cannot only learn the ways and reasonable results of the effort, but may get new inspiration and joy in the pursuit of it. Livestock shows are destined to be far-reaching events. As we have already shown in this discussion, their significance extends far backward to the time when Abel brought the firstlings of his flock as an offering to the Lord—and we are hoping no influenza will raise Cain with them. We believe also that the significance of these expositions will reach far forward and that a series of which will prove a constantly recurring force for the enrichment and permanence of California rural industries until the State becomes in the eyes of the world first in the possession of diversified agriculture, because California's natural resources are the endowment of California's citizenship.

WHO SHALL ACTUATE ACTIVITY?

CITIZENS of San Francisco, will you lead forward in the development of the animal industries which present conditions justify and invite? You own much of the idle land of the State, either personally or through the corporations you have organized. Will you still persist in holding that land idle so that you may enrich your children with its unearned increment? Perhaps you got it for a song, or was it from the groan of some poor devil who soaked it with you as collateral? But never mind about that: let bygones be bygones. What are you going to do with it now and henceforward? Will you let it lie idle, doing nothing to justify its place on the planet, until the single-taxers get a chance to try out their dreams upon it? Or are you holding your land in rented service that you and your returning sons may get club dues from what landskinners will pay you? Your sons are at the front. Do you think they will return to follow you in your city juggling with rents and shares? All accounts seem to agree that those boys have seen visions and dreamed dreams at the fronts

THE KEY AND ANCHOR OF CALIFORNIA'S COMING GREATNESS!

Only one of the three great subdivisions of agriculture has the power to assure us that all California lands can be made profitably productive. Our horticultural industries will extend and multiply until fruits and vegetables in all commercial forms reach an annual output-value of several hundred millions of dollars: our arable lands, which horticulture will never require, may produce cereals, legumes, sugar, textiles and other field crops which will also be counted in many millions of output, if a teeming local population and an expanding world-commerce can use them, but the utmost conceivable expansion of our direct-product agronomy will only employ a fraction of our productive area. The only branch of agriculture which can make practically all of our remaining area busy and can in addition save the wastes and by-products of our horticulture, give profitable value to the products of our expanded agronomy and in turn yield to horticulture an agronomy the assurance of indefinitely prolonged soil-fertility for their purposes, is the third great subdivision of agriculture—the animal industry. From the periodically submerged lands of our valleys which may always resent reclamation from floods, to the backs of our loftiest mountains, whence the rock-cones spring sheer into the blue, there will always remain areas from which only the cropping muzzles of grazing animals can secure productive value—areas which on the whole will preponderate all others in product value when brought under tribute by the only agency which can compel them to nourish the bodies of our coming millions while their natural beauty of sunken plain or towering mountains uplifts the souls of them! It is the Animal Industry which alone can make California a 100% institution: it is the Animal Industry which every Californian, no matter what his personal activity may be, must endeavor to understand and promote—for the general good of his state and for the prosperity of his children.

and that they will return in no humor to tread the carpets of the counting-houses and clubs nor to jump the counters of the metropolis. They say, if their reporters speak truly, that it must be a life in the open for them: a life in the making and doing of real things: a life in rounding out one's self, not a life in pinching others. Why don't you take the hint from what you read about young Americans made over by the war and get your land ready to make a place for action and a home for a man of action—your own son or another's: it matters not which. Such returning Americans will demand a place under the sky: an enterprise which has creative attributes: an opportunity which befits a man. It is the duty of the owners of California land and money to develop it, to see to it that no slacking of theirs forces our returning heroes to lapse into urban thimble-rigging and penny-pitching because no real work in mining, manufacturing or food production is open to them. Keep the land idle and you condemn to idleness those boys whom the world honors as fit to achieve the very greatest things.

LESSONS OF THE SHOWS.

OF COURSE, we believe that the service of livestock shows, through their assembling of the best in animal improvement and adaptation to the needs of man, are of immense value to our people who are now on the land and in the lines of animal production. They enable all who participate in them to do better and to do it more profitably, as our associate writers have amply shown on other pages. And these things are a great gain for the State. But that which impresses us most is the influence which such events have upon the development of the State through the awakening of those who have the deadly idea that the land must work for them and not they for the land. The land is a great co-operator and has been since creation, but it can be made a great slacker also. If you hold good land idle you are robbing your fellow men and in most cases impoverishing yourself also. Study those royalties of the animal kingdom—the only royalties which the war has not brought low! See how man has bred them to his conception of most productive form and temperament and supreme adaptivity to the conditions he wills them to utilize in their service to him and to his fellow men. If there is anything left in a city holder of country land beyond the little professional financial or mercantile grooves into which he has ground himself and to the service of which he would also bend the sky-covered fraction of his wealth, a study of noble animals and their relations to individual prosperity and State development will surely awaken new interest in living and disclose lines of enjoyable thought and action of which he had not dreamed himself possessed.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Transplanting Cypress Trees.

To the Editor: I have several cypress trees in a very awkward situation. Is it possible to transplant them if I do it on a rainy day this winter? The trees are eight or nine feet high and I dislike to cut them down if they can be transplanted.—E. E. L., Livingston.

Trees of that size are not difficult to transplant if it done in the right way and at the right time. Evergreen trees should not be moved when the ground is cold or water-soaked. They should be transplanted just before their usual time for making new growth—which may be early in the spring in the interior and later in the spring nearer the coast. When the cold air and water are over—probably in February in your case—draw up the lower branches and make the tree into a neat bundle by running around with hay rope. This gives you a good chance to get at the base of the tree. Trench around with a spade about two feet deep—leaving the tree standing in a ball of earth about two feet in diameter. Remove some surface earth in which there are no roots carefully, to reduce the weight of the ball, then cut under the ball with a sharp spade to sever outrunning roots. Open out grain sacks lengthwise to get long strips of burlaps and draw them around and under the ball tightly to hold it from cracking. Tip the tree on its side. Take a piece of scantling about three feet long and cover the central part with a folded sack. Put this under the trunk of the prostrate tree close to the ball and get two strong men to lift and carry the tree carefully and set it upright in its new hole—which has been previously prepared. Keep the soil reasonably moist but not wet. When new growth starts, use water more freely, but be careful not to drown it if the soil is heavy.

Growing Almond Trees.

To the Editor: I am thinking of planting some bitter almonds and if I cannot get them will sweet almonds do? Are sweet almonds those used on the market? What time should I plant and graft them? Where can I get a book on care of young almond nursery, planting, budding, etc.?—W. S. J., Chowchilla.

Bitter almonds are often advocated but have never been demonstrated to be better than sweet almonds as nursery seedlings. Sweet almonds are those which have no bitter taste in the kernel. This includes both the softer shell varieties, which are popular commercially, and the hard-shell varieties, which are free from bitterness. The latter are reasonably commended for growing seedlings: they may be better: they can be bought for less money. Almonds should be sandwiched with sand now or sooner (as described for peach pits in our issue of October 26) and planted out in the same way and under the same conditions of soil. Seedlings started this winter should be budded next summer. There is very little grafting of almonds except in working over old trees. The fullest account of California nursery methods with almonds as with other fruits is to be found in our book, "California Fruits and How to Grow Them." "Three dollars, please"—"thank you!"

Growing Seedling Walnuts.

To the Editor: How shall I handle California black walnuts from the time they are picked up (say now) until time to plant? Also, how shall I plant them in nursery? Would it be advisable to plant several nuts in place where we want the trees to grow, leaving the best tree when a year old instead of planting in nursery? Also, when is best time to plant, and how deep? The land is sandy and well drained.—Constant Reader, Paicines.

Walnuts for growing seedlings should be put down at once in a sandwich, as described for peach pits in our issue of October 26, and when conditions are right the sprouting nuts should be set in nursery rows as described for peaches—except that in your light soil the nuts should be set not less than three inches deep. You do not speak of grafting-over and we infer you intend to grow them as black walnuts. If you are willing to look after so much ground for two or three years, you can plant the nuts from the sprouting-bed in places where you wish the trees to grow. As seedlings thus isolated are open to many dangers, it is wise to plant several in a place and keep the best after one season's growth—destroying or transplanting the others.

Planting for Contentment.

To the Editor: I have land that I propose to plant to fruit trees this coming season. I come to you for information as to what kind of trees the land is best adapted to. The land is upland, mostly of the red color; a small piece is gray adobe. I have been advised that prunes or plums would do well. The land is nearly level; the hardpan is about two to three feet deep. I am rather inclined to plant prunes or plums or both.—W. J. R., Sacramento county.

It is a mighty good thing for a man to plant the kinds of fruits he wishes to plant. No one but his wife ought to take the risk of advising him otherwise. In your case it is easy for us to insist on the application of the fourteen peace principles which we have in mind but need not state. Your land is safer for prunes and plums on myrobalan roots than for any other fruit we can think of—if you will have such irrigation as they will require on such shallow upland, increasing in amount as they come into bearing. We hope your land is really red and not some of that yaller-dog hardpan upland which grows in your part of the State to some extent.

Fuller's Rose Beetle.

To the Editor: I am sending some bugs or beetles which are eating the leaves of honeysuckle, rose bushes, etc. What are they and how can I get rid of them? They seem to collect in bunches through the greater part of the day, then scatter out in the evening, eating the leaves of almost everything.—W. H., Sebastopol.

You have to deal with "Fuller's rose beetle" (Pantomorus fulleri), a grey to brown beetle about half an inch long, with white stripes on its sides. Its larvae feed on roots of plants and the beetle on the leaves, as you describe. You do not exaggerate the voracity and variety of its appetite. You can poison it by spraying with lead-arsenate, just as you do the apple worm, but it is quite a job to poison a whole garden and a little dangerous perhaps. These beetles cannot fly and you can protect the plants you care most about by tying a loose band of cotton around the stem, because they cannot crawl over it. Band your best plants and knock or shake the beetles off onto the ground. Give the hens the run of the garden and see if they will not clear off the ground.

We Need You

to represent us in the field in place of those who have been called to the "colors." The work of securing new subscriptions and collecting on renewals is pleasant, dignified and healthful, and the salary is ample.

Experience is neither essential nor objectionable. If you have an automobile and are not afraid of hard work, we can use you.

No objection if you are along in years, provided you haven't lost your pep. If you really like the paper and think you can convince others of its merits, your first step toward Greater Success will be to write us a little about yourself and give us an opportunity to tell you what we have to offer.

Only a few positions open. Better write today.

Boll-worm of Corn and Tomato.

To the Editor: What causes so many worms in tomatoes and sweet corn? We lost an awful lot of tomatoes this year. Is there any spray we could use?—H. A., Groveland.

You refer, of course, not to the finger-large worm with a horn or periscope on his rear elevation. That monstrous worm eats only the foliage and is best caught up with by picking off. The worm which eats into the tomato and causes rot and the worm which you find in the tip of the corn ear are larvae of the same insect, commonly called the "boll-worm of cotton" because it first attracted attention by its cotton depredations. It has always been a hard worm to get even with. It has, however, been recently shown that dusting the corn silk, as soon as it appears, with lead-arsenate powder largely saves the ears. It is harder to get the worm on the tomato because the green tomatoes which it attacks are more difficult to find and get at with the poison than corn silk is. However, there are only two recourses so far as we know. One is to spray the green tomatoes with lead arsenate (1 pound to 25 gallons of water), which is considered safe, because practically sure to be dislodged before the tomato is ripe; the other is to keep watch for infested tomatoes and smash them—thus killing the worm before he has a chance to arrange for his posterity.

Do Not Wait for Peanut Vines to Die.

To the Editor: Do peanut vines die and dry up when the peanuts are matured?—Subscriber, Lathrop.

Peanuts require a long growing season (about six months) and they usually get a touch of frost, which knocks them out, but where frosts are shy and soil moisture ample the vines may keep on growing and trying to develop later settings of nuts after the main crop is mature. In such a case they should be pulled out before they dry up. The late settings are usually small and poor and the continued activity of the vines makes the main crop less desirable in color and otherwise. When you get a good crop of good nuts properly filled, pull them out.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 5, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	2.23	5.13	4.54	60	40
Red Bluff	2.04	10.13	2.76	84	40
Sacramento	.46	5.44	1.63	82	42
San Francisco	1.88	4.59	1.81	80	45
San Jose	.62	7.12	1.42	82	40
Fresno	.36	1.00	1.04	84	42
San Luis Obispo	.20	1.75	1.97	94	42
Los Angeles		.71	.91	96	50
San Diego	.22	.83	.60	90	58

Pruning of the "Sultanina" (Thompson)

[Written for Pacific Rural Press by John J. Fox.]

THIS does not pretend to be a dissertation on pruning from the start of the young vine — recent articles and a circular (No. 191) having been published by Prof. Frederic T. Bioletti, viticulturist of the University of California. It is, however, a summary of results observed by the writer under different methods of pruning and training the Thompson Seedless and deals with vines in their third year and upward, when they are producing full crops of fruit.

This vine has been defoliated to show the hang of Thompson Seedless grapes on vine trained on two wires. Less than half the vine appears in cut.

Districts visited included the Kingsbury, Selma, Fresno and Hanford districts, where we entered many vineyards just before harvest commenced, and we were therefore able to note for ourselves the quality and extent of the crop, the facility with which both crop and vine could be handled, protection afforded and the vigor of the wood, making due allowance, of course, for adverse conditions, in cases where leaf hopper, Johnson grass or leaf shrivel had injured foliage in the various ways.

A COMPARISON OF THREE ADJACENT VINEYARDS.

Three vineyards, close together, will be compared, because they represent three different systems of training and two of pruning, and all are on the same class of soil and have been handled with care by the owners.

The first to be visited was P. M. Peterson's vineyard at Kingsburg, just west of the town, who has six acres of three-year-old vines (which I saw last year when they were only staked) and six acres of four- and five-year-old vines. The three-year-olds yielded 11 tons of raisins this year and the older vines yielded 2¼ tons to the acre last year. The vines are set 8 feet apart by 12 feet between rows. They are trained on two wires, the first being about 30 inches from the ground and the second 4 feet. Three to four canes are left to a vine and these are cut clear back and renewed each year from spurs left the previous winter and from which canes have been prepared. Mr. Peterson likes this system of pruning the best for the following reasons: (a) It is less of a shock to the vine to cut back each year than to allow a two or three years' growth before renewing. (b) The yield is considerably larger on a five-year average and the vine more vigorous. (c) Training on the two wires makes picking easier—not so many bunches spoiled in disentangling. (d) Spring and summer handling of the vine is made easier. His vines used to be tied to stakes entirely, but he says the crop is larger on the trellis and far more easily handled—the only advantage of the stake system being the possibility of cultivating the vineyard both ways and having the vines equidistant. Mr. Peterson prunes in February and March, gives young growth two ties and only hangs canes over wires. Then they are not difficult to remove when pruning takes place. If one twist over the wire be given instead of draping, a cut is necessary to remove the old wood.

The utmost care was apparent in this vineyard and the reasons for all handling were convincing.

OLD WOOD KEPT.

The next vineyard was one of 15 acres, belonging to A. A. Satterberg, where old wood was used instead of renewals from the base. So far as fruit is concerned, there was nothing on until new wood from the top was reached. Including the old wood there were eight or nine canes here and the vines did not show the same vigor. The fruit was scattered in the top area, the bunches were smaller and the crop probably 20 per cent less than Peterson's of about the same age. Some of the grapes had been picked in this vineyard, though we could not see that they were in a more advanced stage of ripeness than the others.

BOTH PAIRS OF CANES ON LOWER WIRE.

A. H. Duval's vines are all hung on the lower wire, some of the laterals reaching for the upper one. He has a fine young seven-acre vineyard of Thompson Seedless (six years old), which was estimated to be carrying enough grapes to produce two tons of raisins to the acre. There may have been more. The grapes on the lower wire were one mass, beautiful large clusters, but more difficult to gather than Peterson's because of their massed condition. We thought also that many of them were too close to the ground and if that system is followed the lower wire should be a little higher and have more supports. Also from the appearance of the canes it looked as though there would be more work in getting them clear of the wires at pruning time than if they had been draped on both top and bottom wires.

Wishing to verify the result of our observations in this district, we consulted Professor Bioletti on our return. He says that the chief advantages of both canes being tied to the lower wire are that the fruit and vine are better protected from the sun by this method and sulphuring can be more cheaply and thoroughly accomplished than if the vines are spread over the two wires, also the grapes ripen more evenly on one level, which is, of course, a very important consideration. Then they are better protected from the wind. The professor also thinks the wires should be trained as follows: The first one 30 inches above ground and the second one 4 feet—in heavy ground both perhaps a little higher. The first strong shoots from the fruit canes should be pinched back as soon as the little blossom bunches can be seen. This will start new fruiting buds and strengthen the weaker shoots. He also recommends no wrapping of cane over the wire, but just hanging over and tying. The new shoots from spurs for the ensuing year are pinched when they are two or three feet along, according to the strength of the vine to force the growth of laterals which produce good fruit buds.

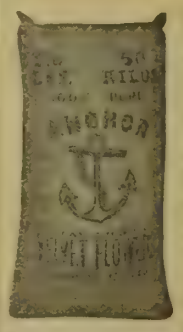
CHOICE OF STOCKS FOR PRUNE AND APRICOT

Apricot trees on myrobalan rootare used on heavy soils only or if the land is not very well drained or keeps wet too long. On apricot ground the tree does not make the growth that one on apricot root does. This latter is the best root of all for apricots, because it is a voracious feeder and is more free from root knot than any of the other varieties. It is, though, the root preferred by gophers. On good deep 'cot land then, the 'cot root is preferable, and for thin land the peach root can be used to advantage.

Apricot on almond makes a poor union and is not used.

Prunes on the peach root are coming back into vogue again, and on good, well-drained prune land it is hard to beat. The myrobalan is also a good, thrifty root and does better than the peach on stiff clay loams and adobe soil. The almond root is a favorite in lighter, sandy loam soil, where the almond does well.

SULPHUR



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CAUSTIC SPRAYS FOR MOSS AND LICHEN.

[Written for Pacific Rural Press.]

J. F. Nichols of Santa Clara county is an advocate of lye spray for cleaning off moss and lichen and says it is better than crude oil emulsion and caustic soda for this purpose. He says that his trees were pretty badly mossed, but on the day after spraying with lye (Red Seal), 25 pounds to 200 gallons, he could see that the moss and lichen had been killed. He was told that the buds would suffer from the corrosive action of this strong solution, but the trees bloomed all right afterwards. Some trees sprayed with 12½ per cent crude oil emulsion, with 5 pounds of caustic soda per 200 gallons, did not seem to have been cleaned so well.

The writer used caustic soda and common salt as a spray for heavily mossed prune trees some eight years ago—24 pounds of each to 200 gallons, using about three gallons to the tree. It killed the moss all right and a good set of prunes was obtained afterwards; but we did not like the appearance of the bark and young wood afterwards—it looked dried and harsh. Five growers in the neighborhood used the same spray and we decided that we would not repeat it. So far as I remember, we afterwards got equally good results by using 30 pounds of good stone lime and 16 pounds of salt to 200 gallons of water, and the bark came out in good shape, all the moss except some of that flat stuff that sticks close to the tree like a piece of paper being killed. We would never use this cheap spray for any other purpose than to clean up a mossy old orchard and after it was once done we should say "there ain't goin' to be no moss." For we should use the commercial varieties of approved sprays whenever the trees needed it, to keep down San Jose scale or thrips and not otherwise. If it is effectively done, the writer is of the opinion that a general winter clean-up spray is not necessary, if properly done, more than once in two or three years on prunes. Of course, if an infestation of thrips or red spider or any other pest appeared, that is a different matter. If half the orchard is sprayed each year for a winter clean-up, it is not so hard, either, on the man who is doing his own work.

HOW TO START AN ORCHARD RIGHT.

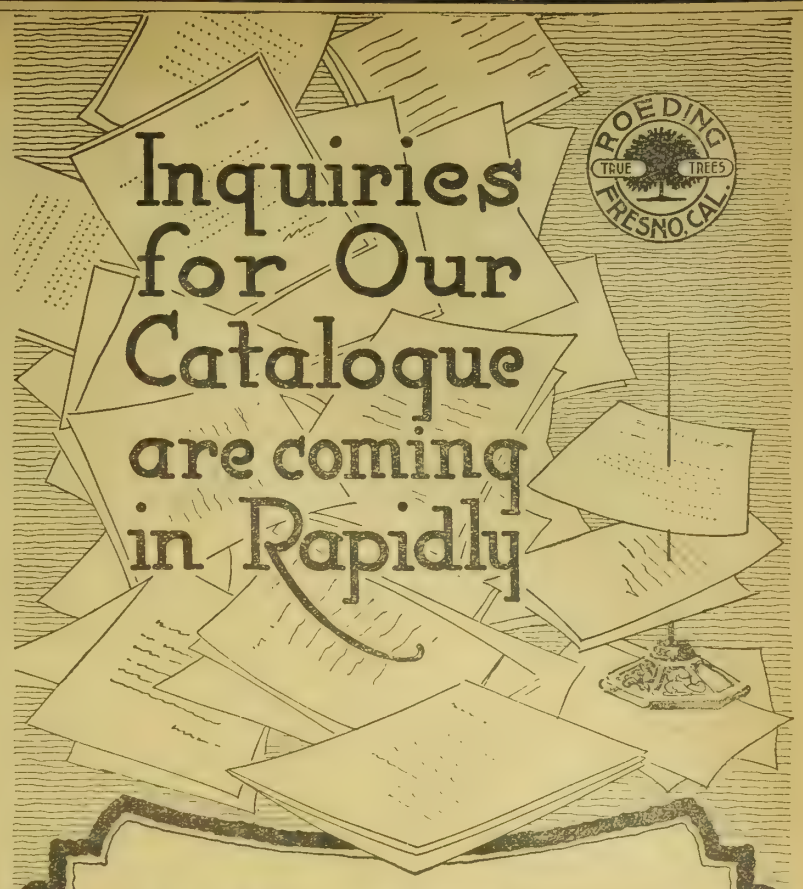
[Written for Pacific Rural Press.]

Where irrigation is practised, either in orchard or vineyard, it pays to grade the land before planting. Not only because of the annoyance and extra labor involved in trying to get the water on the high spots, but the moisture supply to the trees is going to be uneven and lead to a spotted condition of fruit and growth.

We lately visited the P. T. Hincks place at Live Oak, on the highway to Marysville — 110 acres set to peaches, plums, prunes and cherries that is worth seeing. This land runs down to the Feather river levee and it was all carefully graded, wells and irrigation pipe dug and laid before the young trees were planted. It is only 11 feet to water in unlimited quantities and centrifugal pumps furnish all the water needed. There is therefore no difficulty in getting the water onto any section of the orchard at any time.

Each row of trees in the avenues is mapped and tagged so that if a tree needs attention of any kind it can be found by description on reference to the map. All the young trees looked thrifty and strong with their third year's growth, indeed it is the finest young orchard in the vicinity and easily handled because of preliminary work.

On the other side of the levee Mr. Hincks has about 100 acres more on which it is his intention to plant pears—on the new Manchurian root, when it can be obtained. When we were there we found the men pulling a fine crop of Mexican Red beans, which we judged would run 25 sacks to the acre. No irrigation is needed or practised on this river bottom land.



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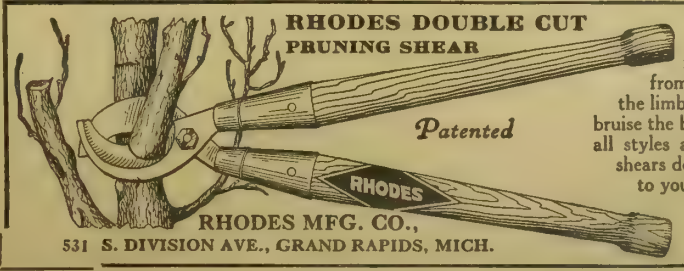

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GYPSUM

State Gains Four Points in Apple Drive

Twenty-ninth of the Editor's series of Historical and Analytical sketches of California Agriculture

LATEST FROM THE U. S. APPLE FRONT!

By the U. S. Census of 1910 California stood Ninth in the list of commercial apple-growing states. By the commercial crop of 1917 California advanced to Fifth place! In testimony whereof we cite the 1917 commercial apple crop in the ten topmost states, as reported by L. M. Estabrook, chief of Bureau of Crop Estimates, U. S. Dept. of Agriculture, viz.:

States.	Barrels.
Washington	4,620,000
New York	2,380,000
Virginia	1,650,000
Illinois	1,474,000
California	**1,174,000**
Missouri	1,128,000
Pennsylvania	911,000
Idaho	906,000
Oregon	713,000
West Virginia	702,000

The boxed-apple crops of Pacific Coast states are reduced to barrels for comparison (three boxes to one barrel).

How long will it be before the New England deacon will draw his traditional pan of apples and jug of cider, not from his own product cellar, but from the superior soils and climates of the Pacific Coast?

Not long, surely, for the adjacent tabulation shows that last year more than half of the product of the ten leading States came from the Pacific Slope group. If we should pursue the product farther, including all States, it would appear that of the total United States commercial apple product of 1917, which was twenty-two and a half million barrels, eight and a half million barrels came from the Rocky Mountains westward to the Pacific—more than one-third last year from our side of the Great Divide, and we still going! Evidently the New England deacon must keep his cobbles turning over lively in the hope of finding money under them to buy his coming apples from us!

A LONG LANE WHICH IS TURNING.

It is interesting to remember that in the apple lay the first great pomological hope of California. It was natural that the emotions of the pioneers "of '49 and the spring of '50" should gently turn to thoughts of the apple. The apple was king of the fruits known to them and dreams of their far-away homes, while they soaked in their rain-filled mining trenches, were of winter paring-bees in the fragrant Eastern farm-kitchens—in the course of which they threw unbroken films of red over the golden curls of country belles and stole kisses as the rewards of such expertness and gallantry! In those days girls were not "peaches"—they were "pippins," and the homeless, argonautic youth of California longed for the ruddy cheeks of seventy years ago with as deep a thrill as the memories of the paler beauties of today are awakening under the tunics of our heroes, somewhere in France, two generations later!

But there was another reason why the pioneers were eager to grow apples. In 1853, 12,000 barrels of dried apples were imported at a cost of $12 per barrel—a local orchard might be more productive than a gold mine! It was on this confident expectation that hundreds of pioneers bought apple trees as did Mrs. Bennett of Grass Valley, "paying $3 each for a dozen little switches of apple trees which came from Oregon," and not a few of them realized, as also did Mrs. Bennett in 1860, "more than $100 from each of the trees grown from those little switches." At first, then, growing of apples seemed very easy and more kinds of apples were planted during the first decade of California's pomology than in any following decade.

THE LANE LEADS INTO A SWAMP.

It seemed to be a highway to the heights of affluence, but it quickly ducked into a marsh. When apples of well-known varieties grew to such size as to be unrecognizable and when a grower could find "fine Rhode Island greenings lying under his trees in April, perfectly sound and of excellent flavor," it seemed reasonable to announce that California could teach all mankind something about apples—but they struck it nearly as badly as Eve did in the Garden of Eden. They apparently considered California as pomologically a single State, not discerning that as they passed eastward from the coast to the Sierra foothills they crossed natural equivalents of three States, and as they ascended the mountains they crossed one State more for each thousand feet of elevation. They did not realize that in traversing about 150 miles of California geography they had encompassed apple conditions diverse as those from Canada to South Carolina. What did it advantage them to have all the varieties the world found worth while? Simply this: in planting all the varieties they could get hold of, in all the places to which they gained access, they probably did the very best thing they could do to ultimately demonstrate which should be chosen to meet each of the different sets of natural conditions in each of the several pomological States of which California is comprised. But none of them knew this. In all places the varieties which failed so largely preponderated over those which succeeded that the unavoidable conclusion was that California apples were a failure: overgrown, punky, flavorless, no keeping quality, etc., etc.

EMERGING FROM THE SLOUGH OF DESPOND

About thirty-five years ago light began to break through the dark jungle into which apple-avenue had plunged and the edge of a clearing was disclosed so that travelers could read the signboards of experience—some of which may be thus interpreted:

1—In California certain sets of natural conditions are peerlessly adapted to specific types of apples—summer, fall and winter, if you please—and it is commercially disastrous not to properly match conditions and types.

2—When types are well understood and rightly placed, commercial success still depends, not only upon the choice of varieties which can best use the conditions which their types accept, but upon perfection of style, finish and quality which they embody in their consciousness the requirements of their type.

3—When conditions and types a definitely matched and varieties d criminatingly chosen, commerci success still depends upon purs of culture and protection agai pest and diseases which meet lo requirements. Tillage, irrigatio fertilization, pruning and pest-figh ing are all variables, changing with narrow limits. A man cannot blind follow the methods of his neighb on the other side of a hill. It i wise man who knows and does wh is clearly best for his own trees.

4—And when the best varieties the best type are grown to the hi production under the best natur conditions for the type, there great advantage in alliance wi whatever growers' co-operation available in order that advantag of association, in all the requir ments for grading, inspecting a marketing, be fully realized.

ON THE PLATEAU OF THE FUTURE

All these things were unknow to the pioneers, but they are t outgrowth of the diligent gropi which they did to find the gatewa to the future. So far as we c now see, they are the solid grou upon which the development of a ple growing in California must a vance toward attainment beyond t reach of other States. No oth State can swing through the se sonal gamut of the apple with Ca fornia, and no other State can su pass our product of any type wh properly placed to meet its requir ments of natural conditions and cu tural treatments. There are at lea five fruits which are commercial greater than the apple in Califo nia, but that is no reason why t apple in California should not greater than in any other State!

The above illustration shows a model stand of young apple trees under intelligent care..

T Peach Apricot Almond R Plum Prune Pear E Apple Cherry Olive E Fig Orange Lemon, Etc. S

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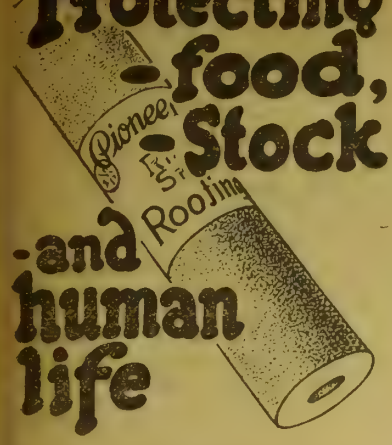

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Losses that are irreplaceable may easily occur from defective roofs.

Repairs to buildings should be made while it is possible before costs mount too high.

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—because of its long life and reliability.

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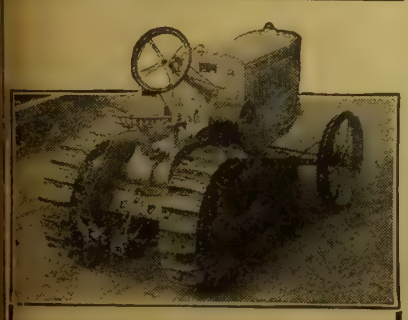

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CALIFORNIA FRUITS.
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Horticultural Jottings

Grapes Shipped Loose.

R. L. Niemann, manager of the Winters Dried Fruit Company, reports shipment of green fruits from that section being better than last year, excepting apricots, which fell short. A new departure in the green fruit business was shipping grapes (Tokays) loose in Los Angeles lugs without tops, the boxes being kept in place by means of wooden trips nailed across on the outside to keep the shipment from shifting. This experiment, prompted by labor conditions, has met with unexpected success, as it reaches the home in the East in good condition for canning and in amounts that can be dealt with by the individual housekeeper. Easterners prefer the packages in this shape and cost of crating is saved. Other fruits have also been sent forward loose in the lug, only they have been topped and nailed down.

A Message Worth Quoting.

H. G. Coykendall, president of the Prune and Apricot Growers' Association, says: "'Quality of fruit' is our message to the world. We must not put on the market, or attempt to put on the market, fermented spoiled prunes. Such salvage is permanent destruction to us and to you. It would work a harm, compared with which the ravages of the storm is as naught. We must stand our loss bravely and not try to save that which is unworthy of salvage. We must bear with fortitude a temporary evil such as this is in its very essence." And the majority of growers will respond to this message which places their profession on a very lofty footing.

Worms in Walnuts.

In the last issue of the Diamond Brand News of the Walnut Growers' Association Prof. R. E. Smith writes of the worm which is destroying from 20 to 50 per cent of the walnut crops in some localities at the South. We understand that investigation of the activities and habits of the worm is also being carried out by Harry S. Smith, secretary of the Insectary Division, State Commission of Horticulture, in co-operation with entomologists of the University of California. Some publicity matter will probably soon be issued with regard to the pest.

Pear Blight in Nevada County.

Nevada county was visited with a rather severe infestation of pear blight this year—the first in the history of the county, according to D. F. Norton, the Horticultural Commissioner, who, in addition to his work in the pear orchards, cut out over 2000 old apple trees that were infected with "fire blight." Mr. Norton said that he had to let up on the squirrel campaign this year in order to take care of the blight, wherein he had the fullest co-operation among the leading pear growers.

No Embargo on Dried Apples.

All dried fruit exports from the United States have now been forbidden, with the exception of dried apples. This is owing to heavy Government purchases and uncertainty as to the supply until full deliveries have been made and it may lead to an increased quantity of apples going to the evaporators in New York State.

Mealy-Bug Control.

Proposed control methods for the grape mealy bug is being set forth and discussed at Farm Centers in the south by Professor R. L. Nongaret of the U. S. Department of Agriculture. Dr. Nongaret has made an exhaustive study of this family of insects for years in this State and all grape shippers will be interested in his subject.

Prunes and Raisins Helped.

The light north and drying winds and bright weather during the week ending October 26 resulted in large quantities of fruit being saved and sent to the warehouse. Raisins and prunes in the northern counties that are soft now will need artificial means to fit them for the bin. For the sun is losing its power and humidity increases.

Loss on Thompson Seedless.

The loss on Thompson Seedless raisins in Yuba and Sutter counties will probably be 80 per cent of the crop. Owing to weather conditions it has been difficult to pass them through the stemmer, and no capstemming will be attempted in this section.

Pomegranates Selling Well.

W. E. Vinson of Porterville sold pomegranates in an Eastern market at $2.75 per 40-pound box.

BLIGHT---The Pear-Growers' Nightmare

Several years since, it was our privilege to first make known to California orchardists the many advantages of the Jap root for pears, with the result that nearly all nurserymen now bud most of their pears on this stock, which is so much more blight-resistant than the French seedling or the quince root.

This season it is our great good fortune to announce one of the most important discoveries ever made in connection with blight control. If you are interested in pears, you must write now for our new booklet, which describes

U-SU-RI-EN-SIS,

the new, practically blight-proof, Chinese seedling—incomparably superior to the Jap root—by use of which orchards are going to be made 75% blight-proof.

Professor Reimer of Oregon, the highest authority on blight-resistance, recently stated that he believed the least resistant variety of this species more blight-resistant than the most resistant of any other known!

The only stock of U-su-ri-en-sis in an American nursery today is our own limited supply, from which we are reserving enough to plant 60 acres of our own orchard in the spring.

Because we do not know when we can again offer Usuriensis (owing to an uncertain seed supply) and because we desire to supply the requirements of as many orchardists as possible, in order to bring about a wide distribution of this most desirable species, we urge intending planters to send TODAY for the booklet, informing us of their probable planting for 1919.

The booklet may be worth thousands of dollars to you, if you intend to plant a large orchard. It's free, of course, but if you will take the trouble to give us the addresses of a few friends who will plant pears we will certainly appreciate it.

In addition to Usuriensis we have our usual fine stock of pears on Jap root, and a moderate quantity of superb apples and other stock.

Loma Rica Nursery

Pear Specialists

A. L. WISKER, Manager GRASS VALLEY, CALIF.

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Prune Trees

When you plant prune trees, plant the best—trees that will grow, and produce, and pay! We make it a practice to bud our prune trees from parent stock of proven productiveness and quality. The scions are carefully selected by trained experts and the budding is done in the most skillful and scientific way.

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One man with a **Louden Litter Carrier** on Louden overhead steel track system can clean the barns in half the time that two men would take without it. **That's** Louden economy. On **every** up-to-date farm—**your** farm—the **Louden Litter Carrier** and steel track system will earn its cost many times a year.

Track can be bracketed to barn wall—out one door—in at other, and in this way no switch is needed. Manure loaded direct on wagon or spreader—its full fertilizing value thus saved.

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How One Ranch Handles Bulk Grain

[Written for Pacific Rural Press by R. E. Hodges.]

Over forty-three thousand dollars' worth of grain sacks were saved this year on Moreing Bros.' ranch in Sacramento county by handling wheat and barley in bulk. Last year the acreage and yield were greater, so bulk handling saved about 294,000 sacks. The year previous to that sacks were used and that system committed suicide on this ranch, both because of the extra cost of sacks and the cost of extra labor to harvest the grain in sacks.

HOW THE MACHINERY WORKS.

Bins of 4½ tons capacity were built onto the sides of the big 34-foot combined harvesters, as shown us by A. E. Denton, who has direct charge of the ranch. The bucket elevators which formerly carried grain to the sacking spouts were extended to empty into the bins. The latter were dumped by gravity in a minute into some of the forty-five four-horse wagons of three tons capacity each, and these were dumped by gravity into hoppers whence bucket elevators and horizontal conveyors distributed the grain into square bins simply and cheaply built. This year the horses and wagons were replaced by motor trucks with great satisfaction.

MUCH LABOR SAVED.

Bulk harvesting on this ranch requires five men per machine, including the engineer of the 75-horsepower steam tractor which pulls it. The engineer this season received $8 per day. The fireman received $4 per day, using a low-grade oil burner. One man hauled water for each outfit at $3 per day. Firing and water hauling would be reduced with gas tractors, but the old steamers have seen long service here and will be kept in use until the war conditions are past, probably. The separator man received $8 per day and the header man $4, making a total for each outfit of $27 per day. With sack handling, two sewers would have been required at $5 each and one "jigger" at $3.50, which would increase the cost of harvesting by $13.50 per day, or just 50 per cent. At the storage elevators as much labor was saved over what would have been required to warehouse the same grain in sacks. The headquarters elevator kept an engineer and helper busy at $11.50 per day operating the gas tractor which kept the bucket elevator and a barley crusher busy at the same time. Probably not more than two men were needed at each of the two similar elevators located on the river levees. In a year of labor shortage not only was a heap of money saved, but a heap of effort hunting for help was avoided.

SQUARE STORAGE ELEVATORS.

Most Western bulk-grain elevators are cylindrical. Moreing Bros.' bins are all square, cheap, and durable. They have shown no signs of weakness or bulging, according to Mr. Denton. Long buildings were built plenty strong to hold the load, and were partitioned off into bins. The headquarters storage elevator has ten bins about 16x20 feet and about 20 feet high. Each of these is held from bulging by a couple of ⅞-inch rods each way across.

At the end of the building a pit was dug and lined hopper fashion with plank. It was covered with a platform and trap door. All dirt was thrown on one side to make a mound onto which wagon or truck front wheels would rise high enough while the rear end is over the trap door, to let the grain slide into the pit. Horizontal conveyors and the bucket elevator did the rest. When crushed barley was needed, part of the elevator stream was diverted into a spout leading to the crusher. This outfit could handle 200 tons per ten hours.

The storage elevators on the levees contain a dozen bins 20x30 feet. Each elevator has a gravity shaking-sieve cleaner through which the grain passes before being distributed to the bins. The present system of getting the grain out is hardly satisfactory, being a series of broad belts running in troughs across the level floor. They are protected from weight of grain by removable boards. They dump into a conveyor running along the foundation of the building and thence to barges in the river. A trap door in the side of the bin is opened to empty into the conveyor until a board section can be removed from over the belt. This will then be started, taking out enough grain so another section can be removed. A 25-horsepower motor could run this and the conveyors, elevators, and cleaner receiving grain from the harvesters at the same time, according to P. F. Ruman, who had charge of one of these elevators last season. As it is, a 15-horsepower motor is used to run all conveyors and elevators except the unloading belts, which are operated by an individual 10-horsepower motor which is movable to any bin desired. Improvements are to be made in harvesting, handling and storing; but the present imperfect conditions are far preferable to the sack system.

WITHSTANDS *the* TESTS *of* WAR *and* PEACE

The terrific tests withstood by the "Caterpillar" Tractor in four years' work in the war zone simply serve to emphasize in a spectacular manner two facts already established through many years of world-wide use in the agricultural field—

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Second, *the efficiency and durability of the "Caterpillar" Tractor*—due to more than three decades of Holt manufacturing experience, the perfection of Holt design, and the high grade of Holt materials.

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Farmers Union Will Try to Get Together

[Written for Pacific Rural Press by Mrs. C. E. Whitmore, Modesto.]

The editor of the Rural Press has spoken in the issues of September 28 and October 19 about the national convention of farmers which was held at Washington in August.

J. J. Hardie of Modesto, State president of the California Division of the Farmers' Union, attended that convention and since his return has been giving some interesting reports to the several "locals" in Stanislaus county relative to the work planned at that remarkable gathering of farmers.

Mr. Hardie states that the great objective in every speech made before that convention was the need of concerted organization for farmers. And this organization should not consist merely of independent small units, too feeble to have their demands recognized, but there should be a strong central head with each smaller unit, working in perfect cooperation.

Washington said: "We are one nation today and thirteen tomorrow." The same principle applies today in the agricultural organizations. If the farmers want anything done, they must organize. Again, every prominent man who addressed that farmers' convention emphasized his recognition of the efficiency of the farmers as farmers and their inefficiency in ability to demand justice for themselves.

Chas. S. Barrett, national president of the Farmers' Union, was unanimously elected chairman of the convention. Mr. Barrett is a member of the executive committee of the Federal Board of Farm Organization and has been the national head of the Farmers' Union for 15 years. His ability is unquestionably recognized even among a gathering of able men.

It was chiefly due to his efforts that the Federal Board of Farm Organizations was effected, and this organization is today the only foothold in the Capital City from which the farmers of this great United States may present their grievances. There is but one reason for this nonrepresentation in governmental affairs for agriculture—the farmer.

In contrast to this, Mr. Hardie tells us the labor unions have a temple in Washington costing one million dollars and their representatives are "on the job" all the time. It is possible for every member of the federated labor union to secure reliable data on the work done by each member of Congress relative to labor's interests at any time.

Capital is in Washington with the best brains they can hire; capital is there all the time. But the farmer only goes by invitation.

Mr. Hardie thinks the big idea promulgated at this convention is the plan to build, maintain and endow an American Temple of Agriculture at Washington, to be general headquarters for all organizations pertaining to agriculture. The cost of this building will be one million, with a two million dollar endowment fund. Hon. C. C. Elmore of Washington (State) is the chairman of this work and J. J. Hardie is the committeeman for California.

While in Washington Mr. Hardie had the privilege of an interview with Mr. Hoover, whom he says "has the biggest job a man ever tackled." Mr. Hardie personally presented to Mr. Hoover a resolution endorsed by the California Farmers' Union protesting against the discrimination in the price of hogs in the San Francisco market as compared with the Chicago market. A condition existing because of a "gentlemen's agreement" among packers. Just what has been accomplished by this protest is already producing results, and proves again that farmers must organize for self-protection.

The State convention of the Farmers' Union will meet at Modesto, Cal., on December 3-4-5. Arrangements are made to ask all farm organizations in the State to send delegates to a conference with a view of affiliating in the State, as is now done nationally through the Federal Board of Farm Organizations. National President Charles S. Barrett will be present at this convention, also other able men.

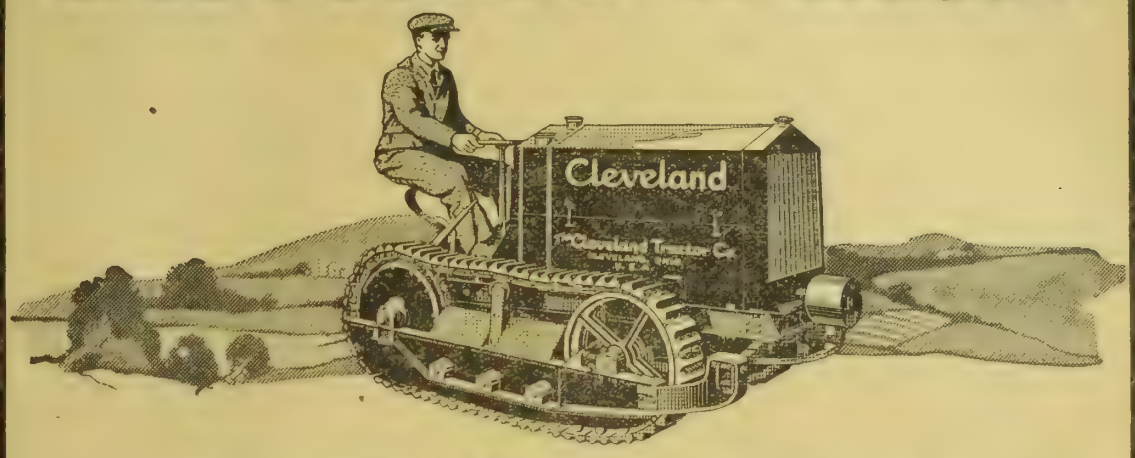
As a result of charges of profiteering in the selling of oranges and lemons in New York City, the Federal Food Board announced last week that retailers' profits must be limited hereafter to 2c on small and 3c on large oranges. A schedule of profits for lemons and other fruit was fixed. Following the investigation oranges dropped $3 to $4 a box at public auction.

Delta Asparagus Work

[Written for Pacific Rural Press.]

After asparagus tops have had the full growing season to store food in their roots for heavy sprouting next spring, frost deadens them and they are mowed off close to the ground. The tops are then burned and the field is ready for shoots to grow and to be harvested next March, as described in a recent issue. During the cutting season, March to June, inclusive, the rows have to be ridged up about every three weeks because the daily cutting opens the ground too much. Disk cultivators are used to work the dirt back over the plants. In July, when the cutting season is past, the first move is to harrow the ridges down as level as possible, running both lengthwise and crosswise. During the first year after planting, the rows are in depressions which are filled up by the harrowing or by cultivation of beans, gyp corn, etc., which are generally grown between them. Little attention is paid to the sprouts, for "you can't keep them from growing." "Joint grass" has to be dug out wherever it gets started, for it and asparagus can't grow together and it will grow unless carefully dug out by the roots.

Cleveland Tractor



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Man-power is at a premium on our farms.

War has taken several million men into the service.

And in spite of these conditions, which are steadily growing worse, there must be *more* crops produced than ever before.

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The Cleveland Tractor, pulling two 14-inch bottoms in medium soil, plows 3½ miles an hour—eight to ten acres a day. That is all you can expect from *three* good men with *three* good 3-horse teams.

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The track is designed for long service. The sections are joined with hardened steel pins which have their bearings in hardened steel bushings.

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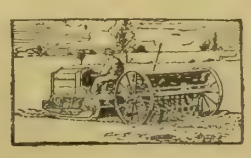

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Better Seed Would Make More Corn.

"Three things the Indian corn grower wants," says Manager Carson Cook of the Rindge Land and Navigation Co., who planted over 200 acres in 1915, 1500 acres in 1916, 4000 acres in 1917, and 9000 acres this year on San Joaquin county delta lands. "Big yield, early maturity, and suckerless stalks are the great needs. Our worst feature is lack of seed selection. Big yields depend on a good stand of desirable stalks, maturing before frost at least one big ear, well set with deep, uniform kernels on a cob of small diameter, which dries out readily to avoid spoiling in the crib. The kernels should be set close together at the top, leaving no pig troughs between the rows. Illinois experiments have proved that any reasonable quality may be greatly increased in Indian corn by a very few generations of selection. To get the sort of ears that make big yields on the sort of stalks that are most convenient for picking, that are least wasteful of their own energy in leaf production, that bear only large ears, and do not sucker badly, the seed corn must be picked from the stalks in the field separately from the main crop. This can be done all the better because, early maturity being one of the essentials, the seed corn is ready for picking before the rest.

Broom Corn Situation.

To the Editor: Please send me a buyer for my broom corn. I have three tons to sell either in the bale or loose to make up here on shares. —R. D. N., Chowchilla

[Broom corn harvest is progressing. The straw is of equal or better quality than last year and the tonnage is about the same, but the market is somewhat draggy. Manufacturers still have on hand some of last year's crop and are at present unwilling to meet the growers' asking prices, which are around $275 per ton. Some rain-damaged broom corn recently sold in San Francisco at $200, but good bright stock would readily command $225 f. o. b. San Francisco. Prices may drop a little if too many growers force their crops on the market at harvest. Then the question will be whether to figure interest on the value of the crop and whatever storage charges there may be as an investment to permit holding for higher prices later. At Chowchilla you are compelled to use rail transportation, which is high on less than carload lots, while Colusa the chief broom corn district of California, has cheap water transportation. If any of our readers want to make up this crop on shares, we will supply the address.]

Whitewash—Preserve This Recipe.

To the Editor: I would like to know how to mix whitewash to paint fence posts so it will stay good.—J. C., Highline, Imperial county.

[The most durable we know is that made in the following way, as told in the "Second Thousand Questions." This book is a compilation of questions asked by our subscribers and answered in the Pacific Rural Press. Slake 62 pounds of quicklime thoroughly in 12 gallons of hot water. Dissolve two pounds of common salt and one pound sulphate of zinc in two gallons of boiling water. Pour the dissolved salt and sulphate into the slaked lime and add two gallons of skimmed milk. Mix thoroughly. The sulphate of zinc will now cost about 20c per pound, or 10c per pound in barrels of 375 pounds f. o. b. San Francisco or Los Angeles.]

Santa Cruz Farm Picnic.

The Santa Cruz County Farm Bureau is to hold a novel picnic, November 16, at the Capitola picnic grounds or at the skating rink, according to weather. Each unit will have a display of farm products to be judged by University judges. Prof. F. T. Bioletti will be there with a cider press to demonstrate with 100 pounds of grapes the methods worked out by the University to make syrup from wine grapes as a substitute for canning sugar, etc. W. W. Mackie will be there with a Ford equipped to actually dip grain for smut prevention. A field has been engaged near by for a tractor demonstration in which several dealers have agreed to participate. Other speakers will be there and a profitable recreation day is assured, according to Farm Adviser H. L. Washburn.

Seed Potatoes Scarce.

Potatoes for seed are scarce, according to H. A. Hyde of Santa Cruz county, who has just returned from Oregon. Many seed potato growers were discouraged last spring. California farmer demand was very slow and Oregon seed growers did not feel like planting heavily. Mr. Hyde believes that the Oregon seed crop is not over 40 per cent. The quality, however, is better and smoother than last year in most fields, especially where there was plenty of moisture. Very little either in California or Oregon was certified this year.

Don't Give Your Beans Away.

G. A. Turner, president and manager of the California Bean Growers' Association, exhorts farmers to stand pat and demand fair prices for their product. He says there never was a time when the bean grower has had less warrant to get panicky. There is positively no indication of over-production, and the most important bean-producing sections are below last year's averages. If you want to stimulate the trade, he adds, "don't slump; stand firm for a living price and you will get it."

Wheat on Peat Not Good.

Wheat does not work on the peaty soil of Delta islands except where it is mixed with a large proportion of sediment, according to J. D. Happy of the Brack Tract. The high nitrogen content makes rank growth which the light, fluffy soil does not hold upright. Both barley and wheat fall down. They can be harvested by running the sickle-bar flat on the ground, but there is always a heavy loss. Wheat loses not only by shattering but by the rust which these conditions encourage.

Planting Alfalfa on Light Soil.

A disk drill for planting alfalfa seed on sandy soft soil was tried and remodeled by A. S. Bomberger of San Joaquin county because it put the seed too deep, especially on the ridges. He quit drilling it in but just dropped the seed on top of the ground, dragging a chain behind each boot. Twelve pounds of seed per acre made a good stand.

Thompson Seedless on Old Vines.

Dr. R. M. Squier, who owns the old F. M. Stone place at Franklin Corners, five miles from Yuba City, has 68 acres of old Thompson Seedless vineyard from which he expected 75 tons of raisins this year. The crop will reach about 40 tons. Dr. Squier has planted out 43 acres more on the strength of the bearing of the old vineyard.

Fence Post Preservative.

Whitewash is not the cheapest nor the best preservative for fence posts. M. B. Pratt, in a recently issued University of California bulletin on the use of lumber on farms, recommends high-grade creosote oils, use of which at double the first cost of the post in the ground reduces the cost per year to less than half the annual cost of untreated posts.

Orange Trees in Full Bloom.

We noticed two large orange trees in full bloom at R. L. Niemann's home at Winters on October 11. Pears and cherries have shown bloom in various sections from the warm weather following early rains.

Rice Harvest Shows Good Conditions

[Written for Pacific Rural Press by M. S. Cowen, San Francisco, Oct. 30.]

The California rice crop, consisting of 100,000 acres of matured rice, is now in course of threshing, and provided the present weather conditions continue for a fortnight, it will prove to be the banner crop of California rice ever grown. Lack of water some two months ago caused considerable consternation to the growers—this was caused by some water companies closing their canals by order of the Railroad Commission. This resulted in lack of irrigation to a considerable acreage, but a large portion of same was rescued before it had gone to utter ruin, as other ways and means for securing water were obtained, but at a great expense. The major portion of the crop was not affected, however.

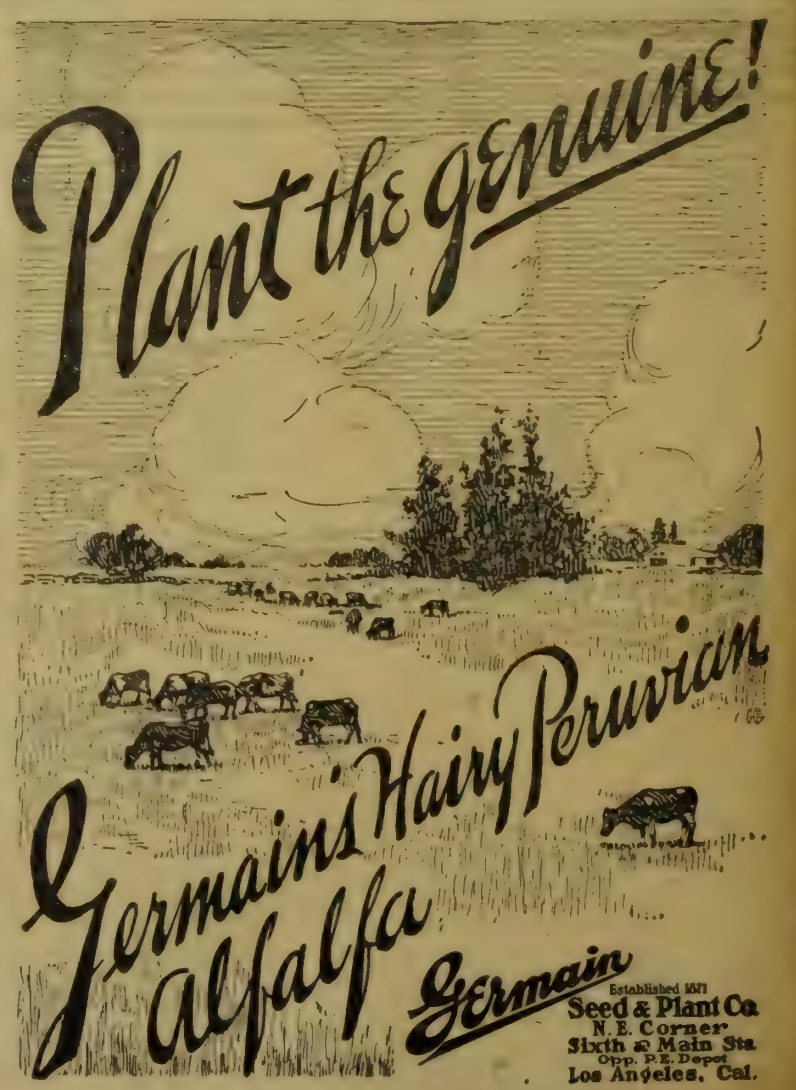
The result is that today 500,000 bags of a 3,000,000 bag crop of California Paddy has been threshed and now has been placed in the country warehouses. The entire crop will be threshed and stored within the next two weeks, provided that present weather conditions continue. The prevailing north winds in the upper Sacramento Valley have been nothing less than wonderful for the drying of the crop. In past seasons this has been one of the greatest difficulties encountered. Rains after the crop has been cut have done material damage, but the slight rains ten days ago, being so slight, caused no damage and the farmers are more than pleased with the climatic conditions.

The California Rough Rice Committee appointed by the Food Administration to handle the selling of the Paddy Rice to the millers, has been working strenuously the past two weeks, but the large crop and the details connected with the handling of same have caused considerable delays. It is for this reason that, although a portion of the crop was harvested two weeks ago, this is just now beginning to leave the millers' hands. Farmers are receiving $4.32 per 100 lbs. for No. 1 Paddy—and No. 2 and No. 3 grades in proportion, but have been slightly handicapped in disposing of the crop immediately by delays caused by the committee, which, as already stated, are unavoidable. Instead of dividing the rice into grades, the Committee on Allotments to date has merely sold the round lots as a lot—and the prices have ranged from $4.22 to $4.30 for the lots, as they stand. This, of course, consists mostly of No. 1 grade—but in this will probably be found No. 2 and No. 3 Paddy.

The first clean rice shown on the San Francisco market was on October 29—and same proved far superior to what had been expected. The color is extremely good and the rice fairly well hardened.

The demand for clean rice is greater than the supply today and will be for months to come. All the wholesale grocers in the United States are clamoring for rice. The Government is commandeering large quantities of clean rice as quickly as the mills can furnish it and it is predicted that the California crop will be entirely disposed of within five or six months, without any difficulty whatsoever. The Government has protected farmers by refusing to allow the importation of foreign rices into the United States until the domestic crop is entirely disposed of.

The demand for clean rice having increased during the past year, and all wholesalers being absolutely sold out of every bag available—even without the Government commandeering a large part of the crop, it will not even supply the domestic demand. From present conditions, and with Government regulation of price, the future of California rice industry knows no limits and a decided increase in acreage is looked for next season.



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OUTCROPPING OF ODD BEANS.

To the Editor: How do you account for the appearance of these odd beans in my field of carefully selected small whites?—P. L., Denair.

[Answered by Prof. G. W. Hendry, University Farm.]

The circumstance of odd color beans appearing in a field of small whites has been brought to our attention in the past on several occasions.

It is the general opinion of farmers that such anomalous seed is a result of reversion. In several instances in which we have planted the so-called reverted seed, we have found that it always produces seed of exactly the same character as that which we planted, and under these circumstances we are compelled to believe that these off color seeds are a distinct variety which has been accidentally mixed in the regular seed and overlooked at planting time. If the seed were a reversion, it would be only natural to expect that when planting it would show some tendency to produce white seed.

The black beans which you have submitted have all the appearances of being a variety of the black wax string bean. The small light brown seed is in all respects similar to the variety known commonly as the small bayo or bayo Chico, formally cultivated in limited quantities in this State and originating in Chile.

WHAT IS MANGANESE STEEL?

When a tractor salesman impressively tells you that the tracks or other parts of his machine are made of manganese steel, what does that mean to you? Manganese is a metal found in various combinations in many of the mountain districts of California and elsewhere and now being mined as never before on account of its peculiar properties. Most of it is now used in the manufacture of steel for the Government. In the form of spiegeleisen it is combined with 4 or 5 per cent of carbon and 75 to 80 per cent iron. In ferro-manganese the iron content is reduced and the manganese content increased. Manganese steel castings are alloyed with 12 to 14 per cent of ferro-manganese. When properly compounded by specialists, such a casting is extremely elastic, making it resist breakage due to shock. It is strong enough to stand a tensile strain of 92,000 pounds. It may be bent badly out of shape without cracking. Such castings are becoming popular with tractor manufacturers for bull gears, pinions, sprockets, shoes, rollers, pins, bushings, lags, chains, and other parts subject to special strain or wear.

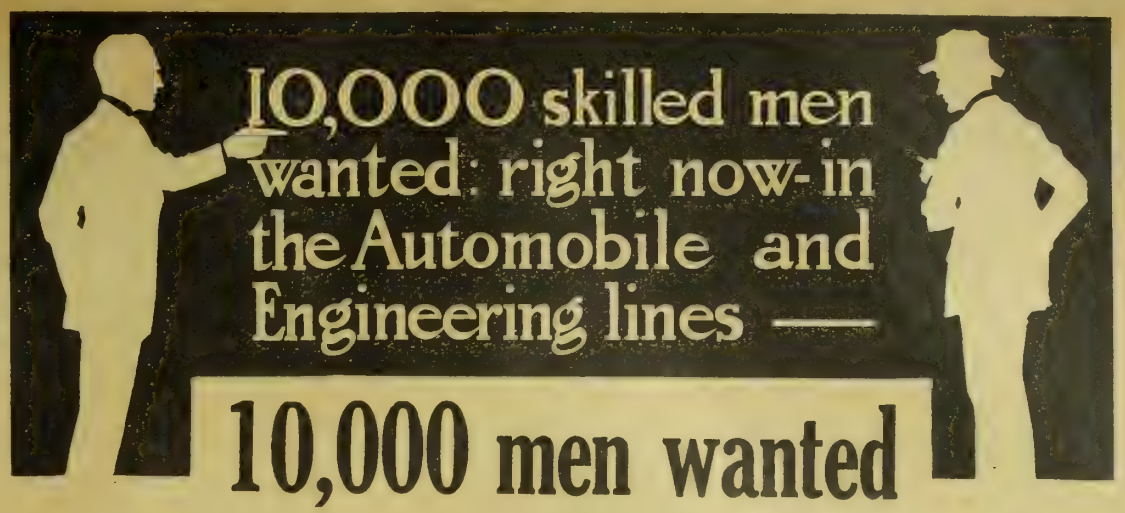
A NEW CALIFORNIA FRUIT INDUSTRY.

The Prune and Apricot Growers' Association is converting 400 tons of small dried apricots into jam at its new plant for by-products at San Jose. A bottle was opened for us by the manager and, though it lacks a little the clearness of color obtained from fresh fruit jam, it has more nearly the flavor of the fresh fruit than any we have ever tasted.

The plant has only been opened a few weeks. Besides the apricot jam, large quantities of syrup and cooked prunes are being canned. The association now has orders from the Government for 4,000,000 pounds of canned stuff which it is now putting into execution, running the plant to its full capacity.

This is a new departure and it has unlimited possibilities for future development, to which the association is very much alive. Jam-making in California and fruit-pulp for European jam-makers is an industry that can be seen in embryo at the San Jose by-products plant of the California Prune and Apricot Growers' Association.

O. H. Stevens, for many years Los Angeles manager for the Holt Manufacturing Company, died Saturday morning early with Spanish influenza.



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USE YOUR SPARE TIME—Learn a trade that is in demand—No matter if you are 30 or 40 years old—remember that Lincoln did his best work as a student after he was 40—We have here—right now—38 men who are over 45, and yet are making a success of their work here—RIGHT NOW is the time for action—Get ready to start and make 1919 a "WINNER."

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—Auto Machinist	—Farm Tractor Operator	—Marine Engineer
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WILL WORK WONDERS ON YOUR FARM

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WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

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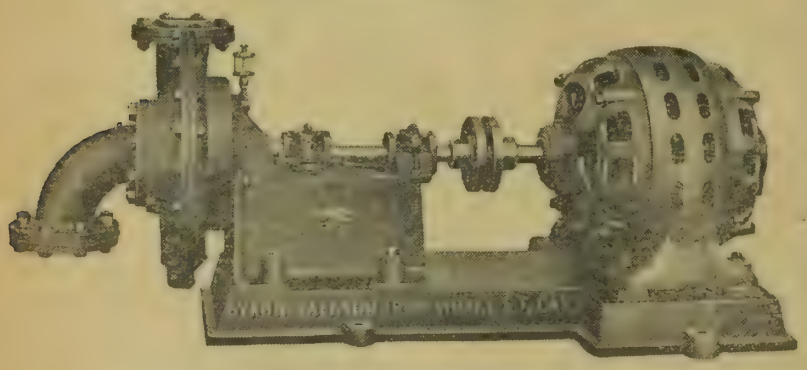
UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

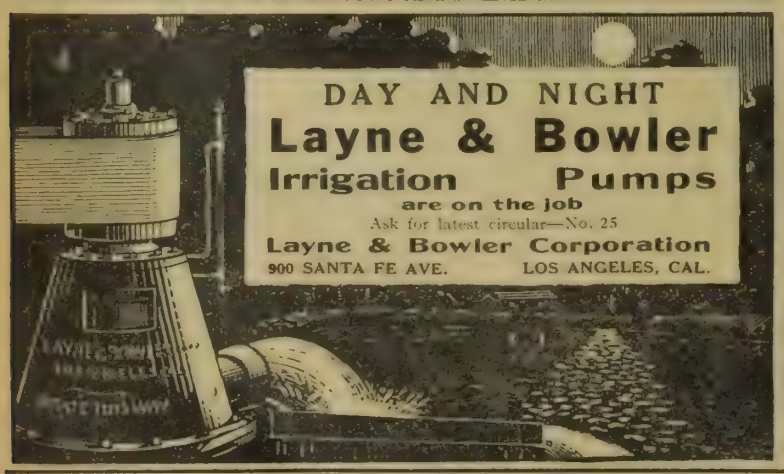
"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



Write us your conditions.
New Catalog No. 60-A for the asking.

BYRON JACKSON IRON WORKS, Inc.

LOS ANGELES SAN FRANCISCO VISALIA



POWER NOTES.

The present shipbuilding program calls for 2300 steel ships using 4,500,000 tons of steel.

The International two-row corn cultivator demonstrated at Los Angeles pushed its shovels ahead of the engine and drive wheels.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

CALIFORNIA EMERGENCY TRACTOR CLASSES.

[Written for Pacific Rural Press by J. B. Lillard, State Supervisor of Agricultural Instruction.]

The State of California will this year operate genuine tractor schools, graduates of which will be their own trouble finders and repair men, as well as expert operators. To quote John C. Beswick, director of this work: "It is one thing to know about tractors, but quite another thing to know them. At these schools, in your working clothes, you learn to know them by working with them."

The course is designed to meet the needs of farmers and tractor operators and will be valuable training for prospective tank operators and mechanics of the battlefield.

The sessions will be four weeks in length. For day students the class will be six hours daily, six days in the week; for night students two and one-half hours an evening, three sessions a week.

The first two weeks' work will consist mainly of assembling, disassembling and repairing gas engines. The last two weeks will be devoted to tractor assembling, disassembling, repairing and operating in the field. The instructors are men who have had long and successful experience as tractor and engine mechanics and operators.

The classes are divided into three units, each unit consisting of ten schools each, and tentatively distributed over California as follows:

Unit No. 1—Madera, Reedley, Lemoore, Tulare, Delano, Brawley, El Centro, Hemet, Ontario, Van Nuys.

Unit No. 2—Merced, Patterson, Oakdale, Lincoln, Gridley, Chico, Corning, Willows, Williams.

Unit No. 3—Saticoy, Santa Maria, King City, Salinas, Hollister, Santa Clara, Livermore, Concord, Napa, Santa Rosa.

In each center are five tractors and a full complement of farm machinery, together with used local tractors, gas engines and special tools. The tractors are of several sizes, to meet the different uses they may serve in the community. This undertaking is financed by the State Board of Control and the Controller out of their emergency fund and administered by the State Board of Education, through its Department of Vocational Education.

DISK ORCHARD TRACTOR PLOW.

To the Editor: I am going to get an orchard tractor and a two-gang plow. Which will give more satisfaction—a moldboard or disk plow? —Subscriber.

[A. G. Beaulieu of Santa Clara county has a Bean tractor and says he wouldn't use any but a disk plow for orchard work; and he says it should be a three-disk gang. He is now using three-disk John Deere gang plow where trees have just been pulled out. Last spring a melilotus cover-crop "actually" 3½ feet tall was turned under in a prune orchard with the little tractor and the same plow, using all three bottoms and no chain. It turned the melilotus under so you could see scarcely any of it. The three-bottom plow is better because in the make he is using he can plow closer to the trees, and if it pulls too heavy for deeper plowing or harder soil, take one off. To avoid barking trees, Mr. Beaulieu leaves two furrows to be plowed with horses next to tree rows when throwing dirt away from them. He showed us where the disk had cut a good-sized root as clean as the shears could have done, and pointed out that with a moldboard the root would have been broken, leaving a rough end for root knot or disease to enter because it could not heal quickly, if at all, and the stub would be loosened, too. In cherry trees, many of whose big roots run close to the surface two or three feet before dipping downward, a moldboard would do something violent while the disk would roll over them. Mr. Beaulieu's dead furrow was as pretty as anyone could look at, not exposing any hard ground. He had run back along the dead furrow after finishing his land.]

CABLE TRACTOR PLOWING.

There are several cable-plowing outfits in California which eliminate the tractor running back and forth over the stubble field and save all the power required to propel them, but lose some by friction of the cable on the ground and require two engines, two engineers, and one or two plowmen to keep one gang plow busy. One recently observed on the J. P. Sargent ranch in San Joaquin county was using two steam tractors of unknown horsepower and 180 pounds steam pressure to pull five 10-inch moldboards about a foot deep in heavy land to be planted to beets. There were two five-gangs on the same frame facing each other on opposite sides of the axle between two big wheels. The frame was angled so when one gang was in the ground the other was in the air, balance being changed by screwing the frame forward and backward over the axle. The furrows were several hundred yards long.

WORKING PARTS NOW ENCLOSED.

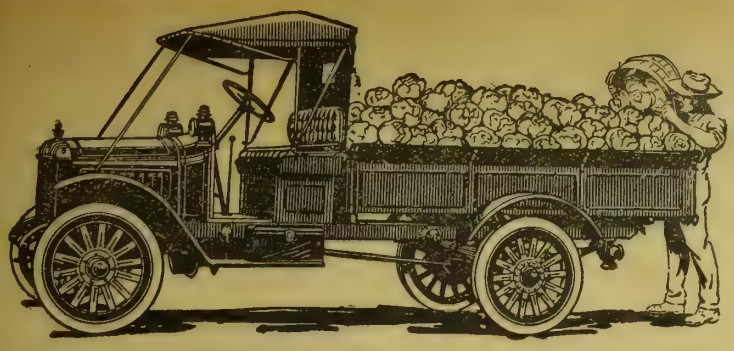
The cut used to illustrate the advertisement of the Cleveland tractor in the issue of October 26 is that of an old style tractor which has been discarded. Its insertion was an inadvertance. The Cleveland tractor of today is much refined over previous models. The working parts have been so enclosed that it gives perfect protection from dust, thereby lessening the wear on bearings and all moving parts.

University Tractor Course

One hundred and sixteen people had registered October 31 for the University Farm Tractor Short Courses at Davis, November 11 to 19, and November 20 to 22, inclusive. Enrollments are limited to 200 in the first course, the latter dates being reserved for owners and experienced operators and for those who have taken the beginners' course, November 11 to 19. As advance registration is usually slow a lot of people are going to be disappointed when they try to enroll at the last day. The courses will be similar to the ones held at Davis last year and the year before, and at Riverside last year. They will cover principles and construction of all parts. Fourteen tractors will be used in the instruction, including Avery, Bean, Best, Case, Cleveland, Emerson-Brantingham, Fageol, Holt, I H C, Moline, Samson, Sandusky, Wallis, and Yuba. Practice with these machines in the field will begin November 15 after the lectures and demonstrations with gas engines and tractor parts on preceding days. Two periods of tractor operation will follow each day.

OWNERS AND OPERATORS' CONFERENCE.

November 20 will be special "Owners' Day," writes Prof. J. B. Davidson, who has had charge of these courses from the beginning. November 21 will be Field Day for owners and experienced operators. These days and November 22 will be largely in the nature of a conference and question-box discussion of any and all problems that affect tractor men.



REPUBLIC TRUCKS Modernize Farming

WITH a Republic Truck on your farm, you can get the same speed and efficiency in your hauling that are making profits for successful business men in every other line.

The Internal Gear Drive is simple as well as powerful. Owners say that it is practically trouble proof.

Republic Trucks are built by the largest manufacturers of motor trucks in the world, who build nothing but motor trucks and know just how to build them to insure their giving constant dependable service at a minimum cost. Last year more than twice as many Republics were produced and sold as any other make.

The Internal Gear Drive used on all Republics, gains extra leverage by applying the power near the rim of the wheel. That gives greater pulling ability under all conditions. The load is carried on a separate I-beam axle of solid forged steel and the driving mechanism has nothing to do but to drive the truck.

45% greater road clearance makes this the ideal truck for country roads and there is less unsprung weight which means a big saving in tires, gasoline and all upkeep expense. Republics are also remarkably easy riding.

More than 1300 Republic Service Stations, distributed all over the United States, make quick service everywhere available.

Seven Models 3/4 ton to 5 ton

Investigate Republic Trucks now. Find out their reputation for uniformly dependable service and ask the nearest Republic dealer which Republic will best do your work.

Write us for late booklet

Republic Motor Truck Co., Inc.
Alma, Michigan

The Largest Manufacturers of Motor Trucks in the World

REPUBLIC

Internal Gear Drive

MOTOR TRUCKS

When You Buy a Tractor—

REMEMBER, it's the plows, disks, drills, binders, ensilage cutters, feed grinders, threshers and the like that do your farm work. The tractor is useful only as it furnishes cheap, dependable power for **all** the other machines.

That's why we say, if you need a tractor, you can't make a mistake in buying an **International kerosene tractor.**

We have had over 75 years' experience with farm machines. We know the kind of power they require—all of them. For over twelve years we have sold tractors that supplied that kind of power. We know from experience that the sizes and styles of tractors we sell today will work with the machines you depend upon for your success and prosperity. And—our tractors all operate successfully on cheap kerosene.

When you buy an International kerosene tractor you buy with it the benefit of our long farm machine experience and all the advantages of dealing with a service organization which brings a well stocked branch house or a live, wide-awake retail dealer within telephone call of you. It may surprise you to know that an International tractor, plus these advantages, which no one else can give, costs you less per year of active service than any other tractor sold in anywhere near the same numbers.

International Harvester Company of America
(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

NISCO MANURE and STRAW Spreader

Straw Worth $8 a Ton---Don't Waste It

(All statements approved by Experiment Stations, Departments of Agriculture and progressive farmers).

Science and the experience of many up-to-date farmers prove that your straw stack contains tons of humus and much phosphorus, potash and nitrogen. At present prices, straw has a fertilizer value of $8.00 a ton—too valuable to burn or sell at a low figure.

In addition to that, it prevents the winter killing of wheat, soil blow or washing, conserves moisture and makes tough, sticky soil much more friable.

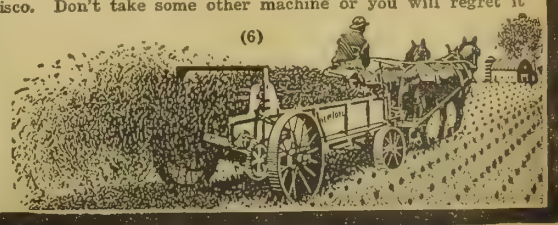
But you can't get these results by haphazard, wagon-tail distribution. The straw must be well shredded, well distributed and put on evenly. The one sure way of getting all these results is to use the

NISCO ONE MAN Straw Spreading Attachment

You can put this attachment at small cost on your trusty Nisco—the original wide spreading spreader, and make it a perfect machine for both manure and straw—two machines in one. Spreads straw evenly 8 to 10 feet wide.

The Nisco has always been the bellwether of spreaders. It is always in the lead with new improvements and is built for a life-time of service. "Not a cent for repairs" is the statement of thousands of farmers who have used the Nisco for years.

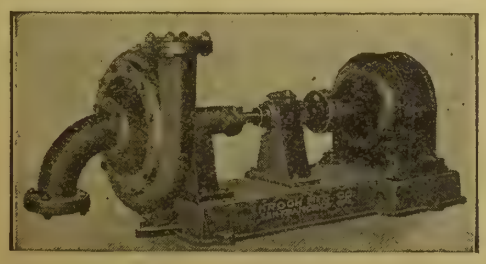
See your Nisco dealer and have him show you the advantages of both the Nisco and the straw attachment. Don't wait for him to call on you as he is short of help now. Insist on the Nisco. Don't take some other machine or you will regret it later on. Ask the dealer or write us for illustrated circular and book on manure. Act now and be prepared for the spring drive of 1919.



New Idea Spreader Co.
Spreader Specialists
Coldwater, Ohio

IRRIGATING PUMPS

AWARDED PANAMA PACIFIC GOLD MEDAL INTERNATIONAL EXPOSITION HIGHEST AWARD GIVEN



Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever.

Also DEEP WELL TURBINE PUMPS for bored wells 10 inch diameter and up

Write for Bulletins

KROGH MANUFACTURING COMPANY 149 Beale St., San Francisco, Cal.
Branch Sales Office at LOS ANGELES

PIPE

For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped

New and Used Screw Casing

Fittings and Valves Special Fittings Made to Order

TESTED AND GUARANTEED.

PACIFIC PIPE CO.

MAIN AND HOWARD STS. SAN FRANCISCO, CAL.

General Agricultural Review

Field Crops.

Some success is being attained in hemp growing in the delta district of the Sacramento river.

Bean growers of Santa Barbara county believe that the crop this year will amount to $1,500,000.

Henri Bernier, manager of the Sunical Packing Company, is endeavoring to have hop land owners plant tomatoes.

O. E. Lambert, a Wood Colony rancher, asserts the crop of alfalfa seed in Stanislaus county is only 20 per cent of the normal yield.

The Anheuser-Busch plant of San Francisco will henceforth dehydrate vegetables instead of brewing beer. The company already has a $50,000 Government contract.

The sugar companies of Utah and Idaho have decided to pay the farmers $12 per ton for beets next year, instead of $10, the price now prevailing. Last year the rate was $7 per ton.

Alfalfa prices are lower and not much hay is changing hands. Prices have declined about 20 per cent. The grazing in many parts of the State is good and the demand for hay shipment is light.

The 1050-acre sweet potato field farmed by Owens Brothers and Arkalian Brothers, five miles west of Atwater, is said to be the largest single sweet potato field in the world. A forecast of 100,000 crates is made.

"I can sell my small white beans at 9½c now," recently said a grower of 650 acres of that variety. About 30 per cent of his were lost by the rain and the rest have to be hand-picked to get rid of discolored ones.

Fifty-four men arrested in Los Angeles under the work or fight order have been sent to the Ventura bean fields to pick beans at $4 a day. They are under suspended sentences of 180 days, which will be enforced if they quit their jobs.

A rancher near Sanger has demonstrated that cotton can be grown successfully in the Sanger district. He has completed picking for the first time thirty acres of this staple, which was planted near Sanger in May. He expects to get twelve bales from the thirty acres.

"I will raise nothing but sugar beets next year," says M. Fortes of Monterey county, who is unable to sell his beans and barley but who is getting about $10 per ton for his beets on the basis of $9 for beets testing 15 per cent sugar and 50c additional for each additional per cent of sugar.

According to the report of County Commissioner of Horticulture Earl Mills, the 1500 acres of cotton on the Dodge Land Company's holdings in Butte and Glenn counties will take a yield of one bale to the acre. The average for the United States is said to be little more than half a bale.

While large potato growers have found the markets dull, G. E. Nicholson of Santa Clara county has been selling his crop from a small acreage at $3 per cwt. on his own ranch. They are bright, smooth, uniform, good cookers, and good keepers for six or eight months. Mr. Nicholson lost two-thirds of his crop due to the rain.

The army consumption of beans averages 125,000 pounds per day. The army, navy and allied requirements of beans for the coming year will be placed through one purchaser, the Food Administration Grain Corporation, which has made arrangements to inspect and pay spot cash for beans in the producing fields.

Word comes from Stockton that the Spreckels Sugar Company has announced that the price set for next year's crop is $10 per ton for beets of 15 per cent sugar content, with an additional 60c per ton for each 1 per cent sugar above the 15 per cent basis. There will also be a reduction of 60c per ton for each 1 per cent below 15. This is an increase over the price paid for beets last year, when $8.25 per ton was paid on the 15 per cent sugar basis, with a variance of 55c from the differential.

From Santa Ana word comes that in the beet-growing sections of Southern California a big increase in the price for beets is offered, being 50 per cent over the price under which contracts were made last year. Against the price of last year of 50c a ton for each per cent of sugar quality above 15 per cent, the companies this year will give 80c, when the price of sugar is 9c, the price prevailing this year. The increase will go still higher in the event sugar nets the factories above 9c. The average paid a ton this season has been $9.25 and the same beets next season will bring $14.40 a ton.

Deciduous Fruits and Nuts.

Windfall Newtown Pippins at Watsonville are bringing $23 per ton at the driers, which are now running.

Apple harvest is proceeding steadily in the Watsonville district and three-fifths of the crop has already been garnered.

The Oregon prune crop this year was heavy and well dried, thanks to their system of artificial driers. Hungarians are the chief variety.

A ton of fruit pits was recently placed at the disposal of the Government by O. A. Knold of Ontario, for use in the making of gas masks for soldiers.

Nursery stock in California and Oregon is rather short, according to H. A. Hyde of Santa Cruz county. Prunes especially are in heavy demand and the supply will be sold early.

Fruit men in California are warned that there is a quarantine in force against importation of certain scions from Eastern States. The following may not be imported: Peach, apricot, or nectarine trees, or trees grafted on these roots, from any State bordering on or east of the Mississippi river, on account of peach yellows and contagious peach rosette; chestnut trees from east of the Rocky Mountains, on account of the chestnut bark disease; all citrus stock from any State except Arizona, on account of the citrus canker and melanose; all five-leafed pines, goose berries, and currants from all States bordering on and east of the Mississippi river, on account of the white pine blister rust; and all strawberry plants from Oregon or Washington, on account of the strawberry weevil. They will be condemned on arrival under the State quarantine law.

Citrus and Semi-Tropical.

The Woman's Land Army announces that that organization is prepared to send women workers out to aid in picking and packing the early orange crop.

C. H. Doyle, horticultural inspector for the Porterville district, has opened offices for the orange season and installed a chemical equipment with which maturity tests of oranges will be made.

Preparations for the Ninth National Orange Show at San Bernardino, which will be held February 14-23, 1919, now are well under way. Displays will be representative of all citrus fruit sections of California.

Lemon picking in the Porterville district is under way. The quality of fruit is good. Estimates place the probable output for the season at double that of last year. The average price to date has been around $6 per box net.

Refrigerator cars of both the Santa Fe and Southern Pacific railroads will be pooled for the coming season, according to railroad officials. Present indications are that all oranges for the East will be handled over the Santa Fe.

The olive crop of Placer county, while not heavy, is large size. About 20 tons of the olives from the Roseville district have been shipped East to Boston and New York City in lugs by express. The grower received $200 per ton.

The Lindsay-Merryman Citrus Exchange of Lindsay shipped two cars of Thompson Improved navels to New York City, November 2. This fruit tested over 10 to 1. The shipment is ten days earlier than the first shipment out of the State last year.

Reports from the large orange orchards of Placer county indicate that a crop of 80 per cent normal will be picked. The old Whitney orchard, near Rocklin, will produce from 30 to 40 carloads of navels and picking will begin about the 12th of this month.

Careful tests are being conducted in the citrus orchards around Woodlake, Tulare county, and these show the fruit keeping up well with the 8-to-1 acid test. Heavy demands of the Eastern markets will bring about earlier harvesting. It is estimated that the crop will be fully 40 per cent of normal.

Grapes.

Not all grape men, it is reported, are planning to dig out their vineyards when the nation goes dry, but rather express themselves as optimistic that there will be some remedy for the situation which will leave the grape industry a profitable one in our State.

In all sections of the Livermore Valley there has been this season a lack of sugar in the grapes due to the damp, foggy mornings and the dampness in the soil. The vineyard men have been getting about $45 a ton for their grapes. Growers and winery men alike think that this is the valley's last vintage.

The California Associated Raisin Company recently issued a statement to the growers, asking them to hold back their deliveries for a day or two or longer if necessary. The request calls attention of the growers to the shortage of packers owing to the influenza and the impossibility of operating the plants at full capacity.

The Eastern demand for California raisins is heavy. Growers are assured of selling their entire crop. The Associated has notified jobbers that only Thompson Seedless raisin orders are to be delivered in full; fancy seeded Muscat orders will be filled 50 per cent, and layer raisin orders only 25 per cent. Orders for bulk seeded will be delivered in full.

Exports of Valencia raisins to the United States decreased from 586,096 pounds in 1916-17 to practically none this season. This decrease was due to lack of tonnage, the import restrictions of the United States Government, and the growing control of the American market by the California raisin industry. Exports of Valencia raisins to the United States show a steady decrease during the past ten years, coincident with the falling off in the size of the crop itself and with the growth of the California raisin industry.

Miscellaneous.

Russian thistles have made their appearance in Porterville for the first time.

During September 653,619 acres of Government land were rendered available for entry in tracts of 640 acres or less under the stock raising homestead act.

CAN'T PUNCTURE NOR BLOW OUT

DAYTON AIRLESS TIRES in the past 6 years have been used by thousands of owners of light passenger and delivery cars in all parts of the civilized world, and have conclusively demonstrated:

1st—They can't puncture nor blowout.
2nd—They ride as smoothly as pneumatics.
3rd—They give much longer wear than the average pneumatic.
4th—They absolutely will not injure the car.

They have been endorsed by 50,000 or more satisfied users including the late George Westinghouse and Edward Grey, formerly Chief Engineer of the Ford Motor Company.

Piers of live, elastic rubber built about one inch apart inside the casing and vulcanized or welded to it take the place of an inner tube.

Nothing can happen but wear.

We have standardized on 30 x 3 and 30 x 3½ and the price is right.

We sell direct where we have no dealer.

We want an exclusive dealer in every county—tire experience not necessary. Excellent chance to build up in a protected territory a very profitable business either by itself or as a side line.

THE DAYTON RUBBER MFG. CO., DAYTON, OHIO

MAIL THIS COUPON TODAY

The Dayton Rubber Mfg. Co.
Dept. P. R. Dayton, Ohio

Please send without obligation booklet and information on Dayton Airless Tires as checked below:

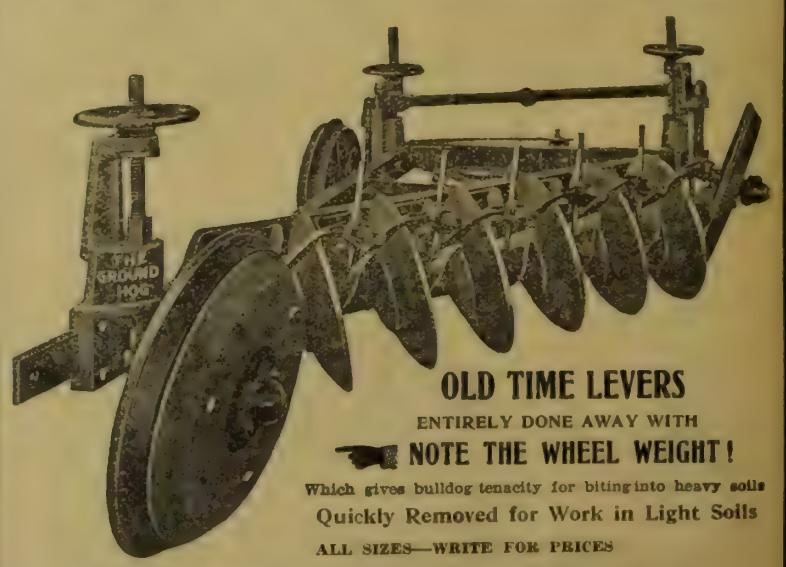
..... For Ford pleasure cars.
..... For light delivery cars.
..... Proposition to dealers.

Name .....

Address .....

County ..... State .....

HERE IT IS— THE NEW MODEL **"GROUND HOG"**



OLD TIME LEVERS
ENTIRELY DONE AWAY WITH
NOTE THE WHEEL WEIGHT!
Which gives bulldog tenacity for biting into heavy soils
Quickly Removed for Work in Light Soils
ALL SIZES—WRITE FOR PRICES

Spalding-Robbins Disc Plow Co.
625 MARKET ST. SAN FRANCISCO, CAL.

The Boy Scouts of Modesto are organized for an effort to collect black walnuts for Government gas mask purposes.

Farm loan bonds in the future will bear only 4½ per cent interest instead of 5 per cent, carried by the last block of more than $50,000,000 offered last May.

Tractor school instruction and demonstration have been seriously interfered with and in some cases indefinitely postponed by the prevalence of the influenza.

Through the installation of an irrigation system which will include six 42-inch centrifugal pumps, the Sutter Basin Co. expects next year to have its entire area under cultivation.

Carloads of fruit pits and nut shells, utilized as carbon for gas masks, are en route from a number of cities in the United States to the gas defense division in New York City.

The annual convention of the California Farmers' Union will be held in Modesto, December 3 to 5. Representatives from every farm organization in the State are expected to be in attendance.

Estimates on the 1918 production of honey in California indicate there will be about 200 carloads or nearly 12,000,000 pounds. At an average of 20c a pound, the crop will be worth about $2,400,000.

Federal farm loan bonds will not be offered for marketing in the near future, it is announced by George W. Norris, Federal Farm Loan Commissioner. He says: "The proceeds of the bonds sold in June will take care of the loaning requirements of the Federal Land Banks until nearly the end of the present calendar year."

Cornell University of New York has again come to California to get one of our farmers as the head of its Agricultural Extension Department for the winter campaign. This makes the third or fourth time Dr. Leroy Anderson of Santa Clara county will have served in that far-away office.

Three hundred and fifty convicts in the State prison at San Quentin are members of the San Quentin Agricultural Club, which is conducted in co-operation with the University of California Extension Division of Agricultural Education. The average attendance at 11 lectures given by members of the university staff during the year was 570.

HANDY BEET UNLOADING.

No attendants at the cars and no high trestle for dumping purposes are needed by Monterey county sugar beet growers, most of whom use rope nets with which they can put a four- or six-horse load onto the cars in five minutes or less. Separate nets are used on the forward and rear halves of each wagon. They are of 5-inch mesh, ⅜-inch rope with inch rope around the edges, and fixed to hook a team onto their edges. Nets having been laid on the wagon bed, the beets are piled on in the field, the load is hauled close beside the cars, the beds being level with the tops of the cars due to a dirt dump alongside the track. On the opposite side of the cars and about 20 feet from the track big posts have been set and guyed, about one for each car on the side track. Cables around them about eight feet up are ready for the single-single block and tackle which reaches across the car to the net at the opposite side of the load of beets. A pair of horses from the wagon pulls the block and tackle, simply rolling the net over and tumbling the beets into the car.

THE BIGGEST AUCTION SIGNBOARD.

What is believed to be the largest painted sign ever used to advertise an auction sale in the West now greets the eye in red, yellow and black at Tagus Ranch, Tulare. The sign itself is 200 feet long by 20 feet deep, nearly covering the entire side of a mammoth 240-foot warehouse facing the highway and railroad. This monster sign is only one of the minor advertising features that will be used to let the public know about the tremendous four-day auction sale that will be held on the ranch, December 10-11-12-13, when the herds of cattle, hogs, and horses will be completely dispersed, and more than $50,000 worth of implements will be sold at auction. C. L. Hughes, Sacramento, will have entire management of the sale.

REPELLING RABBITS.

To the Editor: Seeing in your issue of October 12 the hard luck that M. M., Turlock, had with jack rabbits, you may publish my experience. This year, after the rabbits had eaten one-fourth of my cucumbers and melon vines, I stirred about one-half teacup of coal tar to a bucket of water, strained it and sprayed the vines. Mr. Jack did not molest them again until about the time the melons began to ripen, then he went for the melons. I sprayed again and did not find any more of his work. I keep the rabbits from my small fruit trees by rubbing them over in the fall with bacon rinds or a greased rag. Any blood rubbed on will keep them away all winter.—I. L. Schermerhorn, Placerville.

GOVERNMENT MOTOR VEHICLES.

Contracts for $130,000,000 worth of motor vehicles have been placed by the U. S. motors and vehicles division to supply requirements of the Motor Transport Corps. They include 800 3½-ton motor trucks, 202 2-ton trucks, 500 1½-ton trucks, 600 5-ton chasses, 1020 3½-ton chasses, 6250 3-ton chasses, 2100 2-ton chasses, motor cycles, bicycles, and other equipment of this nature.

THE APPLE CROP.

Late apples have been improving in condition right along and the crop will apparently approximate that of last year. Though some States are shy, New York has a bumper crop.

RED CROWN GASOLINE

Starts easy

And develops great power and mileage because of its full, uniform chain of boiling points. Look for the Red Crown sign before you fill.

STANDARD OIL COMPANY (California)

The Gasoline of Quality

Dealers in PAPER Blake, Moffitt & Towne
37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

Water

where you want it,
when you want it,
day time---night time,
Spring, Summer, Fall and Winter;
for house and barn,
garden and farm,
people and livestock,
from a redwood tank and pipe line that last longer than your life and cost so little to construct and install, and almost nothing for upkeep for fully fifty years.

Write for informative literature---telling us about your present water supply.

PACIFIC TANK & PIPE CO.
THE STANDARD SINCE '88

15 Pine Street, San Francisco

911 Trust and Savings Building - - Los Angeles

California's First Exclusive Livestock Show

(Continued from first page.)

animals. If he can win over them it will be a feather in his cap. If he cannot, but will take his defeat in the proper spirit, it will be worth hundreds of dollars to him, for he will find out the deficiencies in his own stock, revise the standard toward which he is breeding, and in a short time have the kind of stock that meets the popular favor.

BENEFITS TO THE SMALL BREEDER.

For the same reason, the show will be of inestimable value to the small breeder who attends merely as a spectator. Heretofore he has seen only local stock, but at this show he can see the pick of the land. He will have an unequalled opportunity to study size, type, conformation, finish and breed characteristics, and to establish in his mind an ideal toward which he should breed. He will go home with a new vision and a determination to breed his herd up to a higher standard—perhaps buying some new stock to accomplish this.

AIM TO START NEW BREEDERS.

But as much as this show will benefit the exhibitor and the small breeder who does not exhibit, it can prove of even greater value to the one who is not at present engaged in livestock raising. This includes both the farmer who does not raise livestock and the city man who should be engaged in farming and livestock raising. In the latter class are many wealthy men who are always glad to invest money in profitable enterprises, and they should be convinced of the commercial possibilities in the raising of high-class stock.

As has been said, we must return to the days when the pioneers brought to this Coast the best purebred stock that could be purchased at any price. There is a dearth of livestock in the world now. We of California owe it to our State to develop this wonderful but latent industry, and our wealthy men should be educated along this line.

GREAT FUTURE FOR LIVESTOCK INDUSTRY.

Yes, the world is facing a livestock famine that it is almost impossible to comprehend, yet after the war is over livestock raising will not drop like "war stocks," for it is not a war business. It is essentially a peace business, and when peace comes the reorganized, revitalized livestock business will grow by leaps and bounds.

After the war is over the fires of many furnaces will die out. The makers of machinery and munitions will cease to fatten. People will instinctively turn to the soil as the source of natural wealth, and the farm will be the cornerstone upon which will be builded a new nation with new ideals of living. The meal-ticket grower will have a front seat and will be in the limelight as never before. So the one who ties to the farm, takes up livestock raising—the most profitable branch of farming—and starts now to raise stock to supply this demand which is surely coming will reap a rich harvest.

In this State are twelve million idle acres that ought to be under cultivation and covered with livestock. We can raise stock here cheaper and better than in any other State in the Union, and it is almost a crime that we are not doing more along this line. So if the San Francisco show will but kindle the fire of ambition in the hearts of men who can and should go into the business of livestock raising it will have fulfilled its mission.

The late President McKinley, in his memorable speech at Buffalo a few hours before his assassination, said: "Expositions are the timekeepers of progress." Let us hope that this first annual livestock show on the Coast will mark the beginning of a new epoch in the breeding of high-class livestock. The future is full of promise. Let us hope that our big men will have the vision to see it.

ONLY HIGH-CLASS ANIMALS ALLOWED.

The policy of the show is to permit the exhibition of only such animals as have breed type, individuality, finish and unquestionable quality. Even though registered, they cannot be shown unless they are worthy of the breed represented, and a competent committee will pass upon all animals intended to be shown.

California breeders have made heavy entries, evidently being eager to show their animals against those from other States, of which there will be a large number, particularly in the beef cattle classes. There will be famous herds of Shorthorns, Herefords and Aberdeen-Angus from Illinois, Missouri, Colorado, Wyoming, Montana, Washington, Oregon, Nevada, and Calgary, Alberta.

All breeds of dairy cattle, hogs, sheep and draft horses, as well as goats, rabbits and poultry, will be represented by the best specimens on the Coast. The poultry show will be the largest of the year in this end of the State, and from an educational standpoint the best ever held in San Francisco.

There will be a special class for thoroughbred horses, which will bring together some of the greatest animals in the country, including Friar Rock, the English stallion purchased for $60,000 by John H. Rossiter of Santa Rosa; Liberty Loan, the $25,000 Derby winner, recently purchased by A. Kingsley Macomber of Paicines, and Hesperus, the noted stallion owned by H. P. Renthaw of Hollister.

The University of California will make its customary instructive exhibit, which is almost as good as a short course in animal husbandry.

In addition to the breeding classes, there will be fat classes for single animals, pens and carload lots.

VALUABLE EDUCATIONAL FEATURE.

An entirely new feature will be the slaughter tests, which will emphasize the commercial end of livestock raising and show how animals should be bred and fed for market purposes. Animals entered in the carcass contest will first be judged on hoof and afterwards slaughtered, then judged in carcass and on the block.

This will prove of great educational value, as it will demonstrate the quantity and quality of edible meat produced under certain conditions and feeds, the character and type of animals furnishing the best carcasses in the shortest time, the best feeds, etc. This method will put the judge to the supreme test in judging on hoof, because the slaughter records, with the per cent of dressed carcass to live weight, will be indisputable evidence to either support his decision or show up his mistakes. The housewife who does not know how to buy economically, or which cuts of meat are the best for certain purposes, will have an opportunity to profit by the lectures, practical and illustrated, which will be given in connection with this demonstration.

CHANCE TO BUY GOOD STOCK.

At the conclusion of the awarding of premiums there will be a sale of fat cattle and the leading packers have promised to make high bids. Also on Thursday, November 21, a sale of registered Shorthorns will be held and on the following day a similar sale of Herefords.

NIGHT HORSE SHOW.

The night horse show promises to be a brilliant affair, and will provide high-class entertainment. There will be gaited, harness, combination, jumping and high school classes; also polo features, parades of livestock, band concerts and military spectacles. In connection with the latter, officers from the remount station at Camp Fremont will bring some of their best mounts, which will be put through their paces, and the qualities required for army purposes will be explained.

The man at the heart of the show, Joseph E. Painter, who is a past master along this line, has planned a wonderful event. It will be held on a five and a half acre tract at Twelfth and Market streets and will be the largest show ever held in the United States under canvas. Every possible comfort has been provided for spectators, and there will be plenty of entertaining as well as educational features.

You've seen the rest; now attend the best. Knock off for a few days. The rush work of the season is over and the change will do you good. You will return to your work refreshed and strengthened in spirit, muscle and brain power, with an abundance of priceless seed thoughts to grow and ripen into use for your future work. Let's go—sure. Let's make this First International a hummer.

Specialist —in— Registered Beef

CATTLE

I am a firm advocate of the use of better sires—Registered Bulls—reflecting through correct breeding a high standard of early development in weight, quality and finish, insuring most satisfactory results.

I devote my entire time keeping in touch with the Registered Beef Trade, much of it among the most expert and reliable Eastern breeders, which enables me to save time and other expenses when buying.

I will deliver at this end for less money than a stranger to the trade can buy at the other end, so let me quote you prices on Registered Beef Breeds Delivered.

I was born among Shorthorns and have been among Beef Cattle ever since. My thirty years' experience in California has shown me just what the State needs in

Registered Beef Cattle

and any one of the following list of a few of my customers—all experienced Beef men—will tell you I deliver the right kind:

MAYO NEWHALL, San Francisco — HOLT & GREGG, Redding — H. H. GABLE, Esparto
SIMON NEWMAN CO., Newman — HOWARD TILTON, Gilroy — B. F. RUSH, Suisun
WM. BEMMERLY, Woodland — STANFORD UNIVERSITY FARM

R. M. DUNLAP, Hotel Land, Sacramento, Cal.

Hill Crest Stock Farm

KING LANCASTER.

Shorthorn Cattle

Shropshire and Merino Sheep

I have used more grand champion bulls in my range herd than any other California breeder has used in his foundation.

My offering of range-raised bulls for the coming season is exceptionally good. Will show at the California International and have consigned some good ones to the Shorthorn sale.

T. S. GLIDE, Prop. - Davis, Cal.

Our consignment to the Shorthorn Sale to be held at San Francisco, November 8, includes one of

The Greatest Shorthorn Bulls on the Pacific Coast

ROSELAWN CHOICE

408816

Senior Champion at State Fair 1916-17

His get won first and second prizes in their classes. He is not only a great show bull but a proven great sire.

We have also entered for the sale a yearling son of Roselawn Choice, out of an exceptionally good cow, and three good females.

JACK LONDON RANCH

GLEN ELLEN, CAL.

Eliza Shepard, Mgr. — Walter D. Bunnell, Herdsman.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY — PERKINS, CAL.

Judging Program for San Francisco Show

[Written for Pacific Rural Press.]

The show will be held from November 16 to 23, inclusive. The big tents are now up and everything is ready for the reception of stock. Breeders who desire to ship their animals in advance may do so and they will find every convenience at their disposal for caring for their stock.

The judging will begin Monday morning, November 18, and will be conducted every day until completed, from 9 a. m. to 5 p. m., except the noon hour.

The judges will be requested to explain the reasons for placing awards and in this way the judging will be made both interesting and educational. All those attending the show should make it a point to see the judging done so that they can learn the good points of the different breeds.

Because of the postponement of the fair from the original date, some of the judges first selected will be unable to serve and it is impossible to give a complete list at this time. However, they will represent the best talent in the entire United States.

Starting Monday morning the judging of fat steers will commence; also dairy cattle, some of the draft breeds of horses and some of the breeds of sheep and swine.

There will be a horse show every night, commencing Monday; also two matinees. Other features will be provided at the evening shows.

Thursday morning there will be a sale of registered Shorthorns and on Friday morning a sale of registered Herefords. There will also be auction sales some time during the week at which fat cattle, swine and sheep will be sold. This will give people a chance to find out how blue-ribbon meat tastes.

Saturday morning from 10 to 12 has been reserved for school children and a large attendance of youngsters is expected.

Something doing every minute. Always interesting; always instructive. Plan to come early and stay late. You will enjoy every minute.

FEED FOR 100 POUNDS GAIN.

To the Editor: How much feed does it require for growing pigs to make 100 pounds gain?—H. H. R., Ukiah.

[Answered by Livestock Editor.]

Experiments show that the younger the pigs are the less pounds of feed it requires to produce 100 pounds of gain. Pigs between 15 and 50 pounds consumed 293 pounds of feed, or nearly three pounds for one pound of gain. Pigs from 50 to 100 pounds required 400 pounds of feed; those from 100 to 150 pounds required 437 pounds; those from 150 to 200 pounds required 482 pounds; those from 200 to 250 pounds required 498 pounds; those from 250 to 300 pounds required 511 pounds, and those from 300 to 350 required 535 pounds.

AN IDEAL WINTER SILAGE FOR SHEEP.

An ideal winter feed for ewes in lamb is from 2 to 3 pounds per day of good corn silage, and what alfalfa they will clean up. One lot of sheep fed 2.9 pounds corn silage and 2.1 pounds hay gained .16 pound daily, while another lot fed 2.9 pounds roots and 2.6 pounds hay gained .18 pound daily. The gains were about the same, but when the sheep were fed silage they required one-half pound hay less than when fed roots.

If there is no alfalfa or other protein roughage they should have some oil meal or coconut meal. Never feed hay day after day in the same place on the ground. Sheep do not like to eat from a place where they must muss over the feed. A rack will soon pay for itself.

Santa Anita Rancho

ANOAKIA BREEDING FARM

PERCHERON HORSES—No expense has been spared to place the Percheron stud at Santa Anita Rancho in position to breed Percherons equal to any in America. Young stock for sale.

THOROUGHBREDS—In this stud abounds the blood of world famous horses. Some two- and three-year-olds by REY EL SANTA ANITA for sale.

ARABIANS—This stud is headed by the famous Ibu Mahruss, imported Arabian stallion. A number of his get are offered for sale.

HOLSTEIN CATTLE—Breeding animals in the registered Holstein herd at Santa Anita Rancho, headed by MERCI LAD KORNDYKE BURKE, are the result of careful selection in which the requirements are high individual quality, heavy and persistent production, and proven transmitting ability. All females are placed on official test as they freshen. A few splendid young bulls out of A. R. O. dams for sale at prices well within their value.

BERKSHIRE HOGS—The herd of registered Berkshires is composed of a group of sows and gilts representing the most desirable blood of the breed, headed by KINTYRE LAIRD, first prize senior yearling and reserve Senior Champion boar at P. P. I. E. A few good boar pigs are offered at this time. We are prepared to fill carload orders.

POLAND-CHINA HOGS—Prize winning sows and gilts backed up by many generations of famous prize winners form the breeding basis of the herd. Heading these splendid females is BANKER'S BOY, Junior Champion and Reserve Grand Champion at P. P. I. E. We are prepared to fill carload orders.

MAMMOTH JACKS—The grand group of registered jennets in this stud is headed by KING BERSHEBA, Grand Champion jack of Kentucky. He is one of the greatest individual jacks in America. A few young jacks for sale.

CORRESPONDENCE INVITED.

Anita M. Baldwin

W. H. TAYLOR, Superintendent SANTA ANITA, CAL.

SHORTHORN BULLS AND COWS

TOP NOTCH REGISTERED SCOTCH COWS AND HEIFERS

also one hundred head of unregistered Heifers.

FINE LOT OF REGISTERED BULLS

One to Three Years Old

85 Unregistered Purebred Weanling Bulls

PAICINES RANCH

PAICINES, CALIFORNIA

Telephone to Paicines Ranch via Hollister.
Take train to Tres Pinos, where motor will meet you.
Train leaves S. F. 6:10 a. m., arrives Tres Pinos 10:30 a. m.

SAN FRANCISCO OFFICE:
607 Butler Building
Telephone Garfield 391

Exhibitors at the San Francisco Show

Beef Cattle.

Entries of beef cattle total 263 head and include some of the most noted herds in the country.

The Hereford Corporation of Wyoming, owners of the largest herd of registered Herefords in the world, will show the pick of their 1600 head, including Miss Rialto II, who has won grand championships wherever shown.

The Ormondale Co., Redwood City, will show 12 fine head out of their superb herd, which is headed by Golden Goods, Jr., a grandson of Choice Goods.

J. H. Cazier & Sons of the Nevada Hereford Ranch, Wells, Nevada, will bring along 23 head, including the young herd that made such a sensation at Sacramento. Most of the animals will be the get of Harris' Standard 2nd.

T. S. Glide of Hill Crest Stock Farm, Davis, who has used more grand champion bulls in his range herd than any other California breeder has used in his foundation stock, will show 9 head of Shorthorns.

Wm. Henn of Denver and Kansas City will show both Shorthorns and Herefords. Mr. Henn's stock stands high in the Middle West and he expects to make a good clean up out here.

T. B. Dibblee Estate of Santa Barbara will show 11 Shorthorns from their high-class herd.

Jack London Ranch, Glen Ellen, has entered 9 head, mostly young stock, but great prospects for prize winners.

J. A. Bunting of Mission San Jose has entered 8 head of Herefords and will endeavor to duplicate his wonderful performance at the State Fair.

W. M. Carruthers, Live Oak, expects to take home his share of the Shorthorn awards with the 8 head that he has entered.

T. T. Miller will bring up 13 head of his famous Shorthorns from Los Angeles and will furnish lively competition.

Hopland Stock Farm, Hopland, has entered a good string of 10 Shorthorns that will be able to hold their own in the hottest competition.

Other exhibitors include Maxwell-Miller Cattle Co., Steamboat Springs, Colo.; Roselawn Stock Farm, Woodland; Pacheco Cattle Co., Hollister; J. H. Rosseter, Burke; and University of California, Davis, all of whom will show Shorthorns; H. M. Barngrover, San Jose; Curtice Cattle Co., Calgary, Alberta; Chas. Rule, Jenner; and W. D. Duke, Likely, all of whom will show Herefords; and the famous Aberdeen-Angus herd owned by Congdon & Battles of Yakima, Wash.

Dairy Cattle.

There will be 194 head of dairy cattle shown, and while no herds outside of the State will be represented, many of the best animals in California have been entered and keen competition is assured.

In the Holstein class Toyon Farm Association, San Jose, heads the list with 23 entries.

W. J. Higdon, Tulare, whose stock made such an excellent record at the State Fair this year, will be on hand with 14 head.

Palo Alto Stock Farm, Palo Alto, will show 12 head of great breeding and quality.

R. F. Holmes, Modesto, who made such an excellent start in the show ring at the State Fair this year, will bring 7 head that will be hard to beat, including his new 29-pound herd sire, Chimacum Wayne Woodcrest.

H. E. Cornwell, Modesto, expects to win his share of the ribbons with the 7 head that he will show.

In Guernseys, A. J. Welch, Redwood City, leads with an entry of 18 head from his herd of heavy producers.

L. D. Smith of Berkeley comes next with 15 head that promise to make lively competition.

A. B. Humphrey, Escalon, has entered 10 head from his fine herd that has been such a consistent winner at the fairs for several years.

Palo Alto Stock Farm, Palo Alto, and Calla Grove Farm, Manteca, will also show Guernseys.

In the Jersey class, J. B. & J. E. Thorp, Lockeford, will show 16 head and Guy H. Miller, Modesto, 14 head. Both of these herds have been winning prizes galore at the different fairs this fall. The University of California will also show Jerseys.

In Ayrshires there will be stiff competition between E. B. McFarland, San Mateo, and J. Henry Meyer, Elkhorn Farm, Watsonville. Both of these herds are too well knowm to need any comment.

In Milking Shorthorns there will be similar competitions between Alexander & Kellogg, Suisun, who will show 15 head, and Thomas Harrison of Glen Ellen, who will show 11 head. In these herds are to be found some of the finest individuals of the breed.

J. Irvin Burk of Gilbert, Ariz., has entered his noted herd of 17 Brown Swiss cattle.

Swine.

Duroc-Jerseys lead with 87 head entered.

Conejo Ranch, Newbury Park, will show 21 head of Durocs, also 24 Hampshires. These will include the animals that have been winning so heavily at the different fall shows.

Other exhibitors of Durocs will include J. E. Thorp, Lockeford; Harvey M. Berglund, Dixon; Clarence T. Thompson, Bishop; Jersey Queen Farm, San Jose; C. W. Smith, Willows; C. W. Scott, Glenn; W. H. Manis, Willows; and W. V. Bennet, Nord.

There will be 67 head of Berkshires shown, the James Mills Orchard Corporation being the largest exhibitors with 31 head entered.

A. B. Humphrey, Escalon, will show 17 head from his famous prize-winning herd.

The Sandercock Land Co. of San Francisco and Sacramento will show 10 head from the very fine herd that they have recently established.

Other exhibitors of Berkshires will include W. B. Carpenter, Red Bluff; Geo. M. York, Modesto; Frank B. Anderson, Sacramento, and the University of California, Davis.

Mark Bassett of Hanford will be the heaviest exhibitor of Poland-Chinas. He will show 14 head from his wonderful herd and his son, A. L. Bassett, will bring along 8 head.

A. Buckland & Son, Fresno, will show 5 head of Poland-Chinas that will make some of the old-timers sit up and take notice.

A. D. McCarty of San Francisco will make his initial bow in Poland-China circles by showing 8 head from his Riverina Ranch at Modesto.

Sheep.

One hundred and twenty-eight head of sheep are entered, aside from carload lots, these including Shropshires, Hampshires, Southdowns, Rambouillets, Corriedales and Lincolns.

Bishop Bros., San Ramon, will show 24 head of Shropshires from their herd of international prize winners.

Bullard Bros., Woodland, whose pen of Rambouillet range rams brought the highest price ever paid in America at the recent Salt Lake Sale, will show 15 head.

J. J. Bidegary, Fresno, who has been making such extensive purchases recently, will show 5 very fine head of Rambouillets.

Ellenwood & Ramsay, Red Bluff, whose 25 unregistered Corriedale range rams sold at Salt Lake for $160 per head, have entered 9 registered Corriedales.

Other exhibitors of sheep include A. H. McInnes, Red Bluff; J. G. S. Hubbard, Monroe, Ore.; Calla Grove Farm, Manteca, and the University of California, Davis.

125 Registered Holstein
Cows, Heifers and Bulls
FROM 10 CONSIGNORS
First Tulare Sale, Tulare, California
NOVEMBER 20-21, 1918

The Females in this Sale are Bred to the Highest Record Sires Ever Represented in a Single Sale in the West

Two of these reference sires are out of a 40-pound dam; one out of a 36-lb. three-year-old; three out of 35-lb. dams; one out of a 32-lb. dam; two out of 30-lb dams; one out of a dam that made over 1300 lbs. butter in one year; four out of dams that made over 1100 lbs., and two others out of dams that made over 1000 lbs.

Outstanding Sires are Represented in this Sale by High Record Daughters

Among the females to be sold is the highest record junior 2-year-old ever offered in the West; great cows and heifers with records up to over 26 lbs. butter in 7 days; daughters of cows with records up to over 31 lbs. butter in 7 days; daughters of King Mead of Riverside; King Korndyke Sadie Vale; King Korndyke Sadie Vale 22nd; King Korndyke Sadie Vale 27th; Sir Aaggie De Kol Acme; Sir Veeman Korndyke Pontiac; Sir Skylark Ormsby Hengerveld; King Segis Pontiac; King Segis Pontiac 13th; Spring Farm King; Spring Farm King Pontiac 6th; Segis Pontiac De Kol Burke; King Segis Pontiac Jannek; Mutual Fobes Longfield De Kol.

Some of the Greatest Young Bulls that have Appeared in any Public Sale in this State

Among the bulls to be sold are: **KING IGNARO MEAD**, by King Mead of Riverside and out of a daughter of Ignaro De Kol that made over 29,000 lbs. milk and 1077 lbs. butter in one year; a son of King Segis Alcartra Prilly, twice grand champion at California State Fair, out of a 31-lb. four-year-old daughter of Judge Hengerveld De Kol; a son of King Segis Alcartra Abbekerk, 30-lb. son of the $50,000 bull, out of a great 30-lb. cow; a beautiful, nearly white son of Prince Gelsche Walker, out of a 29.67 lb. daughter of Korndyke Queen De Kol's Prince; a son of King Korndyke Pontiac out of a daughter of King of the Pontiacs that made 714 lbs. butter in one year as a senior two-year-old; a son of the 31-lb. cow Fidessa Helena; and many others of splendid breeding and type.

You Can't Buy Better Holstein Blood Anywhere in the World

The very best families of the Holstein breed are represented in this sale, and the splendid cattle tell their own story as to individuality. Every animal in this sale is positively guaranteed to be a breeder; every animal over six months of age tuberculin tested and sold subject to tuberculin test by the buyer.

The Ten Consignors

A. W. Morris & Sons, Woodland; Bridgford Company, Knightsen; R. F. Guerin, Visalia; W. F. Mitchell, Visalia; Charles Yocum, Tulare; R. C. Sturgeon, Tulare; E. G. Wharton, Tulare; Alex Whaley, Tulare; W. J. Higdon, Tulare; C. L. Hughes, Sacramento.

Management

CALIFORNIA BREEDERS SALES AND PEDIGREE CO.

J. M. HENDERSON, Jr., Pres., C. L. HUGHES, Sales Manager,
Sacramento, California.
Auctioneers: Col. Ben A. Rhoades, Harold B. Rhoades.

HOLSTEIN Bargain Day

Tuesday, November 12, will go down in California Holstein history as a red-letter bargain day, and more than one breeder will unquestionably date a new success from that day if he is fortunate enough to be one of the buyers at

A. W. MORRIS & SONS CORPORATION SALE
90 Registered Holstein Cows
15 Registered Holstein Bulls

It is entirely out of the question to attempt to give a full list of the splendid animals to be sold, within the space of this announcement, but the catalog which is now being distributed gives full information about each animal.
As a broad outline, it will serve to state again that there are in this sale

THREE COWS WITH RECORDS FROM 30 TO 33 POUNDS BUTTER IN 7 DAYS.
THIRTY COWS WITH RECORDS FROM 20 TO OVER 29 LBS. BUTTER IN 7 DAYS.
THIRTY COWS WITH YEARLY RECORDS UP TO OVER 24,000 LBS. MILK AND OVER 1000 LBS. BUTTER.

THINK OF THIS!—At least 75 cows in this sale are bred to King Mead of Riverside Prince Gelsche Walker, Segis Pontiac De Kol Burke, King Moreo Alcartra Sir Aaggie De Kol Acme, and King Korndyke Pontiac 20th, EVERY ONE OF WHICH HAS SIRED A WORLD'S RECORD DAUGHTER OR HAS FOR A DAM A COW THAT MADE ONE OR MORE WORLD'S RECORDS.

TWENTY-FIVE COWS IN THIS SALE ARE FRESH, and a large number of others ARE DUE TO CALVE FROM ONE WEEK TO TWO MONTHS FROM DATE OF SALE.

DAIRYMEN—We confidently believe that these great cows are going to sell at surprisingly low prices, in fact no higher figures than you would expect to pay for common cattle. It looks like the best sort of business judgment for you to be on hand to buy some of these cows, and there will be

15 Registered Bulls

ready for service, some of them good enough to head registered herds, and any of them good enough for a high class grade dairy herd.

EVERY ANIMAL IN THIS SALE IS POSITIVELY GUARANTEED TO BE A BREEDER.
NO ANIMAL IN THIS SALE IS TUBERCULIN TESTED.

REMEMBER THE DATE—**Tuesday, November 12, 1918**

on the Morris Farm, 4½ miles northeast of Woodland, California, beginning promptly at 9:30 A. M.

Management

California Breeders Sales and Pedigree Company

J. M. HENDERSON, Jr., Pres. C. L. HUGHES, Sales Manager,
Sacramento, California.
Auctioneers—Col. Ben A. Rhoades, Col. Cy N. Clark.

Choice Herd of
SHORTHORNS
Headed by
Princely Stamp
Grand Champion of the West at Denver, 1918,
—and—
Lothian Marmion
THE KIND YOU WANT.
See us at Los Angeles Liberty Fair and San Francisco Livestock Show.
Will sell any quantity of stock—from a single animal to a carload.
Maxwell-Miller Cattle Co.
Steamboat Springs, Colorado.

Hopland Stock Farm
Hopland, Cal.
Fifty Berkshire Suckling Pigs eligible to registry, sired by Iowana Rival Majestic 194736, Son of Rival's Champion 112500, and sons of Iowana Rival Majestic, at $12.50 weaned.
Registered Sows, Gilts and Boars fore sale.
San Francisco Office
226 Southern Pacific Building

Steers Wanted.
20 or 30 head of thin high-grade steers, either Hereford, Shorthorn, or Angus. Yearling Herefords preferred. No scrub steers considered.
State kind, price, weight, and age in first letter. Address,
J. A. BUNTING
Mission San Jose, Cal.

STOP LOSING CALVES
You can **Stamp Abortion Out** OF YOUR HERD and **Keep It Out**

By the use of
DR. DAVID ROBERTS'
"ANTI-ABORTION"
Small Expense.
Easily Applied. Sure Results.
Used successfully for 30 years.
Consult DR. DAVID ROBERTS about all animal ailments. Information free. Send for FREE copy of "The Cattle Specialist" with full information on Abortion in Cows.
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ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.
Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. $2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 R Free.
ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price $1.25 a bottle at dealers or delivered. Book "Evidence" free.
W. F. YOUNG, P. D. F., 86 Temple Street, Springfield, Mass.

WHEN HORSES GET THE "FLU."

Although the serious epidemic of influenza now affecting the human family has no relation to the disease of the same name which affects horses, specialists of the U. S. Department of Agriculture point out a resemblance of symptoms and course of the disease.

The symptoms are those of fever, in some cases preceded by a chill. There is great prostration of muscular force, and an inflammation of the membrane of the eye, which becomes a deep saffron, ocher or violet red color, from which fact the term "pink eye" has been given the disease.

There is great diminution or total loss of appetite and a rapid loss of flesh, which frequently reaches 30 to 75 pounds for each 24 hours. In uncomplicated cases the fever abates after six to ten days, and there is a general restoration to health. The complications are many and sometimes serious. Among such are those of the intestines and lungs. Pneumonia, one of the frequent complications, is always serious, as it affects the animal when reduced in strength and resisting power.

To guard against an unfavorable termination or the development of one of its numerous complications, horses, upon showing evidences of influenza, should be relieved immediately from work. Most careful nursing is also essential for horses affected with influenza and, likewise, skilled medical treatment, which can be best assured by placing affected animals under the care of a qualified veterinarian. The spread of the infection should be prevented by segregating the diseased animals and thoroughly cleaning and disinfecting the contaminated premises. Plenty of sunlight and good ventilation are also highly desirable.

SOUTHERN COAST PASTURES.

More rain is needed by cattlemen of San Luis Obispo county, where the September rain sprouted much of the seed, and the grass and filaria are already turning yellow or brown. Well known cattlemen say there is no reserve of seed in the ground, and if this is so later rains will not help much.

Monterey county, which got more rain, is in better shape. The new grass has generally been reserved for cattle after they are moved from stubble on account of plowing, or from beet tops on account of mud. If rains hold off long enough in Monterey county many cattle will be fattened entirely on beet tops, but hauling them to cattle, as is necessary after rains begin, has been found too much bother for the big cattlemen.

Cattle conditions at present are good in Monterey and San Luis Obispo counties. Beef stock has been sold off close and only producers and calves have been kept. South of these counties the light rain did not sprout enough seed to add much feed or to prevent good pasturage after later rains.

PORTLAND HOLSTEIN SALE.

At North Portland, Friday, November 22, in connection with the Pacific International Livestock Show, will be held the sixth annual sale of Holstein cattle. Consignments will be made by the leading breeders in the Northwest, including Carnation Stock Farms, Hollywood Farms, E. B. Marks, Wm. Todd & Sons, Wm. Bishop, and J. Von Herberg.

Seventy head of cows, heifers and bulls will be offered. Nearly all of the cows are just about to freshen or have just recently freshened. The finest lot of cattle ever sold at North Portland will be offered and it will pay all interested to attend.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

—give the California pig a chance
—make him the biggest animal in California—most valuable and most in demand. That will help make farms more prosperous. It will keep money in California, keep it circulating—coming back to you.
Tell your dealer to give you
MAYROSE
ham and bacon — the choicest meats—cured in our government inspected plant in San Francisco—freshly smoked—sweet and tender —give the California pig a chance.
Mayrose Brand SMOKED MEATS
Western Meat Co.
San Francisco, U. S. A.
WESTERN MEAT COMPANY
SAN FRANCISCO

Herefords
LEADING HERD OF THE STATE.
My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of heifers —1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.
They will go quickly. Write or call at once.
Wm. Bemmerly, = Woodland, Cal.

THE GREATEST AUCTION SALE WEST OF CHICAGO
Tagus Ranch, Tulare, California
DECEMBER 10-11-12-13, 1918
90 Registered Holstein Cattle
200 Grade Angus Cows
15 Registered Polled Angus Bulls
100 Grade Shorthorn Cows
3 Shorthorn Bulls
24 Registered Percheron and Belgian Mares
15 Registered Percheron and Belgian Stallions
100 High-Grade Brood Mares, Work Horses, and Mules
5 15-35 H. P. Sandusky Tractors
2 Bull Tractors
$50,000 Worth of Wagons, Plows, and Implements for Every Kind of Crop.
WATCH FOR FUTURE ANNOUNCEMENTS
Auctioneers: Col. Ben A. Rhoades, Harold B. Rhoades
Owners: PACIFIC STATES CORPORATION, Tagus Ranch, Box D, Tulare, Cal.
Sale Manager: C. L. HUGHES, Sacramento

BARON DUKE 201ST, GRAND CHAMPION AT OMAHA NATIONAL

A great boar—the result of 40 years of constructive breeding. Big all over—long, deep, great spread of rib, smooth, heavy boned, vigorous and probably the best hammed Berkshire boar in the world. See his pigs at the livestock show. They are for sale at prices usually asked for ordinary pigs. Study the picture of this great show and producing boar and you will know his pigs anywhere—they have the good points that made their sire a National Champion. It would be hard to find a better lot of brood sows than Princess Leader from two world champions, Silberfa Lustre 3rd, Grand Champion Oregon State Fair, Riverby Princess 2nd and 3rd, litter mates to world champion sow. These and many other equally fine prize-winning 600-pound sows, with Baron Duke 201, purchased for $1100.00 before winning Grand National Championship, are on the

NATOMARIO RANCHO
NATOMAS LANDS

that produce as much as 12 tons of Alfalfa an acre a year. A crop of barley followed by a crop of milo maize can be grown on the same piece of land the same year. Hundreds of acres of this new river bottom land produced 4200 pounds of wheat this year. Five tons of oat hay an acre, followed by a crop of beans averaging 22 sacks an acre, have been harvested the same year. Grew thousands of acres of beans this year. Free information with pictures on the

NEW SUBDIVISION
OF THE
NATOMAS LANDS
($150 to $225 an acre)

just being opened for sale can be secured at our offices or livestock exhibit. Railroad rates to interested persons. Water for irrigation goes with the land and 15 years are given to pay.

SANDERCOCK LAND CO.
906 K St., Sacramento 23 Montgomery St., San Francisco
510 West Sixth St., Los Angeles 512 Sacramento St., Vallejo

CASTLEVIEW RANCH
Santa Rosa, California
(Home of Rookwood Lady 100th, Grand Champion Sow, 1917 National Show, Omaha)
Choice Bred Sow, Young Service Boars and Weaned Pigs for Sale.

Good Berkshire Boars
CHEAP
We are overstocked with yearling boars and are selling them at a sacrifice. There are two sons of Superbus, one son of Grand Leader 2nd, one son of Winona Royal Champion 5th, this is a litter mate to this year's junior champion boar at Sacramento.
MAPLEWOODE RANCH
Calistoga, - - Cal.

Latest on the Hog Market Situation

[Written for Pacific Rural Press.]

At a recent conference between representatives of the swine industry and the Food Administration it was decided that failure to maintain the October price basis determined upon at the September conference was due to the lower range of corn prices, which caused feeders to rush their hogs to market in large numbers. Another factor was the influenza epidemic, which sharply curtailed the consumption of pork products and decreased the labor staff of the packers about 25 per cent.

However, the unfavorable market conditions existing in October afford no fair index of the aggregate supply and demand, and the increase in export demands appears to be amply sufficient to take up the increase in hog production, which is estimated at 15 per cent over last year. The exports for October were 130,000,000 pounds of pork products, as compared with 52,000,000 pounds for October last year. The export orders placed by the Food Administration for November amount to 170,000,000 pounds, as contrasted with exports of 98,000,000 pounds for November, 1917.

It appears that there will be even a stronger demand for pork products after the war, as the enormous shortage of feeds in the Central Empires and neutral countries will immediately result in additional pork products, which, on top of the heavy shipments to the allies, will tend to increase our exports, inasmuch as no considerable reservoir of supplies exists outside of the United States.

The Food Administration will join with swine representatives and packers in determining each month the price at which controlled export orders shall be placed, and the influence of these orders will be directed to the stabilization of the price of live hogs, so as to secure fair returns to the producers and the assurance of an adequate future supply.

For the month of November packers will endeavor to purchase no hogs for less than a daily minimum of $17.50 on an average of packers' droves, excluding "throw-outs"—this price to be based on the Chicago market.

It is believed that the plan should work out close to an average of $18 at Chicago. This should mean $17 at California terminals.

Sandercock Has Noted Berkshires

Six Berkshire litter mates, grown to an average weight of 426 pounds at a year old, by W. F. Sandercock, owner of the Natomario Rancho, near Sacramento.

No success can possibly be made in the breeding of purebred swine unless the man knows what a really good hog is. And that W. F. Sandercock can pick the best is proved by the foundation herd he has established at the Natomario Rancho, near Sacramento.

Heading the herd is the great boar, Baron Duke 201st, grand champion at the National Swine Show in 1917, and it would be hard to find a better lot of brood sows. They include the only daughter of the world's grand champion sow by the world's grand champion boar, and several litter mates to the world's champion sow; also the grand champion at the Oregon State Fair.

Mr. Sandercock is a constructive breeder and a scientific feeder. It is his desire to show the farmers of this State that well-bred stock of high individuality, properly fed and cared for, will bring the maximum of profit from ranching, and the success that he has already attained is sufficient proof of his contention. When the average farmer of California can develop his hogs the way Mr. Sandercock grew those in the accompanying illustration he will about double his profits.

MONTELENA HERD
of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions

Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.

We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

Calistoga **A. L. TUBBS CO.** California

Balanced Rations of Sound Advice

Don't Overfeed Cows with Protein.

A subscriber writes that he is feeding his cows alfalfa hay, bran and cottonseed meal and cannot understand why these high-priced feeds do not increase their production.

He is too good to his cows, for while these feeds are excellent in themselves all are extremely rich in protein and do not make a good combination. As alfalfa is high in protein, he should add feeds that are high in carbohydrates, such as corn silage, beet pulp or barley. If he does not have silage, then instead of buying bran and cottonseed meal he should get beet pulp and barley, using a mixture of about two-thirds beet pulp and one-third rolled or ground barley and soaking it for 12 hours before using.

Try This for Moon Blindness.

A subscriber at Sebastopol has a mare that has an inflammatory affection of the interior of the eye, recurring periodically. This results in cataract formations and eventually causes blindness if not given attention. Some hold that wolf teeth cause moon blindness, but this is ridiculous. It is claimed that the disease is hereditary.

Treatment: Keep the animal away from whitewashed surfaces, as the glare of white aggravates and increases the attacks. Purgatives at the time of an attack may shorten or abort it. Use the following ointment: Yellow oxide ointment, 20 grains; lanoline, 2 drams; white vaseline, 4 drams; boracic acid, 30 grains. Mix and smear into the eyes once daily.

Beets for Fattening Hogs.

Are beets good for fattening hogs? Well, their value lies not in any increase in the rate of gain but in lessening the amount of higher-priced feeds; also they aid in maintaining health. Experiments show that 7.5 pounds of mangels or 4 pounds of sugar beets are as useful as 1 pound of ground barley in fattening hogs, but only when combined with skim milk, tankage or some similar addition. However, we advise you to go slow on using beets for fattening, as they are more desirable for growing pigs. For fattening they should be used as a supplement rather than an exclusive feed.

Curing Self-Sucking Cows.

Heartless dairymen say that to split a cow's tongue will break her of this vice, but we don't like to recommend such a brutal method. A subcsriber at Palo Alto asks for a cure and we advise a more humane method that we have found will do the trick. It consists in putting a bull ring in the cow's nose and hanging a second ring from the first. These rings dangling down in front of the cow's mouth bother her to such an extent that she cannot suck successfully and she soon gives up.

Ever Sneeze While Milking?

A subscriber at Lompoc found himself sneezing while milking. This is because the cows while lying down in the field got an irritative vegetable substance on their udders. The udders should be washed with a very mild disinfectant before milking. Persons so affected are generally predisposed to such an irritant owing to a little nasal weakness, and it is well to keep the nostrils stuffed with antiseptic cotton while milking. sary.

To Expel Tapeworms.

Tapeworms have been stunting the growth of calves owned by a Fresno subscriber. Dissolve 4 ounces of Epsom salts in 1 pint of water and give as a drench. After two hours give 1 dram of fluid extract male fern and two drams of powdered areca nut. Mix with a teacup of milk and give also as a drench. Repeat treatment as often as is neces-

Foot Rot in Cows.

A cow went lame in her front feet, above the hoofs. There was soreness but no fever. When grazing she often got down on her knees. She ate well but lost flesh.

Treatment prescribed: Clean the entire foot thoroughly, especially the bottom and the space between the claws, and paint with pure tincture of iodine.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal

Calco Troughs

THE use of sanitary metal Hog Watering and Feeding Troughs is evidence of a progressive and prospering farmer.

Calco Hog Troughs — made of Armco and Cast Iron — are easily cleanable and sanitary — yet they cost less than wooden disease traps. Ten sizes — all prices.

Diameter	Depth	Length	Price
10¼ in.	5 5-16 in.	40 in.	$3.70
10¼ "	5 5-16 "	60 "	4.50
14 "	7 3-16 "	24 "	4.55
14 "	7 3-16 "	120 "	9.60

Other sizes from 24 to 120 inches priced from $2.95 up.

Attach your check to this advertisement — mail it to us with your name and address—and we will ship one or more troughs to you immediately.

California Corrugated Culvert Company
LOS ANGELES, 417 Leroy Street
BERKELEY, 406 Parker Street

for Hogs

DUROC = JERSEY
SALE

The Uneeda Duroc-Jerseys. The greatest herd on the Pacific Coast must be sold at once.

I have been placed in Class A1 in the draft and my father, on account of ill health and old age, is unable to look after the herd.

This year we produced more champions and prize winners bred by exhibitor than any other breeder on the Coast showing at California and Oregon State Fairs.

UNEEDA QUEEN MODEL
Grand Champion State Fair, 1918.

Won at Sacramento:

Grand Champion Sow
Senior Champion Sow
Junior Champion Boar
Seven Firsts, Including
First young herd and first produce of dam
23 other prizes

Every animal must be sold. The herd includes:
A great bunch of sows, many with litters by their side.

Young gilts and boars by the greatest sires of the breed, living or dead.

Three great herd boars that you could not duplicate in the East at the present time at less than $1500 to $3000 each.

The greatest opportunity breeders on the Coast have ever had to secure the best Duroc-Jersey blood at a great sacrifice in price.

Write for full particulars
or call and see the herd.

H. P. Slocum & Son
WILLOWS, CALIFORNIA
Clayton R. Slocum, Mgr.

DUROCS AT IRELAND

Winnings at The Southern California Fair
RIVERSIDE

Cherry Volunteer 2nd
Senior and Grand Champion Boar
Irelands Orion Defender
Reserve Champion and 1st Prize Junior Yearling
Cardinals Model Queen

1st Prize Junior Sow Pig
1st Prize Get of Sire
1st Prize Futurity Litter
1st Prize Produce of Dam
1st Prize Junior Pig Special

Our Futurity Herd is For Sale

CREAMER & IRELAND Ranch at OWENSMOUTH
CITY OFFICE:
1219 Brockman Bldg., Los Angeles, Cal.

LIVESTOCK QUERIES

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

Cure for Garget.

To the Editor: What is the trouble with my cow, whose milk comes in clots periodically?—G. W. H., Stevinson.

[Answered by Livestock Editor.]

There are two forms of garget—acute and chronic—and your cow has the latter. It is an inflammation of the lining membrane of the milk-well and if treated properly is not very serious, although if a cow of this kind goes without treatment she may develop acute garget. The ordinary treatment consists in irrigating the affected quarter or quarters with a saturated, warm solution of boric acid. Dissolve just as much of the powder in warm water as will go into solution. Let it stand so that if any powder does not dissolve it will go to the bottom and you can use only the clear fluid. Inject as near body temperature as possible. Milk the quarter dry first, then wash it off with an antiseptic solution and then inject a pint or more of the warm boric acid solution with a teat tube with a rubber hose and funnel attached. See that the instruments have been previously boiled. After the solution has been injected, the quarter should be thoroughly kneaded and massaged so as to break up the clotted milk, and then milked out. This can be repeated morning and evening until the symptoms disappear. It is advisable to give your cow at the same time a physic of one pound of Epsom salts in the form of a drench, and follow this with a tablespoon of saltpeter once a day. If the cow has been receiving much grain, it should be reduced for a few days. If it seems desirable, use a salve on the udder in kneading it. Probably the best is one part fluid extract of poke root, one part fluid extract of belladonna and six parts of melted lard. This preparation should be thoroughly rubbed into the udder after milking.

Calf Has Heart Trouble.

To the Editor: I have a heifer calf which has been affected since birth with hard breathing on the slightest exertion. It will run for about 50 feet and kick up its heels and then breathe with mouth wide open and almost choke. A few times I have noticed it cough when perfectly still and then begin breathing hard. Will this trouble leave or increase with age? Also, why is the mother's milk not nearly as rich as in previous years? She has all the alfalfa she wants and is very fat. She had milk fever following the birth of this calf and, although I tried all the remedies I could hear of, she lost one-quarter of her udder. —W. H. H., Caruthers.

[Answered by Dr. E. J. Creely, San Francisco.]

The calf's trouble is due to heart affection. The foramen ovale, an opening between the auricles, should close after birth, but has not done so. The calf will outgrow the affection. Probably you have ruined one-quarter of the cow's udder by using an unclean milk tube during the milk fever treatment. Change the cow's diet occasionally and you will find an improvement in the quality and quantity of the milk.

Treatment for Cough.

To the Editor: I have a cow that coughs a great deal. She passed the tuberculosis test a short time ago and looks healthy. I noticed her cough six months ago and she has coughed a great deal since. What is the trouble and its remedy?—E. M. R., Parkfield.

[Answered by Dr. E. J. Creely, San Francisco.]

I am very suspicious of coughing cows and would suggest the intradermal test for tuberculosis. A cow may be fat, have a glossy coat and yet be tubercular. A cow in the last stages of tuberculosis may not respond to the test.

Treatment for cough in cows: Avoid dry hay, especially dusty or musty hay. Thoroughly moisten hay and feed with water sweetened with molasses. Apply a good liniment to the outside of throat and under the jaw. Give the following: Raw linseed oil, 10 ounces; oil of eucalyptus, 1 ounce; kerosene, 4 ounces; fluid extract belladonna, 1 ounce. Mix and give 1 tablespoonful three times daily, syringed down the back part of mouth.

Removing Warts.

To the Editor: I have a mule that has a wart on his nose. Please tell me how to remove it.—R. L. L., Lindsay.

[Answered by Livestock Editor.]

The treatment of your mule's wart will depend upon whether it has a narrow or a broad base. If the former, it may readily be removed by cutting close to the skin with a pair of scissors. If it has a broad base, it is more difficult. The

BASSETTS
Poland-Chinas

MODEL FELLOW 552604

AT THE HEAD of our herd is MODEL FELLOW 249121, Sired by Long model 225913, out of Long Lady 552604. He is a big type boar of surpassing smoothness

Our Show herd at Los Angeles and San Francisco Fairs will be made up largely of his breeding. Be sure to look them up.

M. BASSETT & SON
Hanford : : California

MAMMOTH SOWS and GIANT BOARS
POLAND-CHINAS

We are one of the oldest breeders and promoters of the BIG TYPE on the Pacific Coast, winning the highest honors at the P. P. I. E.

World Champion Boar Superba

We have the best assortment we have ever raised, combining every quality—Length, Bone, Spring of Rib, Good Feet and Mellowness. We will please you. We ship on approval. We have some bred sows, open gilts, and weanlings sired by or bred to Superba.

ROUGH'S GREENFIELDS
ARLINGTON STATION RIVERSIDE, CAL.

Bernsteins
Poland
Chinas

The big, smooth, prolific, easy-feeding kind.

If you want the best, at reasonable prices, write or call.

W. BERNSTEIN
HANFORD, - CAL.

Kings Big Bone Leader
Grand Champion
State Fair 1918

We will hold Public Auction Sale in February of sows sired by Model Wonder, Blue Valley Tecumseh, Big Bone Bob, Big Knox Boy, Lad O Promise, bred to King Big Bone Leader.

Watch for further announcements.

Chas. Gatewood & Sons
Fresno - - - - California

Great Herd Sires
California Jumbo Buster
By Buster Buster, out of a Long Jumbo sow.
A Son of Gerstdale Jones
The $6,600 boar. Just arrived.
These boars are the big, smooth Poland-Chinas, with plenty of stretch and bone. Stock for sale—the kind that will make you money. Write your wants.
A. BUCKLAND & SON
FRESNO. - - - - - - CALIFORNIA

Poland-Chinas That Pay
For size, type, quality, vigor, prolificacy, easy-fleshing and quick-fattening qualities—everything that goes to make the ideal farmer's profit-producing hog—our herd reigns supreme.
Herd Boars
BIG BONE BOB — One of the greatest boars that ever left the corn belt.
MAJOR HADLEY WONDER — Grand Champion California State Fair, 1917.
Write your wants. Prices reasonable. Satisfaction guaranteed.
N. K. HORAN
Lockeford California

During the last shearing season a California sheep shearer earned $800 in 27 days. That beats going to Congress.

best way is to sprinkle it daily with powdered sulphate of copper, then applying a layer of cotton, and fasten the cotton in position by means of adhesive tape. Such treatment should reduce the size of the wart materially in a week or ten days. After it is down to the level of the skin, a piece of cotton should be saturated with a 5 per cent solution of formaldehyde and applied to the wound for five or ten minutes. This will cause the formation of a hard scab in the course of twenty-four hours. No further treatment is required as long as the scab remains firmly in position, but if at any time the scab loosens the underlying surface should be treated with the formaldehyde.

Cow Has Leaky Teats.

To the Editor: I have a valuable cow that has leaky teats and I don't want to dispose of her if the trouble can be overcome. What can I do?—C. G. P., Corcoran.

[Answered by Livestock Editor.]

If you mean that when the udder becomes well filled the milk escapes through the natural openings in the ends of the teats, this can be prevented temporarily by putting short, light rubber bands around the teats near the ends. It requires very little pressure—just enough to keep the bands in place until the next milking time. Milking three times a day is a great help in such cases. If your cow has a hole in the side of one of the teats, put a wider rubber band around the teat directly over the hole, and then when the cow is dry have a veterinarian scarify the spot with a hot iron.

Age to Breed Gilts.

To the Editor: How young can a gilt be bred without affecting her development?—G. W. H., Stevinson.

[Answered by Livestock Editor.]

It is customary to breed gilts at eight months so that they will farrow the first time when a year old. However, a gilt should not have her second litter until she is two years old, so when one is bred at eight months she should be carried over for six months after she weans her first litter. Gilts grow a little larger if they are not bred the first time until they are fourteen months of age, and you don't lose any time in the long run by holding them until this age because as soon as they wean their first litters they can be bred again and every six months thereafter. However, a gilt is not really stunted if she is bred at eight months, although to breed one at a younger age than this will stunt her.

Horse Has Eczema.

To the Editor: I have a valuable horse that has a scab on its face. Sometimes it is larger than others and often covers almost his entire face. It is dry and scaly. What can I do for it?—G. H. P., Hollister.

[Answered by Livestock Editor.]

Your horse has eczema of the face. Wash the parts thoroughly with soap and warm water, using a stiff bristle brush to remove the scabs, and then wash daily thereafter with a solution consisting of 1 ounce of carbonate of soda to a quart of water.

DONT'S FOR THE DAIRY SIRE.

Don't underfeed him when young.
Don't overfeed him when mature.
Don't keep him shut up without exercise.
Don't allow him to run with the cows.
Don't lead him with a rope or strap.
Don't trust him at any time.
Don't allow anyone to tease or plague him.
Don't feed him more than 15 pounds of silage daily.
Don't use him too heavily before he is mature.

ELLENWOOD & RAMSAY

RED BLUFF : : CALIFORNIA

Breeders and Importers of

CORRIEDALE SHEEP

Twenty-five of our unregistered Corriedale Range Rams sold at the 1918 Salt Lake Ram Sale for $160.00 per head.

Will have some good yearling Rams for the season of 1919.

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal

THE BULLARD TYPE
Rambouillet Sheep
Again Awarded All Prizes at the 1918 State Fair

A Bullard Yearling Ram that sold for $1000 at the Salt Lake Ram Sale.
A pen of Bullard Range Rams brought the highest price ever paid in America.
We purchased a ram for $3,000 conceded by Prof. Coffey to be the best Rambouillet in the United States, for use in our flocks.
The Bullard kind are the kind to own. They produce wool and mutton at the lowest cost.
Single Animals or Carload Lots.

BULLARD BROS. Woodland, Cal.

San Ramon Shropshires

Grand Champion Ram P. P. I. E., 1915

Winnings at P. P. I. E. 1915:
15 FIRSTS, 9 SECONDS, and 6 CHAMPIONSHIPS.
Winnings at International Livestock Show, Chicago, 1916:
FIRST, PEN OF 5 YEARLING LAMBS; FIRST, RAM LAMB; SECOND, AGED RAM; FOURTH, FIFTH, AND SIXTH, YEARLING RAM; SECOND, GET OF SIRE; FOURTH, PEN OF 3 EWES; FOURTH, FLOCK.
Winnings at Sacramento, 1916: 9 FIRSTS, 9 SECONDS, and 2 GRAND CHAMPIONSHIPS. 1918—ALL AWARDS.
OFFERING FOR 1918 A FINE LOT OF REGISTERED AND RANGE RAMS

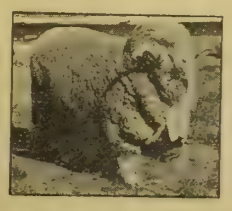
Will exhibit at the California International, San Francisco, Nov. 16-24.

BISHOP BROS., San Ramon
CONTRA COSTA COUNTY CALIFORNIA

KIMBLE RAMBOUILLETS

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.
Prices reasonable. Correspondence solicited.
CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

The Sheep that Bring the Big Prices are the Kind to Buy



RAMBOUILLETS

I purchased at Salt Lake 31 head of the best rams. (*Butterfield Quealey and Bullard strains*) to head my great herd of breeding ewes.

I have about 100 head big Smooth Heavy-wooled Rams for sale

J. BIDEGARAY
FRESNO - - CALIFORNIA

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Sheep Bred for Fine Wool and Heavy Lambs

For many years I have used only the best registered Rambouillet rams I could find. The results are seen in the young stock now offered for sale. Investigate and you will get splendid stock.
E. C. SPEAR, St. Helena

CALIFORNIA HOG BOOK, $2. By W. S. Guilford
PACIFIC RURAL PRESS, SAN FRANCISCO.

When to Have Heifers Freshen

[Written for Pacific Rural Press by R. H. Whitten.]

WHAT'S your idea regarding the proper age for heifers of the dairy breeds to freshen? Breeders of experience differ widely. Some claim that late calving is best, believing that it allows heifers to develop greater size and constitution. Others maintain that when heifers are permitted to calve at a younger age dairy type and temperament are promoted, and these breeders consider this more desirable than size. Still others plan to have heifers calve rather young, and then defer breeding for the second calf so as to give them a long lactation period with from birth; have her freshen at about two years; milk her continually through all or nearly all of the first year to establish the habit of holding out; then give her a rest of two or three months with liberal feed before her second freshening period.

"By this means the dairy form and milk organs are developed at a younger age, when the whole system is most susceptible to the conditions of motherhood. The young animal responds more readily to all the influences which have to do with her development, and the coarse, steery, beefy appearance common

Holstein heifer on the McAlister ranch at Chino, weighing 908 pounds at 12 months. Heifers developed like this can be bred at an earlier age than those matured more slowly.

their first calf. They claim that this practice tends to develop the milking habit early in life, and also encourages a long lactation period.

Among those who believe in the latter practice is E. A. Powell, the veteran Holstein breeder of New York. He says: "I have given this subject much thought for over a quarter of a century and have arrived at the conclusion that the best method is to grow the heifer well among heifers that are barren until three years of age is avoided. The latter may develop a little more size, but I do not look upon that as an advantage. A large cow may make a higher record, but it will be done at a much greater expense, and she will not prove as profitable for the ordinary dairyman as the cow of medium size."

Sounds reasonable enough, doesn't it? But the different tests that have been conducted at the various agricultural colleges do not seem to bear out Mr. Powell's contentions. They indicate that it is not necessary to have heifers calve early in order to stamp dairy qualities upon them rather than tendencies for beef production.

PROFIT BY EXPERIMENTS.

On account of the high cost of practically everything connected with the developing of heifers, it is desirable to bring them into production as young as possible, yet we don't want to hasten their breeding to such an extent that in the long run their productive capacity will be so greatly reduced as to more than make up for the few months gained by having them freshen early. So let's study the experiments that have been conducted and profit by them, thus saving ourselves the experience, time and losses of carrying out trials of our own.

At the Connecticut Agricultural College two groups of heifers were studied, the average calving age of the first being 25 months and of the second 37 months. Their production during the first three lactation periods was as follows:

	Milk	Fat
First Period—		
Early calvers	7,691 lbs.	273 lbs.
Late calvers	13,128 lbs.	443 lbs.
Second Period—		
Early calvers	9,684 lbs.	342 lbs.
Late calvers	14,682 lbs.	473 lbs.
Third Period—		
Early calvers	13,552 lbs.	467 lbs.
Late calvers	14,236 lbs.	520 lbs.

In the early group none produced over 18,250 pounds of milk. In the late group three exceeded this—one with her first calf. Two of the late calvers made over 20,000 pounds—one with her second calf.

DON'T HOLD HEIFERS TOO LONG.

At the Maryland Station three groups of heifers were studied, those in the first group calving for the first time at an average age of 27 months, the second at 34½ months,

PUT YOUR HERD ON THE PROFIT SIDE

With high feed prices and high cost of labor prevailing and bound to prevail for some time to come, you must either bring up the production of your herd or go out of business.

Breed up with sires who have back of them big production and who will transmit that production to their offspring. Such sires are to be found in sons of

DUTCHLAND
SIR PIETERTJE
CREAMELLE

He is by a grandson of the great transmitting cow, Changeling, and out of a daughter of the world's record cow, Creamelle Vale. He has proven his worth and transmitting power with 20 A. R. O. daughters in my herd with records up to 30 lbs. butter in seven days and averaging 20 lbs. at two years or younger. All are high testers.

Pauline Inta De Kol Creamelle,
Senior yearling. Record: Milk 423.4, butter 24.43, test 4.62 per cent.

Have for sale a few young bulls of serviceable age sired by him and out of big producers in my herd. I have sold a large number of them and they have all proved satisfactory. Many have come back for their second and third bull.

WRITE OR CALL AND SEE THEM.

F. STENZEL
San Lorenzo, Cal.
Breeder of high test Holsteins.

CREAMCUP HERD
Registered Holstein-Friesian Cattle

WINIFRED HOTALING 2D No. 133785

Butter, 8 yrs..... 33.94 lbs. in 7 days
Butter, 8 yrs..... 131.82 lbs. in 30 days
Milk, 8 yrs..... 3,054 lbs. in 30 days
Butter, 1 yr., 7 yrs..... 874.12 lbs. in herd

She has won 6 prizes from Holstein Association for her production. The blood of this great cow is strong in our herd.

We offer for sale 35 head of beautiful heifers and heifer calves. Also 1 string of mature cows and 1 string of young cows. A few choice service bulls and bull calves.

This is an opportunity of a lifetime to secure healthy, fine-typed animals.

Call and see them at San Jose, 1½ miles north on Alviso Road (out North 1st St.).

M. M. HOLDRIDGE
Route "A," Box 437 Tel. San Jose 5601 R. 5.

First Prize Breeders Young Herd
at Sacramento

The get of Prince Riverside Walker combine show type with great production backing. The cow making the highest official yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America (and it is the world's official record for one year), is Aaggie Acme of Riverside 2nd. She is out of the same dam as our senior herd sire, **PRINCE RIVERSIDE WALKER.**

The junior three-year-old heifer making the highest yearly butter record for 1917-1918, as shown by the report just issued by the Holstein-Friesian Association of America, is Miss Valley Mead De Kol Walker. She is by the same sire as our senior herd sire, **PRINCE RIVERSIDE WALKER.**

Buy your herd sire in the blood lines that are doing things **TODAY** and that will increase in value in the records they are bound to make in the **TOMORROW.** We have just a few good bull calves by **PRINCE RIVERSIDE WALKER,** out of splendid dams. They move young at our prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED.

Tulare Holstein Farm
W. J. HIGDON, Owner TULARE, CAL. H. L. REDD, Herdsman

HOLMES STOCK FARM
REGISTERED HOLSTEINS

My Show Herd at San Francisco will include my new 29-sire, Chimacum Wayne Woodcrest No. 194193.

BEST BLOOD LINES OF THE BREED.

WITH FIRST SHOWING AT SACRAMENTO STATE FAIR, IN THE MONEY WITH EVERY ENTRY.

WRITE OR CALL.

R. L. HOLMES, Prop. **Modesto, Cal.**

Edgemoor Farm Guernseys

Imperial Itchen May King, 25174

PRETTY PRODUCTIVE PROFITABLE

A Few Animals of Either Sex For Sale

SANTEE, CALIF.

H. F. SCRIBNER
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Calf Enemies

WHITE SCOURS BLACKLEG

Your Veterinarian can stamp them out with **Cutter's** Anti-Calf Scour Serum and **Cutter's Germ Free** Blackleg Filtrate and Aggressin, or **Cutter's** Blackleg Pills.

Ask him about them. If he hasn't our literature, write to us for information on these products.

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"The Laboratory That Knows How"

CALIFORNIA HOG BOOK
Price $2 Postpaid
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and the third at 37½ months. The results were as follows:

	Milk.	Fat
First group	3,993 lbs.	155 lbs.
Second group	5,353 lbs.	199 lbs.
Third group	5,295 lbs.	195 lbs.

It is evident that the heifers used in this experiment were not so well bred as those in the first, yet perhaps even more can be learned from the second experiment, as the heifers more nearly represent the class of stock found on the average farm. The difference of 58 pounds of milk between the second and third groups may be considered within the limits of experimental error and of little consequence. But when a comparison is made of the variation between the first and second groups a difference of 1360 pounds is found. In other words, heifers freshening at an average age of 27 months produced less than three-fourths as much as those of an average age of 34½ months. On the other hand, those freshening at an average age of 37½ months did not produce enough more to justify holding them so long before breeding them. It should be borne in mind that the heifers used in this experiment were Ayrshires, which mature at about the same time as Holsteins, and somewhat later than Jerseys and Guernseys.

PRODUCTION LARGELY DETERMINED BY SIZE.

At the Missouri Experiment Station, tests with 95 cows were carried on by Prof. C. H. Eckles. The age at first calving was found to affect the size of the mature animals to quite a marked degree. It was easy to tell the heifers that had been allowed to calve early, as they were much smaller than the others. This was due to the fact that the demand of milk production tended to decrease their size and constitution.

Prof. Eckles' contention is that with two cows of the same inherent stimulation to give milk, but one small and the other large, the small one is limited by her capacity to digest feed and cannot compete with the large one that has the capacity to handle the feed necessary for high production.

The proof of his claim was clearly demonstrated in the experiment, for when the heifers that were bred early calved they were not capable of digesting sufficient feed, and although they were fed abundantly they were unable to produce anywhere near as much as those that were not bred until older.

Early calving puts heifers into the producing class at an early age, and from an economical standpoint this should be considered. But the first consideration is the maximum production over a period of years, and sufficient experiments have been carried on to prove that a heifer well matured at first calving will soon overtake in total production the one whose development was stunted by too early calving.

SHOULD BE WELL MATURED.

"Well matured"—remember that. The way a heifer has been fed should be taken into consideration quite as much as the age, for one that has been liberally fed can be bred several months earlier than one raised on a light ration. Also, the breed must be taken into consideration, for the smaller breeds, such as the Jerseys and Guernseys, mature younger than Holsteins and Ayrshires.

As a rule, when heifers have been fed liberally, Jerseys and Guernseys should be bred to freshen at from 24 to 27 months and Holsteins and Ayrshires at from 30 to 32 months. This practice will give big, strong, well-developed heifers with the capacity to convert a large quantity of feed into a similarly large quantity of milk. They will produce heavily at the start, will keep up their flow better, will have larger and more vigorous calves—will do better all along the line.

LAST CALL FOR MORRIS SALE.

Don't forget the great sale of 90 registered Holstein cows and 15 bulls to be held by A. W. Morris & Sons at their farm at Woodland, Tuesday, November 12. This is the time to change from grade cows to purebreds. Sell your grades in the present good market and stock up with purebreds before the big advance in price comes. You will profit at both ends of the transaction.

The Morris sale represents one of the best opportunities of the season for a sound investment in dairy stock. Be on hand to put in your bids, if you want to start with some of the best bred animals of the breed.

JEREY

How much are a cow's teats worth?

This depends on how much it costs to fill the udder and how rich the yield in butter fat. Jerseys are famous for the richest let-down at the lowest possible up-keep. Jerseys are known as "the profit breed" because they are natural money makers. Beautiful and hardy, their perfection has been standardized for over two hundred years.

Ask breeders for pedigrees and prices. Let us send you some very unusual information about this record-breaking breed.

THE AMERICAN JERSEY CATTLE CLUB
388 West 23rd Street New York

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited

A. A. JENKINS, R. D. 1, Tulare, Cal.

N. H. LOCKE CO.
Lockeford, Cal.
Choice young bulls of King's Valet Blood, backed by Records.
Call at the ranch and make selection.

T. B. PURVINE & SONS
PETALUMA, CALIFORNIA
Breeders of
Reg istered JERSEYS
Young bull calves for sale. Fine individuals with Register of Merit backing.

VENADERA HERD REG. JERSEYS
Herd headed by **Altama Interest, Grand Champion 1918 State Fair.** Awarded two other championships and 10 firsts, including Aged Herd, Breeders' Young Herd, and get of sire. Young bulls for sale from dams and granddams in Register of Merit.
GUY H. MILLER, MODESTO, CAL.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, CERES, CAL.

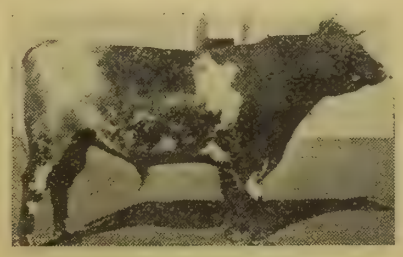
RANCHO SANTA MARGUERITA, D. F. Conant, Prop., Modesto, Cal
Register of **MERIT JERSEYS** A limited number of bulls for sale

FUIMUS FARMS JERSEYS
HAVE BOTH TYPE AND PRODUCTION.
We exhibited four calves at the California State Fair, 1918. We were awarded—
Reserve Grand Champion Cow, Junior Champion Heifer, Junior Champion Bull, First Senior Bull Calf, First Senior Heifer Calf, First Junior Heifer Calf, Third Get of Sire. If you want our kind write or call.
J. E. WHERRELL, - 1581 Sedgwick St., - Riverside, Cal.

REGISTERED JERSEY CATTLE
DUROC JERSEY HOGS
Look up my winnings at the fairs. Stock for sale at reasonable prices.
J. E. THORP Lockeford, Cal.

—Where—
Milking Shorthorns are
There Is Prosperity
They are coming to the front rapidly. Come and talk over their possibilities and inspect our herd at the San Francisco Fair.
NO FEMALES FOR SALE.
Thomas Harrison, - Glen Ellen, Cal.
Pacific Coast Representative for the famous Otis Herd of Milking Shorthorns of Willoughby, Ohio.

INNISFAIL DAIRY SHORTHORNS



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ALL Championships, Grand Championships, Reserve Championships.
22 OTHER PRIZES, INCLUDING 15 FIRSTS.
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Entire herd tuberculin tested.
Alexander & Kellogg, Suisun, Cal.
Farm on Grisly Island.
See us at the California International.

This is the Kind of Horse the Government Wants

No horse with a Spavin, Splint, Ringbone, Curb, Bony Growth, Capped Hock, Wind Puff, Strained Tendon or Sweeny can now pass the keen-eyed Inspectors of the Government Remount Stations.

Splendid-looking horses—otherwise sound—are being turned down because of some blemish that could be quickly cured with

Gombault's Caustic Balsam

Here is your chance to make money for yourself and at the same time help in the Government's great Thrift and Production movement.

Put your horse into condition with **Gombault's Caustic Balsam.** A safe and reliable remedy.

Gombault's Caustic Balsam if applied immediately after burns, bruises or cuts, is a perfect ant septic—soothing and healing. An absolutely safe external remedy for man or beast.

Every bottle of **Caustic Balsam** sold will surely give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by parcel post with full directions for its use. Send for descriptive circulars, testimonials, etc.

The Lawrence-Williams Co., Cleveland, Ohio

Imported and American Bred Stallions

Percherons - Belgians - Shires

My Fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.

The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.

Correspondence invited and visitors always welcome.

N. W. THOMPSON, Patterson, Stanislaus County, California

DIRECTOR JUNIOR,
Grand Champion.

BOQUET CANYON HERD

HAMPSHIRES

Won Grand Champion on a six-months-old pig—something unusual. Also Reserve Senior Champion Sow, Junior Champion Boar and Reserve Junior Champion Sow.

7 FIRSTS, 6 SECONDS, 4 THIRDS.

We offer choice bred sows and open March gilts that we will breed to any boar in our herd. Also brothers and half-brothers to our Grand Champion boar, Director Junior.

EVERY HOG GUARANTEED TO PLEASE.

L. A. DENKER - - Saugus, Cal.

THE POPLARS RANCH

Registered Hampshire Swine

A limited number of three-months-old weanlings for sale. Am booking orders for future delivery of youngsters by Gen. Tipton. Have a few young boars sired by Duke's Allen, Grand Champion, 1917, Sacramento.

C. J. GILBERT, Lancaster, Cal.

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

J. M. Campbell, Escalon, has begun official testing and reports that the show cow, Potoki Johanna 2nd, has made a record of 27.89 pounds butter.

A. W. Morris & Sons, Woodland, report that Lady Mead Salambo has recently completed a yearly record of 950 pounds butter from 22,097.8 pounds of milk.

Rudolph Spreckels of San Francisco has purchased from Napa State Hospital the Holstein bull, Huskie Pontiac Gem, for service at his country place in Napa county.

N. B. Balis, who has charge of livestock at the Whittier State School, reports a sale of a yearling Holstein bull to Dante Paggi of San Gabriel and another to Sargent Bros., Whittier.

W. D. Millard of Arcadia is establishing a high-class herd of registered Holsteins and was one of the leading buyers at the Ginn sale. He secured Aralia Pontiac De Kol Salambo for his herd sire.

The Redwoods Ayrshire Farm at La Honda, San Mateo county, have installed a Hinman milker to milk their herd of registered Ayrshires and grade Holsteins. They say there is nothing like a milking machine to save time and money.

Fred Hartsook, Lankershim, has recently purchased a yearling Holstein bull calf from John L. Smith of Spokane, Wash. The bull, Finderne Pietertje Fayne Jr., is backed by a combination of show and heavy producing blood lines and promises to do great work in the excellent herd that Mr. Hartsook is developing.

The Bella Vista Guernsey herd has been sold to J. Wm. Gemmer of Ripon and will continue under the above name. In this herd there are some exceptional individuals with very good A. R. records. Russell S. Cox of Escondido secured four very choice yearlings from the herd and Earl E. Rhoades of Lemoore purchased two very promising bred heifers.

The San Joaquin Valley Milk Producers' Association has just opened its new creamery at Madera. Twenty-one hundred pounds of butter were churned the first day. Preparations are being made to enlarge the plant, which will serve the northwestern part of Fresno county and all of Madera county. A new creamery has also been started at Riverdale.

Thomas Harrison, the well-known Milking Shorthorn breeder of Glen Ellen, has leased the Santa Rosa fair grounds and is converting the property into a stock farm again, to be known as the Santa Rosa Stock Farm. There are over two hundred box stalls and a large pavilion which will prove a great asset for Mr. Harrison's purpose. He intends to erect two silos and make other improvements.

Holstein records have been broken by two half-sisters owned by J. M. Hackney of Arden Farms, St. Paul, Minn. Jewel Pontiac Segis, a senior three-year-old, has made a yearly record of 1171 pounds butter from 27,068.5 pounds milk. Beauty Beets Walker Segis, a senior two-year-old, made 1040.63 pounds butter from 25,343.3 pounds milk. Both cows are sired by King Segis Pontiac Count, who has 30 A. O. R. daughters to his credit. Who says that blood won't tell?

H. L. Redd, herdsman for W. J. Higdon, Tulare, reports that he has just completed a test of two cows eight months after calving. Hertinga Willis, a cow that made 24.35 pounds in seven days when fresh, made 17.78 pounds butter from 380.8 pounds milk 250 days after calving and promises to make 1000 pounds for the year. Coloma Beauty Butter Maid, at three years and eleven days made 24.69 pounds butter when fresh, and eight months after calving made 16 pounds from 350 pounds of milk. She is expected to make 900 pounds butter for the year.

Beef Cattle.

Butte City Ranch has sold a Shorthorn bull by Victor Stamford to Dr. L. E. Tuttle of Willows.

J. D. Grieve of the Davis Horse and Cattle Company has just brought out five carloads of Hereford and Shorthorn bulls from the East.

According to information from the foothill sections, cattle are coming down from the mountains in large numbers and are in rather poor condition. Feed in the mountains is reported scarce, while in the valleys, owing to the early rains, the grass is high.

Swine and Swinemen.

A. Buckland & Son, Fresno, recently sold a herd boar by King's Big Bone Leader to E. E. Lappell, Caruthers.

H. H. Christiansen, Riverside, has sold to H. D. Edwards, San Bernardino, a registered Poland-China boar by Long Smooth Jumbo.

Young & Clark of Lodi have sold to C. R. Wells of Fourth Crossing a fine Poland-China boar pig by Big Bone Bob and out of the famous sow, Miss Bess.

N. B. Balis of Whittier State School reports the sale of a Berkshire gilt by Ames Rival 117th to W. W. Martindale and a boar and gilt to W. J. Gatton, Gardena.

Chas. Gatewood & Son, Fresno, are planning on holding a big public auction of bred sows during the winter, many of them bred to their grand champion, King's Big Bone Leader.

Elmer Lamb, Ceres, has sold his entire herd of Durocs to Miller & Lux for their Santa Rita Ranch at Dos Palos. Mr. Lamb is one of the substantial breeders in the State and we hope that he will soon be back in the game again.

E. M. McFarland, the Ayrshire breeder of San Mateo, has purchased eight Berkshire gilts and a boar from Gossard Breeding Estate, Martinsville, Ind. The boar is by Epochal and the gilts by the English champion, Lord of England.

L. L. McCracken, the live-wire Poland-China breeder of Ripon, has 81 market hogs that are making great growth, having gained 962 pounds in seven days—almost 12 pounds each. They were on good alfalfa pasture and had access to self-feeders, eating 2160 pounds of barley and 85 pounds of tankage. They made a pound of gain for every 2¼ pounds of grain eaten. Who can beat this record?

Sheep.

The Sandercock Land Co., Sacramento, noted for its grand herd of Berkshire hogs, has decided to take up the breeding of sheep and has purchased eight head of registered Shropshires from Butte City Ranch.

C. E. Barnhart, the Solano county stockman, has just purchased from Fred Cokeley 1600 young breeding ewes for an average of $15.50 each, or $24,000 for the flock. They will be pastured on Barnhart's 5000-acre range.

The city of San Francisco has decided to change from scrub sheep to registered Shropshires and has just purchased a fine buck from the Butte City Ranch to head a flock that is being established at the Stadium at Golden Gate Park.

V. C. Richards of Chico has nine acres of Sudan grass upon which 50 sheep have been grazing for the last two and a half months. The field would have carried twice that number from its present appearance. This should make a useful crop for men who are farming for sheep.

PAICINES SHORTHORN OFFERING

Thinking of buying any Shorthorns? The Paicines Ranch of Paicines is offering some top-notch stock of both sexes and all ages—registered and unregistered.

This well-known breeding establishment has one of the best herds of Shorthorns in the State. The animals represent the best blood lines of the breed, and are equally as good in type. They are of the broad, thick, compact, low-down, big-boned sort. They have been bred to make the largest returns on the feed consumed, and if you want to establish a profitable herd, or put money-making qualities into a poorly paying herd you will find the kind of stock you need in this offering. Prices right, too.

Prof. R. F. Miller of the University Farm, Davis, by co-operating with the different farm advisers, has distributed about 1000 ewes to farmers who plan to carry small flocks.

LIVESTOCK DIRECTORY.

SWINE.

Poland-Chinas.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength and quality, everything that goes to make the **Profit Producing Hog.** Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

BIG, SMOOTH POLAND-CHINAS — with plenty stretch and bone. Stock for sale—the kind that will make money for you. A son of Gerstdale Jones, the $6600 boar, just arrived. A. Buckland & Son, Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

ELDERSLY FARM—Big type Poland-Chinas with quality. Young stock from the breed's best big type sires for sale at reasonable prices. J. H. Ware, Live Oak, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

WATCH FOR OUR AUCTION SALE of great sows bred to Big Bone Leader, grand champion 1918 State Fair. Chas. Gatewood & Sons, Fresno, Cal.

A FEW EXTRA GOOD POLAND-CHINA boars, ready for service. Prices reasonable. Write for description and breeding. E. Miner, Lodi, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Pas Robles, California.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
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In charge of Natomas Land sales.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

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REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

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HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

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WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W P Harkey, Gridley, Cal

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MY HAMPSHIRES are money makers Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

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THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

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PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

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Herd Sires:
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Young bulls by these sires and out of cows with records.

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We have sold all our young boars and are now booking orders for March delivery. Highlander, the $1,000 Grand Champion Boar, heads our herd of

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Butterfat in 24 hours and 23.65 lbs. of solids, not fat.

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CHOICE HOLSTEIN bucks for sale. No females. Millbrae Dairy, Millbrae, Cal.

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REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal

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SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

FOR SALE—Young registered Jersey bull Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City.

FOR SALE OR EXCHANGE—Guernsey bull, "Pilot of Menlo Park" 51688, fourteen months of age. Address, Box X, Menlo Park, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D. Berkeley.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

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BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

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REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

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MISSION HEREFORD FARM—J. A. Bunting; Mission San Jose, Cal. Registered Herefords

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders, importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep

HORSES.

FOR SALE—A few nice young jacks, two years old; also two service jacks, five and six years old; six black jennets, two to five years. H. T. Crow, Modesto

MAMMOTH JACKS AND JENNETS for sale; good ones; seeing is believing. Write or come and see. A. L. Allen, Perris, Cal

FOR SALE—Fine team bay mares; splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal

MISCELLANEOUS

FOR SALE AT THEIR MARKET VALUE—125 two-year-old heifers, about one-fourth Durhams, the rest Herefords. 140 yearling heifers, will run 90% white faces, and 275 weaned calves will run 95% white faces. All these cattle are high bred from Durham and Hereford cows and sired by purebred Hereford bulls. J. C. Farrar, Bishop, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

FOR SALE—A few Hampshire rams, 1 registered Duroc boar, 1 6-year-old jack—large breeder. H. M. Barngrover, Santa Clara, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

ADVANTAGES OF PROPER HOUSING.

Unseasonable weather we cannot control; but we can so build, as mentioned last week, that the fowls can be comfortable in all weather. Properly constructed open-front houses will do more towards keeping the fowls healthy and in condition to produce eggs than any other thing we can do. Houses that are built too shallow, or, as some would say, too narrow, allow the wind to whip around the ends, strike in the open front and hit the birds on the roost, even though they are faced in the right direction to avoid direct storms. A house that is built eight feet deep is too narrow to keep out the wind; ten feet deep is better, but twelve feet is about an ideal depth. The back should not be over three feet high nor the front over six or seven. This gives a nice drop, allowing the rain to run off freely and in summer the house is cool. If desired, sliding panels can be made on the ground under the dropping boards for the exit and entrance to and from yards built in any direction you want. Say the house faces north, the yards can be made to the south or to the north, at option of owner. If the house is built to avoid direct storms and the yard is continuous in the same direction, it must be evident that the fowls are doubly protected, and will require very little care in keeping them in when the weather is extra stormy. If, however, the runs face the storms it will be necessary to shut the fowls in during wet, stormy weather to obtain the best results. But as the front is all open there is no lack of fresh air and no such ill effects will be felt as would be the case if the fowls were kept up in closed houses. Closed housing during just a few days soon shows on birds that have been allowed to run in the open, and it takes only a short time to make such fowls so susceptible to climatic changes that they will be a constant source of expense and trouble. Keeping fowls well housed saves feed, saves trouble and loss and is comfortable for those who care for them as well as profitable.

If the poultry house is kept clean and free from foul smells and the birds supplied with plenty of green feed, grit, shell and pure water in clean vessels, the owner will make more profit on less feed than is possible by crowding the fowls with costly feed and neglecting the other essentials. Some people learn these things easy, others learn only when they have paid a good price, and still others never learn at all.

POULTRY AILMENTS DIAGNOSED BY THE SENSE OF SMELL.

A good nose is one of the best assets a poultryman can have, provided he uses it. Roup has a smell so distinctly its own that if a person will take the trouble to learn it he never need make a mistake in diagnosis. I can go in a house where all looks fine to the eye, and if there is just one case of roup, not so advanced as to be seen, I can detect it by the sense of smell and follow it up, too, much as a bloodhound follows the trail; and anyone else can do the same if he will take the trouble.

A sickish sweet odor, that penetrates and seems to stick to everything, made worse by stirring up the fowls until you can smell it on your hands and in the air, can never be mistaken for anything but roup, once you know it. A stale odor, not unlike a case of fetid or sour perspiration, suggests catarrhal colds before they merge into roup. If caught at this stage it is easy to correct the trouble, but once it reaches the roup stage it is harder to handle.

Diphtheria in fowls, as in people, carries an excessively fetid, penetrating odor, even if there is but one case in a whole flock; and if it is not run down and the individual found it spreads alarmingly fast and is almost sure death. This disease is more common among fowls than many suspect. I feel sure that it is carried into flocks of poultry by wild birds, because I have had it in one yard when there was not a trace of it in another only a short distance away.

By killing and burning the carcasses of all that showed symptoms of the disease I quelled it right in the yard where it commenced. The job was one not exempt from danger, for all these things are transmissible to human beings. The hands should be disinfected after handling the fowls. Any simple home disinfectant will do, but it should be strong enough to remove the smell. For disinfecting drinking vessels, feed troughs, or any other articles for the fowl a small mop, a can of lye and a kettle of boiling water are as good as anything. Sal soda is about as effective as lye and cheaper. Keep the hands out of both and use the mop. Rinse out and you can feel sure the article is clean.

TURKEY WEIGHT COMPARISONS.

Now, when we have need for every ounce of food that can be put into form for human consumption, whether ground by mills or gizzards, it is the soundest economy to let the young turkeys live through the fall bug- and seed-hunting season.

A young gobbler that weighs ten pounds in October will weigh twelve or thirteen sixty days later if given a little extra feed along toward the end of that period. A hen in the same time will fill out from seven pounds to nine or ten. Such satisfactory gains can be made at no other time in the bird's life. It is the season when nature is preparing for winter. The turkey hasn't learned to depend on the farmer's grain bins.

The U. S. Food Administration suggests that in order to take advantage of this favorable season for putting on gains that no young turkey hens weighing less than six pounds dressed should be marketed. Young gobblers should be of sufficient size to dress at least eight pounds before being sold. Let the turkeys develop and grow fat.

DON'T MOVE LAYING STOCK.

The moving of hens and pullets that are getting ready to lay should be done early in the season. It is poor policy to move laying stock in the late summer and fall when eggs are scarce and high. A little forethought about these things is worth a lot of after-thought. If you want to prevent pullets and hens from laying, keep them on the move from one house to another. The fancier who is aiming for size and to hold the pullet bloom on his birds is doing this moving stunt on business principles, but the man who is looking for eggs to pay his feed bills does it regardless of anything but just lack of knowledge or common sense.

Poultry Breeders' Directory

BABY CHICKS!—Booking orders for January-February delivery. Reserve yours and be forehanded. Poultry means business to you. Efficiency in labor, housing, feeding and stock means profit. We are talking stock-quality-price, sure and safe delivery. Our large plant, handled efficiently, on a fair-play basis, insures your good will—that's our aim, and we want you to send for our circular, ask questions, get acquainted. We specialize in R. I. Reds, Barred and White Plymouth Rocks, Black Minorcas, White, Brown and Buff Leghorns. The Mission Hatchery, Box 17, Campbell, Cal.

EGGS, MEAT, GOING HIGHER!—Great shortage. Big profit for years—sure on really heavy laying strains. Our 200-290 egg Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Orpingtons, ducks, turkeys—are more profitable now than ever, clearing $5 yearly. Some best Government trap-nested hens, 280-283-eggs. Hundreds breeders; laying, younger pullets; thousands chicks weekly; reasonable. Chicks scarce. Few open dates winter, spring delivery, last year's prices. J. Beeson, Pasadena, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. B. Vodden, Box 396, Los Gatos, Cal.

WHITE CHINA GEESE—the best geese in California. Lay more eggs, finer grained meat and the most beautiful of all varieties. Trio, $20—commencing to lay now. Susan Swaysgood, Pomona.

PUREBRED Brown Leghorn Cockerels, $5 each. Geo. Loomis, Albion, Cal.

PRUSSIAN HILL POULTRY RANCH—Blue Andalusians, pens, trios, pairs, cockerels. Black Minorcas, trios, pairs, cockerels. Barred Rock cockerels. Prices low. Geo. I. Wright, Prop., R. F. D., Mokelumne Hill, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks, Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

BOURBON RED TURKEYS—Order now and we'll reserve them until January 1st. Mrs. Geo. F. Smith, Hardwick, Cal.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

ALBERT M. HART, CLEMENTS, CAL.—Breeder and shipper of bronze turkeys.

Chickens Sick?—Use Germozone
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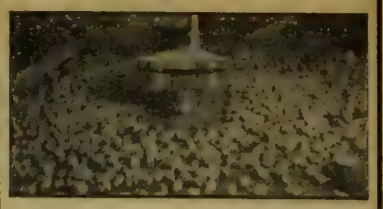

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PERFECTION OIL HEATER

THE HOME CIRCLE

MY SERVICE PIN.

I wear a little service pin
With double stars of blue;
It rests by day, it rests by night
Upon my heart, and holds it tight,
And pins it through and through—
My precious little service pin
With double stars of blue.

I read of battles nobly won,
Of flags unfurled to view;
'Twixt hope and fears, 'twixt pride and tears,
My soul is torn in two.
I clasp my little service pin
With double stars of blue.

And then I read how men have died—
Right valiant men and true—
I bow my head before the dead
Those stars of golden hue.
"Still keep, O God, my service pin
With double stars of blue!"
—Mary-Putnam Hart.

THE STORY OF A PUMPKIN PIE.

Polly and Patty had come from the city to spend a month with grandpa and grandma at Hope Farm. Polly and Patty thought Hope Farm, with its big orchards, the very nicest place in the world. Of one thing in particular they were quite sure—in no other place in the world were there such pumpkin pies made as those grandma made.

She made them every Saturday because the minister came to tea every Sunday after he had driven eight miles to preach his afternoon sermon, and he was very fond of pumpkin pie. Patty and Polly thought it such fun to help grandma make her pies. They were very good little cooks themselves for ten-year-old twins. Mother Rogers had seen to that.

Early one Saturday morning word came that Uncle John Rogers down at Clifton had fallen and broken his leg. Grandpa and grandma got ready in a great flurry and drove straightway to Clifton, leaving Polly and Patty to keep house until they should return at night. Patty and Polly were very sorry about Uncle John, but they were greatly elated over being left to keep house.

"It makes one feel so responsible," said Patty, who liked to drag in a big word now and then when no grown folks were by to laugh at her.

"But," said Polly, soberly, "what about the minister's pumpkin pie?"

What, indeed? But Patty was equal to the problem.

"I shall make the pumpkin pies," she said.

"Oh!" Polly was almost scared. She was never so daring as Patty. "What if you spoil them?"

"I won't spoil them. You must help me. I am sure I can make them all right. I know just how grandma goes about it."

So the two little maids put on very bright, clean, new gingham aprons and ran down to the corn field behind the big fir grove. Polly was always a little frightened to go through that grove, it was so thick and gloomy, but Patty never thought of such a thing. The pumpkins were there, round and yellow as gold, and the twins picked the best and ripest to make their pie.

Patty having rolled her sleeves high above her dimpled elbows, peeled and diced the pumpkin and put it on to stew. She could not find the granite saucepan grandma always used, but Patty was not to be stuck by a trifle like that. She stewed the pumpkin in a round granite milk-pan and it served the purpose very well.

Meanwhile, Polly had hunted the haymow for fresh eggs, had fallen through a hole into the calf pen and nearly frightened the spotted calf to death. But she found the eggs and brought them in triumph to Patty.

Patty made the crust while Polly watched her. Patty clean forgot to put any baking powder in, but Polly remembered it just in the nick of time. Then they strained the pumpkin and beat it up with eggs and sugar and milk and cornstarch, and dusted in the cinnamon and nutmeg and ginger very carefully, for the minister was very particular about the flavoring of his pies. Polly and Patty both tasted the mixture and pronounced it all right and just like grandma's. Then they popped the pies into the oven, and when they came out they were golden brown and looked delicious. So delighted was Patty that she danced around the kitchen three times waving a holder aloft.

Grandma was very much surprised when she came home and saw the pumpkin pies. Secretly she doubted if the pies could be good enough to put before the minister; but she was careful not to hurt the twins' feelings by saying so, and anyway there was nothing else for him this time.

That night Patty had a terrible nightmare and woke up Polly to tell her about it.

"Polly, I dreamed that we put mustard in those pies instead of ginger! Oh, we didn't—did we?"

"No, of course not," answered Polly, reassuringly, and went right to sleep again.

But Patty couldn't sleep. She was afraid she would dream that terrible dream again.

Next afternoon after preaching the minister came. When he had finished his second helping of pie he said politely:

"Your pumpkin pies are always delicious, Mrs. Rogers, but you have surpassed yourself in this one. It is the most delicious I ever ate."

Grandma's eyes twinkled.

"I'm sorry I can't claim the credit for it," she said. "Patty made it."

Patty blushed scarlet beneath the minister's eye.

"Polly helped me," she said honestly.

And the minister—he had driven eight miles, you know, and preached a long sermon, and his wife never made pumpkin pies—took a third helping.—L. M. Montgomery.

DISTRIBUTION OF HOME CARD POSTPONED.

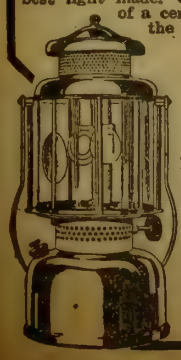
Because of the prevalence of influenza, the Food Administration has postponed the distribution of the new Home Card until the first week in December. In California this work has been placed in the hands of the woman directors and in preparation for the actual distribution an army of nearly 12,000 women has been organized. Under the revised plan Sunday, December 1, will be Conservation Sunday. The distribution of the new Home Card will begin Monday, December 2.

More Light Than 20 Oil Lanterns

AT LAST—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

Most Brilliant Light Made

Brighter than the brightest electric bulb. More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The



Coleman Quick-Lite

No wicks to trim—No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger if tipped over. Will last a lifetime.

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Demonstration-room
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Your guarantee of real winter underwear satisfaction

HANES

This label on every garment. Buy none without it.

GUARANTEE
We guarantee Hanes Underwear absolutely—every thread, stitch and button. We guarantee to return your money or give you a new garment if any seam breaks.

PUT the fleecy warmth of Hanes Heavy Winter Weight Union Suits or Shirts and Drawers next to your skin—and, you're fit to face the stiffest blast the North can let fly! Get the friendly hug of the elastic knit, long-fibre cotton, and prove how perfectly Hanes gives-and-takes with every body movement!

Greatest winter underwear sold at popular prices:

Shirts and Drawers HANES Union Suits
ELASTIC KNIT UNDERWEAR

Realize what Hanes offers you *at a popular price:* guaranteed unbreakable seams; elastic tailored collarette that cannot gap; pearl buttons that are sewed on for keeps! And, behind them all stands Hanes workmanship—perfect knitting, tailoring and finishing—an unbreakable combination!

Illustrated above are Hanes Shirts and Drawers—for many years the American standard at popular prices! Note the snug-fitting, three-button, sateen waistband.

Greatest underwear for boys! Hanes Boys' Union Suits exceed in quality, workmanship and service any boys' underwear we have ever seen. They combine the features of men's union suits with the cosiest warmth.

If your dealer does not have Hanes, write us at once.

P. H. HANES KNITTING CO., Winston-Salem, N. C.
New York Office, 366 Broadway

Warning to the Trade—Any garment offered as Hanes is a substitute unless it bears the "Hanes" label.

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This practical Christmas, try combining Christmas-giving with Home-Making. Write for our big new, FREE catalog of FURNITURE and HOME-FURNISHINGS and choose from over half a thousand articles for the home.

Home-Gifts are satisfying and in most instances can be enjoyed by ALL the family, especially such articles as a phonograph, piano, new rugs, new curtains, a tea-wagon; deep, comfortable rocker; a library table, and numerous other home-furnishing items.

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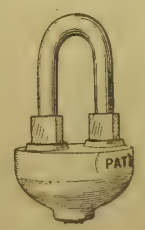

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The world's greatest tragedy has borrowed the hewers of wood and the miners of coal who produced our fuel in abundance. Great necessities have depleted the supply—it is not normal, the price is consequently high. So why continue to struggle against odds that be easily avoided?

In the perfection of combustion as produced by the "PREMIER" Burner, the result is a clean oil-gas greater in heat units than any other fuel and for less money. A good fire at your command—an unlimited fuel supply in the abundance of common Kerosene oil—Liberty Fuel.

Ask for drawing like your stove and circular "B." Be sure and give size and style of stove.

Burner alone is $5.00 — Complete outfit, $9.85

The Burner is Fully Guaranteed and Prepaid Anywhere

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Agricultural Summary

Sky-High Egg Prices Explained.

The U. S. Food Administration, replying to protests from various individuals and organizations against the recent record-breaking prices of eggs, says the present abnormal price of fresh eggs is due to the fact that the demand far exceeds the production and the only chance for a decrease in price during the influenza epidemic is for well persons to eat either cold storage eggs or none at all, so that sick people may be able to obtain more. Retailers are not permitted to make more than 7½c per dozen on fresh eggs and wholesalers not more than 6 per cent. For instance, fresh eggs were retailing in San Francisco today at 93c per dozen. Eighty-one cents of this went to the producer and the balance is the approved and regulated margins allowed to cover the cost of handling and wholesale and retail distribution. Undoubtedly the normal demand for fresh eggs has been greatly increased by the Spanish influenza epidemic, as sick persons require fresh eggs. There is no scarcity of storage eggs. Cold storage eggs are equal in food value and wholesomeness to the fresh product. Their palatibility is a matter of personal taste. Many regard them to be equally as palatable as fresh eggs in every way. No intelligent comparison of prices of fresh eggs between San Francisco and other cities can be made on the basis of published quotations because conditions are different. Fresh California white eggs are in great demand in New York City, selling at prices above California prices. Published criticisms of the price of California eggs as compared with Eastern prices have been based on a misconception of the Eastern quotations. In summing up, Food Administration officials urged housewives to use the storage eggs as much as possible, particularly in cooking, so that the demand on fresh eggs would be lessened with a probability of a decrease in price.

The Barley Growers' Dilemma.

Barley growers are confronted with an awkward situation—increased production, a falling off in the use of barley as a breadstuff, through the better production of wheat, a disappearance of the demand from brewers, difficulties in transportation and the necessary restrictions of the Food Administration says the Wells Fargo National Bank of San Francisco in a review of the business outlook. These influences have resulted in large quantities of barley still being held in first hands, bringing about a heavy demand in certain districts for funds with which to carry them. This crop from a monetary standpoint is the third most important in the State, being exceeded only by hay and beans in the order mentioned. The total production for 1918 amounts to 34,060,000 bushels, which if it could be marketed at present quotations would put into circulation approximately $30,000,000.

Mixed Varieties Hurt Grapefruit

The reputation of California grapefruit has been injured by the fact that the Marsh variety, the only important variety now grown in the State, is composed of a number of strains, according to a statement of the Department of Agriculture. No recognition previously had been made of these strains, and the marketing of fruits of the various strains some of which are of a decidedly inferior nature, in the same packages, has caused a handicap both to growers and consumers.

Rice Interests Active.

With the exception of some of the new mills, practically all the California mills are now running. The present estimate of the California crop is 3,500,000 sacks of 100 pounds each. Judging from samples received in San Francisco, the quality will be much better than last year.

Army Stocked Up With Cheese

The United States Food Administration states that the needs of the army for cheese are supplied.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, November 6, 1918.

WHEAT.

The Food Administration Grain Corporation announces that it has officially advised all mills, warehouses and grain dealers that, effective November 4, 1918, it is permitted that sales of wheat may be made for feeding use. This ruling, therefore, rescinds the special license regulations of the Food Administration, which prohibited wheat to be used for any other purpose than milling. The removal of this restriction against the feeding of wheat will be of great benefit to the poultry sections particularly, as well as to the other feeding industries generally.

The following are Government prices per bushel for wheat in bulk at San Francisco. The quotation for recleaned is the price per hundred and the charges are strictly regulated by the Government. Per carload the quotation is $4.15. Less than carload lots is $4.25.

Per bushel—	
No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No 2	2.09
Recleaned for seed, per ctl.—	
California Bluestem	$4.15@4.25
Early Baart	4.15@4.25

BARLEY.

The barley market remains unchanged. There is very little demand. As one dealer sizes the situation a bid of $2.05 would probably find no sellers and an offer to sell at $2.12½ would probably find no buyers.

Choice feed, per ctl	$2.05@2.12½

OATS.

While the inquiry for seed oats remains very small, it is believed that the recent rains have put the ground in such condition that a demand for seed is bound to develop in a short time. Feed oats continue quiet.

Red feed, per ctl	$2.20@2.40
Red for seed	2.80@3.00
Black for seed	2.80@3.00
Recleaned Red or Black for seed	3.35@3.50

CORN.

Nothing developed in the corn situation this week. Dealers say there is no new corn in sight for immediate shipment. On Tuesday of this week from $3.65 to $3.75 was asked on the exchange, but no sales are reported at this figure.

HAY.

Receipts of hay for the past week were 644 tons, compared with 852 tons. These are small shipments for the present period. However, they have been sufficient to meet all demands. The Government will doubtless be a heavy buyer throughout the season. Whether the war ends soon or not, it is not believed that it will dispose of its stock for some time to come.

Wheat, No. 1	$26.00@28.00
do, No. 2	20.00@24.00
Choice tame oat	25.00@27.50
Wild oat, new	20.00@22.00
Barley, new	20.00@22.00
Alfalfa	18.00@22.00
Stock	18.00@21.00
Barley straw	.50@ .80

FEEDSTUFFS.

Rolled barley and oats are again weaker, probably owing to the general business conditions. Oilcake is again on the market in sufficient quantity to permit of a quotation and the first sales were made at $77.

New alfalfa meal, per ton	$35.00@36.00
Coconut cake or meal	Nominal
Cracked corn	$86.00@88.00
Oilcake	77.00@78.00
Rolled barley	45.00@47.00
Rolled oats	55.00@57.00
Bran, carload lots in S. F.	None offered
Mixed feed, do, do	None offered
Middlings, do, do	None offered

POTATOES, ONIONS, ETC.

The green vegetable market has been more seriously affected by the influenza epidemic than any other. The Colombo market, where most of the green vegetables are handled, is at present open only three times a week. Beans, summer squash and lettuce show a decided increase in prices. Cucumbers also are higher. Okra is now sold exclusively by the box and ranges in price from $1 to $1.25. Potatoes are quiet. A few Idahos have been received and sold from $2 to $2.10. Some from Marin and Sonoma counties were also on the market, selling from $1.25 to $1.65. The onion market is practically dead.

String beans	7@9c
Wax beans, per lb	7@9c
Pole beans	6@8c
Carrots, per sack	85c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
Summer squash	1.00@1.50
Pumpkins	75c@$1.00
Cucumbers, Alameda, lugs	$1.00@1.75
Eggplant, per box	75c@$1.00
Livingston	$1.25
Lettuce, Sacramento, doz	25c@40c
Celery, bunch	20@25c
Tomatoes, per crate—	
Bay	$1.00@1.50
Potatoes—	
Garnet Chile, on street	None
Whites	$1.65@1.90
Sweets, per sack	3.25@3.50
Onions—	
River Reds	None
Yellows	75c@$1.00
Australian Browns	75c@$1.00
Garlic, new	15@20c
Green corn, Alameda, per sack	Nominal
Okra, box	$1.00@1.25

BEANS.

The bean market continues weak, with lower quotations on all active descriptions. Cranberry beans appear to be the weakest of the list and are quoted at a decline of 50c.

Bayos, per ctl	$7.25@7.50
Blackeyes, new crop	6.25@6.40
Cranberry beans	8.50@8.75
Limas (south, recleaned), new crop	$10.50
Pinks	$6.80@7.00
Red kidneys	Nominal
Mexican Reds	$7.00@7.25
Tepary beans	6.25@6.50
Garbanzos	8.00@8.75
Large whites, new crop	8.25@8.40
Small whites, new crop	9.40@9.60

POULTRY.

The poultry market is steady, with demand good. The arrival of two carloads of Eastern poultry, mostly hens, tended to bring quotations on this description to a lower figure. It is conceded that last week's quotation was abnormal, but it was maintained by the abnormal demand. Fryers were particularly strong this week, as they were scarce.

Turkeys, live, young spring, lb	32@35c
do, old	32@33c
do, dressed, old	40@42c
Broilers, 1½ to 2 lbs	39@42c
do, 1¼ lbs	45c
do, ¾ to 1¼ lbs	48c
Fryers	38c
Hens, extra, per lb, colored	40c
do, Leghorn	40c
Smooth young roosters, per lb. (3 lbs. and over)	37@38c
Old roosters, colored, per lb	24c
Geese, young, per lb	27@28c
do, old, per lb	25c
Squabs, per lb	55@60c
Ducks	29@30c
do, old	25@27c
Belgian hares	27@28c
Jack rabbits	$2.50@3.00

BUTTER.

The butter quotation on Monday was placed a cent lower than the previous week. Liberal withdrawals from storage have been going on this week and the storage holdings are reported to be at a lower ebb than any other period this season. Consumers have been cutting down purchases and this is having an effect.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	60	60	60	59	..	59
Prime first	59	59	59	Nom.	..	..
Firsts	58	58	58	Nom.	..	..

EGGS.

Eggs have apparently reached about the top of the market for the present. After a steady advance in price for several weeks, extras touched 88c and remained there three days. Then a quotation of 88½c was made and the next day the price fell off 2c. The high price was again reached on Monday of this week, but today the price receded to 88c. Eggs are moving out of storage in larger quantity than for some time past and the consuming public is evidently learning of the great difference in prices. Eggs from Kansas and Iowa are coming freely to this market, nearly half the receipts here coming from those States.

	Thu.	Fri.	Mon.	Tu.	Wed.
Extras	88½	88½	88½	..	88
Extra 1sts			Nominal		
Firsts			Nominal		
Extra pullets	79½	78	79½	..	78½

CHEESE.

Oregon triplets fancy again showed weakness as the trade turned to the California descriptions. California cheddar is again quoted and both fancy and first California flats show advances in prices. The market as a whole is strong.

California Cheddar, flats, fancy	32c
Fancy California flats, per lb	31½c
First California flats, per lb	23½c
California Y. A. fancy	Nominal
Oregon triplets, fancy	36c
Oregon Y. A. fancy	Nominal
Monterey cheese	24@27c

FRESH FRUITS.

Business was very quiet, but receipts were light and prices were maintained. The berry market is about over, and only a few berries have been received since the rains of Sunday. What has come in has not been of prime quality.

Apples	$1.50@2.50
Peaches, 4-box crate	None
Figs, black, per box	None
do, double layer	Nominal
do, Single Row Whites	Nominal
Strawberries, per chest	$10.00@13.00
Blackberries, per chest	None
Raspberries, per chest	$9.00@12.00
Plums	Nominal
Cantaloupes, flats	None
do, ponies	Nominal
do, standard	Nominal
Watermelons, per lb	Nominal
Pears, Bartlett, per box	$1.50@2.00
Grapes, Tokay	2.00@2.50
do, Muscat	2.25@2.50
Persimmons	1.00@1.50
Alligator Pears	3.50@4.00
Cal	1.00@1.25
Pomegranates, per box	$1.50

CITRUS FRUITS.

Grapefruit is now coming in in greater quantity. The quality is reported excellent. Quotations were marked down a dollar, with the assurance that another week or ten days will see them go down another dollar. Lemons are still held at the high prices of last week. The old stock oranges are held at previous high prices and few sales are made. At a wholesale quotation of $12.50, people cannot buy except where oranges are needed by the sick.

Oranges	$12.50
Lemons, fancy	9.00
do, choice	7.50
do, standard	6.50
Grapefruit	Nominal
Grapefruit, new	$3.00@5.00

DRIED FRUITS.

The dried fruit market continues firm with unchanged quotations, except in the case of apples, which are lower. Growers are being offered 13c to 14c and the tendency seems downward, as the stock is difficult to dispose of in the face of lower prices in the East.

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop, at mill	7.00

HONEY.

Some honey continues to be received from California beemen, and the market continues unchanged.

HIDES.

Wet Salted Hides—Taken off from August 1 to September 1, all weights: No. 1, 19c; No. 2, 17c; No. 3, 15c; bulls and stags, No. 1, 15c; No. 2, 13c; kips, No. 1, 21c; No. 2, 19c; calf, under 15 lbs. No. 1, 33c; No. 2, 31c.

Horse—Dry, per lb.: No. 7, large, $2.25@2.50; medium, $1.75@2.25; small, $1.00@1.50; salted, $3.00@5.00; colts, 25@75c

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, November 5, 1918.

During the past week the quality of the grapes offered for sale in most of the Eastern markets showed considerable weakness as compared to the week previous and this class of stock met with sluggish sale and distribution to the consumer. Good, hard-keeping stock, however, met a sharp demand on an advancing market. In fact, the highest sales of the season ruled in Atlantic seaboard markets during this past week on fancy fruit.

There seems to be hesitancy on the part of the trade to take hold of grapes packed in sawdust, as most of the stock was packed after the rain and the condition on opening has been found to be only fair.

Despite the fact that the bulk of the grape crop has been packed in crates, there seems to be an increasing demand and preference for lugs. What effect this will have upon the general output next season cannot be determined at this time, but this style of package has met with favor among the trade during the past few weeks.

The shipments en route are very light and the season can now be considered as practically closed, with a few straggling cars from districts that have not been affected by the rains.

Averages for the week:

New York: Grapes—Emperor, kegs $4.10, drums $5.14, crates $2.14; Malaga, $1.83; Muscat, $1.48; Tokay, $1.68; Cornichon, $2.25; Alicante Bouchet, $1.81. Pears—B. Clairgeau, $4.16; Winter Nelis, $2.33; E. Buerre, $3.12; Glout Morceau, $3.55.

Chicago: Grapes—Emperor, $1.74; Cornichon, $1.89; Malaga, $1.81; Tokay, $1.70. Pears—Winter Nelis, $2.70.

Boston: Grapes—Tokay, $2.18; Cornichon, $2.49; Malaga, $2.12; Emperors, crates $2.41, drums $5.65; Zinfandels, $1.55. Pears—Glout Morceau, $3.32; Winter Nelis, $2.77; B. Clairgeau, $4.80.

Shipments from October 25 to November 2, inclusive: 57 pears, 1680 grapes. Shipments to date, 1918: 24,600 cars (incomplete). Shipments to date, 1917: 22,242 cars.

Special Citrus Market Report

Los Angeles, November 4, 1918.

November marks the end of the Valencia and the beginning of the navel shipping season. Indeed, it closes the old and opens the new citrus year. The past was a year of low production and high prices. The output of navel oranges in Southern California, the principal source of supply, was 20 per cent, and of Valencias 40 per cent of the previous year's shipments. Had the monetary returns been more evenly distributed, the season would have been very satisfactory to the growers. It is reported that $10 a box became the average price level on Valencias in Eastern markets, and a few fancy lots brought over $19.

Picking and packing of the new season's navels have already started in the protected nooks of Tulare county's foothills—about two weeks earlier than usual. The quality of the new fruit is excellent. Orchard crop sales are reported on a basis of 5c to 5½c a pound spot cash on trees. A good-looking holiday market is in sight, but it will be some weeks before the new price situation is disclosed.

The lemon market continues strong. While the supply is good, the prevalence of the influenza stimulates the demand,

LOS ANGELES

Los Angeles, November 5, 1918.

BUTTER.

Under light receipts prices held steady and demand very good to the extent of the supply. Receipts for the week were 207,600 pounds, against 292,400 pounds the same week last year. To meet this shortage there was withdrawn from cold storage during the week 48,998 pounds, leaving the cold storage holdings now 201,995 pounds, against 186,389 pounds the same week last year. A good rain was had Sunday night throughout the northern half of California and consequently Monday prices were lowered 1c.

We quote—
California fresh creamery..............58c
California fresh prime first...........56c
California fresh first..................55c

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	59	59	59	59	59	58
1917—						
Extra	45	44	44	44	44	44

EGGS.

The snap was out of this market the past week. The extreme high prices causing a falling off in consumption. But under the continued light receipts prices held steady. Receipts of fresh eggs for the week were 2030 cases, against 2170 cases the same week last year. To meet this shortage there was taken from cold storage during the week 9746 cases, against 4123 cases the same week last year. The cold storage holdings are now down to 42,410 cases, against 34,186 cases the same week last year. At the high prices now prevailing the consumption is light and prices are kept up by the scarcity.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	78	78	78	78	78	78
Case count	70	70	70	70	70	70
Pullets	66	66	66	66	66	68
1917—						
Extra	58	58	57½	57½	57½	57½
Case count	58	58	57½-56	56	56	
Pullets	48	49	49	49	50	50

VEGETABLES.

Lighter offerings the past week caused a firmer market for many vegetables. Potatoes and onions are both a little higher. Celery coming in slowly and sharply higher. Tomatoes firm and the best in fair demand. Lima beans coming in less freely and higher and demand fair. String beans unchanged, but sales slow. Sweet potatoes continued dull. Cabbage steady. Peppers higher and in fair demand.

We quote from growers:
Bell peppers, per lb..................3@4c
Chile peppers, per lb.................3@4c
String beans, per lb..................5@6c
Lima beans............................4½@5c
Potatoes, northern, per cwt.....$2.00@2.25
do, Idaho Russets, per cwt.... 2.10@2.20
Sweet potatoes, per cwt......... 1.25@1.40
Garlic, per lb.........................20c
Onions—
Australian Brown, per cwt....$1.35@1.40
White Globe, per cwt.......... 1.75@2.25
Cabbage, per 100 lbs............ 1.00@1.25
Celery, crate................... 3.50@4.00
Tomatoes, No. 1, lug.................70@80c
do, No. 2, lug.......................25@35c

POULTRY.

Not much coming in and the demand the past week was equal to the supply. Young stuff showed no change, but hens were higher all around under an improved demand. Turkeys in fair demand and steady. But few ducks and geese coming in and but few wanted.

The following prices were agreed upon last Friday, November 1, and hold good until the coming Friday:
Broilers, 1@1¼ lbs......................41c
Broilers, 1½@1¾ lbs.....................41c
Fryers, 2@3 lbs.........................33c
Roasters (soft bone), 3 lbs. and up....30c
Stags and old roosters, per lb..........20c
Hens...............................26@32c
Tom turkeys........................31@34c
Ducks..............................22@28c
Geese...................................15c

MELONS

There were fair offerings of watermelons and casabas, but as the weather was much cooler they were slow sale. The season is fast drawing to a close.

We quote from growers:
Casabas, per lb.....................1@1¼c
Watermelons, per 100 lbs.............50@75c
Honeydew melons, jumbo crate..$2.75@3.00

BEANS.

There were more bean offerings the past week and the market is being hurt by the influenza. Buyers of all kinds hold back and a lower market prevailed for everything. Limas were in most request and they were in moderate demand only.

We quote from growers—
Limas, per cwt.......................$10.00
Large white, per cwt.................. 9.00
Small white, per cwt.................. 8.00
Pink, per cwt......................... 6.50
Tepary, per cwt....................... 4.50
Blackeyes, per cwt.................... 5.00

FRUITS.

The tone of the market the past week was firm. Apples made up most of the offerings and were in very good demand. Pears pretty much out of the market; only cold storage offering. Grapes, too, are getting scarcer and market higher, and demand good for what coming in. Figs, too, are higher under scarcity. Quinces steady but slow sale. Pomegranates steady and in fair demand. Guavas steady but dull. Japanese persimmons coming in more freely and meeting with fair sale.

We quote from growers:
Figs, Black Spanish, per lb...........7@9c
do, White, per lb.....................7@9c
Pears, local, per lb..................4@5c
Pears, Mountain.....................4@6½c
Grapes—
Malagas, per lb.......................5@6c
do, Rose Peru, per lb.................5@6c
Tokay, per lb.........................5@6c
Cornichon...........................4@4½c
Apples—
King Davids, 4-tier..................$2.75
Black Twigs, 4-tier................... 2.75
Baldwins, 4-tier...................... 2.00
Red Pearmains, 4-tier................. 1.75
White Pearmains, 4-tier............... 1.75
Rhode Island Greenings, 4-tier........ 1.50
Yellow Newtown Pippins, 4-tier........ 1.75
Apples, Bellefleur, 4-tier.......$1.65@1.75
do, 3½-tier.................... 1.70@1.80
do, Gravenstein, 4-tier............... 2.25

BERRIES.

Prices remain unchanged from a week ago. Very few coming in. But what arriving found fair sale.

We quote from growers:
Strawberries—
Fancy, per 30-basket crate.....$3.50@4.00
Poor to choice, 30-basket crate. 2.50@3.00
Raspberries, 30-basket crate..... 5.50@6.50

WALNUTS.

There is no change in this market from a week ago. Only a few are to be had from first hands from independent growers. The Association is still working on its contracts and shipped out the past week about thirty cars a day.

We quote f. o. b. California points:

	1918	1917
Fancy budded	34½c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

HAY.

Cooler weather the past week caused an increased consumption and alfalfa met with a good demand at last week's prices. Receipts only fair and they were disposed of without much trouble. Grain hay continues slow sale but steady.

We quote f. o. b. Los Angeles:
Barley hay, per ton..........$23.00@24.00
Oat hay, per ton............. 25.00@27.00
Alfalfa, northern, per ton... 20.00@21.00
Alfalfa, local, per ton...... 21.00@23.00
Straw, per ton................ 9.00@10.00

COTTON.

October settlements out of the way, the market the past week opened lower with Liverpool and the South both selling. Trading, too, was rather of the cautious kind most of the week. The current week opened more active under the prospect of an early peace. Towards the close of the week some of the early advance was lost on profit taking. December finished in New York Tuesday at 28.96c, and January at 28.23c. In New Orleans December closed at 28.14c and January at 27.45c.

Special Livestock Market Report

San Francisco, November 6, 1918.

CATTLE—The cattle supply still comes from California and Nevada mountain points, Oregon having ceased to ship to this market, except occasional odd lots.
Grass Steers—
No. 1, weighing 1000@1200 lbs.12¼@12½c
do, weighing 1200@1400 lbs.....12@12¼c
do, second quality...............10½@11c
do, thin...............................8@9c
Cows and heifers—
No. 1...............................8@8¼c
do, second quality..................7@7½c
do, common to thin....................5@6c
Bulls and stags—
Good..................................6@7c
Fair..................................5@6c
Thin..................................4@5c
Calves—
Lightweight............................11c
Medium.................................10c
Heavy...............................8@8½c

SHEEP—The market is unchanged. The demand is small and sheep raisers are apathetic about selling on account of the high wool market.
Lambs—
Yearlings..........................12@12½c
Milk...............................14@14½c
Sheep—
Wethers............................11½@12c
Ewes................................9@9¼c

HOGS—Hogs continue to come in freely, as more are being taken. Help conditions are improving, so much so that it is thought all arrivals can be handled next week. It is reported that the Moran Packing Co. will open up in South San Francisco next week, which will furnish another outlet for offerings in this line.
Hard, grain-fed, 100@140...............16c
do, do, 140@250......................16½c
do, do, 250@325......................15½c

Los Angeles, November 5, 1918.

CATTLE—Choice fed steers continue scarce and in very good demand and the market for them is firm. A good many poor and medium cattle are still being offered, though they are not being pressed upon the market hardly so strong as a week ago.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers........ 8.00@ 9.00
Good cows and heifers......... 7.00@ 7.50
Canners, per cwt.............. 5.50@ 6.00
Calves, per cwt............... 8.50@10.00

HOGS—The run of hogs to market the past week was only fair. Yet the offerings were ample for the demand. Prices, however, remain steady.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$15.00@16.00
Mixed, 225@275 lbs.......... 15.50@16.50
Light, 175@220 lbs.......... 16.00@17.00
Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—But few offering the past week and under scarcity the tone of the market was firm. Wethers were especially scarce and killers bid them up $1 per cwt. and then they got but few.

Per cwt. f. o. b. Los Angeles—
Prime wethers.................$9.00@10.00
Prime ewes.................... 8.50@ 9.50
Yearlings..................... 9.50@10.50
Lambs........................15.00@16.00

Sure to Hit You Somewhere

A new minister, preaching in a town near where horse races were being held, forcibly denounced the "sport of kings." The principal patron of the church was known to play the ponies, and of this the minister was afterwards informed. Not wishing to offend the wealthy one, he went to him and said: "I am afraid I touched one of your weaknesses, but it was quite unintentional, I assure you." "Oh, don't mention it," cheerfully replied the millionaire, "it's a mighty poor sermon that doesn't hit me somewhere."

And you, Mr. Reader, will find it a pretty poor issue of the Rural Press that doesn't hit you somewhere. Take this one, for example. It is supposed to be devoted to the San Francisco Show, yet see how much else we have crowded into its pages. Mr. Hodges describes successful methods already in operation for the bulk handling of grain. Mr. Fox gives practical suggestions on the pruning of the Sultanina (Thompson), on the use of caustic sprays, and on starting an orchard. The rice situation is ably covered. Mr. Whitten not only tells when to have heifers freshen, but gives the results of various experiments, together with the conclusions drawn.

Read every one of these instructive articles, and the many short ones that are just as helpful. Let them soak in. A man said to his pastor: "I have been through the Bible five times this year." "Good," replied the pastor, "but how often has the Bible been through you?" Only when these articles go through you will you get the benefit intended. Digest them thoroughly.

And prepare for a treat next week. The issue will be crammed full of big features—plans and suggestions that you can put right to work to swell your bank accounts.

Portland, November 5, 1918.

CATTLE—Steady; receipts, 318; steers, prime, $12.00@12.50; good to choice, $11.00@12.00; medium to good, $9.75@11.00; fair to medium, $8.25@9.25; common to fair, $5.75@8.25. Cows and heifers: Choice, $8.00@8.50; medium to good, $5.75@7.25; fair to medium, $4.75@5.75; canners, $3.00@4.00; bulls, $5.00@7.00. Calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Steady; receipts, 367; prime mixed, $16.70@17.75; medium mixed, $17.00@17.25; rough heavies, $15.50@15.75; pigs, $14.00@15.00; bulk of sales, $17.35@17.40.

SHEEP—Steady; receipts, 14; prime lambs, $11.50@12.50; fair to medium, $8.50@10.50; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@8.50.

Classified Advertisements

Rates 3 cents per word per week.

MISCELLANEOUS.

WANTED, USED IMPLEMENTS—Three or four gang, 12 or 14-inch mouldboard, light tractor plow; 7 or 8-foot double disc harrow, corrugated pulverizing roller. Give full particulars regarding price, age, location, make. Box 175, Hopland, Cal.

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works,** 160 Eleventh street, San Francisco

APPLES FROM GROWER, bulk pack, Bellflowers; first grade, $1.25; second, $1 per box. Edward A. Hall, R. F. D. 1, Box 39, Watsonville, Cal.

TRACTOR FOR SALE—Bean TrackPULL tractor. Nearly all improvements attached. Perfect order. Very little used. Price one thousand dollars. A. Ryder, Loomis, Cal.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

NORWICH CANARIES FOR SALE.—Mrs. Geo. Thayer, Route 2, Healdsburg, Cal.

FOR SALE—Flemish Giant rabbits—young stock. M. Garrison, Dos Palos, Cal.

COUNTRY LANDS.

FOR SALE—20,000 acres, Tehama county, 25 miles from railway; well watered. County road through property, with 15,000 acres Government land adjoining. Will carry 15,000 sheep or 2000 cattle. Price $4.50 per acre. W. H. Obear, 351 Russ Bldg., San Francisco.

FOR SALE—24¾ acres young orchard, apples and walnuts, coming into bearing. Very desirable home site, 4½ miles from town. Price $8000. Address Ogden Bolton, Route 4, Box 447, Santa Rosa, Cal.

WANTED—To hear from owner of good farm for sale; state cash price, full description. D. F. Bush, Minneapolis, Minn.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dept., Chico, California.

SEEDS AND PLANTS.

BUDDED AVOCADOS—Fuerte, Sharpless, Lyon, Dickinson, Blakeman, Spinks, Taft, Linda, Rey, Queen, Knight, and many others A fine stock of field-grown trees. $2.50 for one. $2.00 each by the 100. Better order now. Newbery-Sherlock, R. D. No. 2, Pasadena. Nursery, Rose, and Palm, Altadena, Cal.

ALFALFA SEED:—Write for free booklet describing our Seven Different Kinds of Alfalfa Seed; then plant the kind that will yield heaviest and live longest under your own soil and moisture conditions. Bomberger Seed Co., Desk B, Modesto, Cal.

FOR SALE—Black oats for seed, direct from grower. Prices on application. Werner Bros., Watsonville.

WANTED.

WANTED—Position as ranch manager. Married; 32 years old. Exempt. Capable of taking entire charge. Born and raised on ranch. Address: G. A B., Box 386, Santa Cruz, Cal.

RANCH SUPERINTENDENT to have charge or large ranching property. Must understand irrigation and pumping plants; also dry farming, raising of wheat, barley, beans. State age, salary, and religion. Experience, Box 1270, Pacific Rural Press.

Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits

COULSON CO. - - - Petaluma, Cal.

GRIND YOUR OWN FEED FOR LIVESTOCK and POULTRY

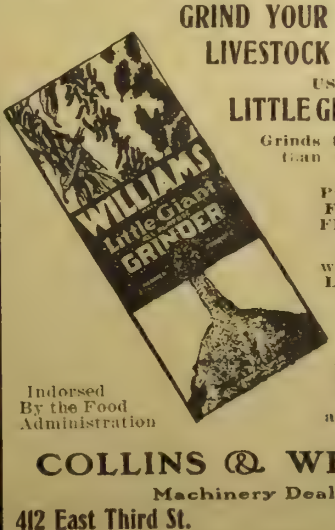
USE THE

LITTLE GIANT FEED MILL

Grinds feed at LESS COST than the cost of buying it ground.

Provides FRESH FULL-FLAVORED FEED in a jiffy.

And the SAVINGS will soon pay for the LITTLE GIANT.



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and at our Showroom.

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Machinery Dealers

412 East Third St. Los Angeles, Cal.

Applying Win-the-War Policy to the Automobile

A Letter to Overland Dealers:

Toledo, Ohio, Oct. 1st, 1918

OUR first consideration, as it is yours—and that of every right thinking citizen—is "win-the-war."

Immediately following the American Declaration of War, we offered our production capacity, and the Government is using a very large part of it.

We are ready if need be to devote it entirely to war work.

The Automobile Industry as a whole is on a similar win-the-war basis.

We are building only a limited quantity of automobiles.

How many cars conditions will permit us to build for any future period is problematical—dependent wholly upon the urgency of war needs.

Any existing transportation must be used to its fullest capacity in order to increase the diminishing manpower of our home forces.

The total output of automobiles is fast becoming insufficient to replace cars wearing out in service.

And fewer cars rather than more is the production outlook.

With "win-the-war" our first consideration—and yours—this condition places a responsibility upon us which we are bound to fulfill.

* * * *

Because it has assumed its transportation burdens so gradually few realize the extent to which the automobile is performing essential service.

—so essential that the rest of the system, railroads, trolleys and every other means of transportation that could be pressed into service, would be wholly inadequate quickly to assume the load were automobiles suddenly not available for the performance of their usual service.

In even so essential a matter as our food supply the automobile is a most important factor.

MY war-time conception of the automobile is that it is simply a given number of miles of rapid transportation.

It goes into service as a unit of our national transportation system.

In placing our restricted output of these units of our national transportation system in the hands of individuals, I want our distributors and dealers to discern the uses to which they will be put and to place each unit where it will best serve in the winning of the war.

Willys.
President

Few realize that over half the automobiles now in use are owned by and serve the people of the farms upon whom we and our Allies are dependent for food.

Farm labor is already scarce.

Lack of automobiles to serve our farmers would mean a loss of untold hours of productive farm labor.

Lack of automobiles to serve our loyal industrial workers would seriously hamper our industrial efficiency.

Lack of automobiles for those who direct and serve our essential workers would hamper our national efficiency as a people.

* * * *

It is time for public appreciation of the fact that every mile that an automobile is driven needlessly is a mile of wasted transportation that ultimately may be needed for essential service.

It is time for public understanding that these smaller units of our transportation system should be used and maintained with the same thought for national needs as we demand in the use and maintenance of our larger units of transportation.

Failure on our part to take every means available for us to inform the public concerning the importance of this matter would be neglecting an opportunity to perform a valuable public service and a failure to live up to our win-the-war policy in a vital respect.

Let us, as automobile manufacturers, and you, as automobile dealers, put ourselves on a one-hundred-percent win-the-war basis.

Let us to the full extent of our influence put the war-importance of the automobile fully before the public—you in your contact with the public—we in the public print.

Let us to the fullest extent realize that when we sell an automobile we are in reality selling miles of transportation—placing a unit of our national transportation system in the service of an individual.

Let us intelligently discern the uses to which it will be put and place each unit where it will best serve in the winning of the war.

In this spirit of full co-operation we can bring about a fuller understanding and appreciation of the situation and its trend, and perform a service of value to the whole people.

Willys-Overland
TRADE MARK REG.
Incorporated
Toledo Ohio

Vol. XCVI—No. 20

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — NOVEMBER 16, 1918 — LOS ANGELES

7-1-20 State Library

A Fruit Tree Will Starve Its Fruit to Feed Its Leaves!

Written for Pacific Rural Press by John J. Fox

IN OUR ISSUE of October 12 we published a portion of a letter from Dr. J. C. Whitton outlining the fact that the fruit of a tree was the first to suffer from drouth. Dr. Whitton is now installed as head of the division of pomology in the University and recently recounted to the writer how the foregoing fact first came to his attention and how it was verified by orchard observation and laboratory experiments. It is a matter of fundamental and practical importance to the California fruit grower.

THESE OBSERVATIONS account for much fruit-dropping; also for the fact that inferior fruit may have a great leafy environment; also shows why diligent cultivation may grow leaves at the cost of fruit, and why early wood growth may increase the autumn strain upon the tree.

A Fruit Grower Sends an S. O. S. Call.

A few years ago a peach grower in the Ozark Mountains of Missouri wrote to Dr. Whitton that his peach trees had set a heavy crop of fruit. The soil was not drouth-resistant and the previous winter had been a dry one—could anything be done to help the trees carry the fruit through?

The reply sent was that the only suggestion to be offered was to keep the cultivator going right up to harvest. Later, another letter came from the grower saying that he had followed Dr. Whitton's advice and was cultivating 110 acres of his peaches and had to let the other 50 acres go, as it was more than he could keep going with his teams and tools. Weeds grew up on the 50 acres and were simply mowed down and allowed to lie on the ground as a mulch. The soil was a thin, gravelly, red clay-loam, and not calculated to inspire the owner to great effort.

A Forsaken Portion Rescues Itself.

There was some surprise and dismay when another letter came to say that the 110-acre orchard that had been duly cultivated was drooping its leaves and the fruit was small and poor, though it did mature and was sold; but the 50 acres that had been neglected showed no signs of suffering and was carrying good fruit. There was but one thing for Dr. Whitton to do and that was to promptly go and investigate for himself—which he did. He went into that orchard at all hours of the day — at night going through it with a lantern to note any variation of condition. Then he sent for a trained man from his staff to come and camp in the orchard.

Diligent cultivation and scientific pruning make for symmetry of orchard stand and heavy fruitage.

The first thing to be found out was that the leaves were turgid and strong in the early morning. Then the fruit began to turn dull and shrivelly by 11 in the morning; the leaves losing lustre and drooping in the afternoon. As soon as evaporation ceased, the leaves and fruit would gradually revive during the night.

A good-sized branch was cut off and hung up in the sun with all the fruit and leaves on. The leaves stayed green until the fruit was exhausted of moisture clear to the pit and then they cured green like alfalfa hay. Another branch was hung up with all the fruit picked off. The leaves wilted, shriveled and turned yellow the first day, and at the end of three days they were brittle and brown. The cut branch with the fruit on kept its leaves as fresh as those growing on the tree till the peaches were practically dry. The two branches chosen for this first test each contained a similar number of fruits and leaves.

When the Fruit Draws from the Leaves.

This was the first of a series of experiments carried along the same lines and it was always found that the leaves, when the tree was short of water, began to draw sap from the fruit. But when ripening begins to take place the fruit draws moisture from the leaves—just the opposite way. To account for this Dr. Whitton made sap tests. It was found that the sap of green fruit is less concentrated than the sap of the leaves, while the sap of ripe fruit is more concentrated than that of leaves. According to well-known principles, the movement of water is in the direction of the more concentrated juices. Consequently, as soon as the fruit begins to sugar up, it draws the less concentrated juice from the leaves.

Now comes the explanation of why the 110 acres drooped, though it received such good care, while the neglected 50 acres pulled through. The larger area, by cultivation, had put on a strong growth of young, tender wood. The increased leaf area had itself taken a certain amount of water to produce and had doubled the amount of evaporation through its additional foliage. On the other hand, the 50 acres of neglected orchard had made only normal growth, only strong terminal buds starting, and because wood growth was practically at a standstill the trees managed to pull through without distress.

Californians Had Caught the Wireless.

An interesting incident in connection with this demonstration is that Dr. Whitton found that Professors Coit and Hodgson of the University of California had been working at the same thing and had made an important contribution to our knowledge of the cause and prevention of June-drop of oranges. Their extended investigations, covering years of work under California conditions, indicate that the knowledge obtained may be of especial importance in this State. He cites the fact also that approved California pruning practice proceeds upon a recognition of the fact, though it does not involve the explanation which has now been made. This is shown by the fact that Professor Wickson, in his "California Fruits," emphasizes the desirability of the removal of surplus evaporating surface under certain conditions as a principle in pruning. The knowledge that the leaves can pull the water out of green, growing fruit is, however, only one single reason for observing broader principles and practices which have heretofore been observed in maintaining proper balance of moisture and evaporating surface of the tree.

Suggestions for Rescue Practices.

The above story explains why a cherry tree or any other summer bearing tree always picks up and looks refreshed after the fruit is off. Cherries and apricots both show it very strongly. It is also a very valuable lesson because it demonstrates very clearly one reason why sucker wood and other unnecessary or undesirable growth should be removed and kept out of the trees—particularly of a dry year.

There is no doubt that it would pay well to give the young orchards a little more personal attention during the summer than they have been having. Much time could be saved by preventing sucker growth instead of letting it grow as big around as your thumb and then cutting it off. Fruit wood could be added to in trees just coming into bearing by pinching in the summer shoots that may have to be cut clear off if left. We are thinking of prunes and apricots at this moment, though the above suggestions apply to other fruits, too.

This knowledge would also indicate that after a very dry season our apricots should be cut harder than usual after the crop is off. These things have to be done according to individual judgment, however, because overdoing the thing would induce an excess of wood growth, which we want to avoid. Never make a cut without good reason. The hand of a good pruner instinctively gravitates to the right point.

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EDITORIAL STAFF

E. J. WICKSON - - - - - - - Editor
R. E. HODGES - - - Assistant Editor
R. H. WHITTEN - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

IT IS OVER—OVER THERE!

BY UNANIMOUS vote of a newly-evolved judicial class, the "up-to-date historians," what they describe as the greatest war of all the ages closed "on November 11 at 6 a. m., Paris time" by unconditional surrender of the German Empire—even the last comforting thought of surrendering by Berlin time being denied to the Teutonic nucleus of the most gigantic conspiracy for world dominion which fragments of the human race have ever conceived. We use the term "nucleus" advisedly, for its most outstanding dictionary definition is "the head of a comet"—and the last word advisedly also, for a comet is "an erratic body with a luminous tail," as is justified by the account which says the kaiser "flew across the border into Holland, smoking a cigarette"! Therefore, we exclaim, "Sic transit falsa gloria mundi," which may be liberally translated: the greatest fake of recorded time dissolved in smoke at six on Monday morning, by the transit of the Paris observatory, and was followed by the most glorious sunrise with which sunny France has ever illumined the world! Sic semper tyrannis! Gloria in excelsis Deo!

* * *

WHAT WE MUST REMEMBER.

IN THE relief which comes to the soul through escape from four and a quarter years of the most intense indignation at outrageous wrongs and of suffering and sacrifice for high-born purpose, it is irresistible to mingle thoughts and words pertaining to emotions the lightest and the most profound. That is the natural way with the human soul. The official announcement which awakened the people of the United States when the clock struck ten on the Atlantic Coast and one on the Pacific had a geographical diversity attributable to the slow axial movement of the earth. Happily the lightning flash serves the mind of man better than planetary movement and the American nation awoke simultaneously throughout the whole length and breadth of it to outbursts of laughter and of tears, for both are natural expressions of all the profoundest emotions. Both laughter and tears will continue through the lifetime of this generation as expressive of the human sense of the plight into which the world was hurled in our day and the glory of the escape from it through the sanity and sacrifice of the world's devotion to the highest things! In future generations the laughter will be hushed and the tears will be wiped away and some poet will sing, in profoundest glorification and rejoicing, a new epic—a new victory of Jehovah over Beelzebub in the conflict which began, for mankind at least, at creation's dawn and will endure with constantly increasing triumphs for the Right until "the heavens shall be rolled together as a scroll * * * and sorrow and sighing shall flee away."

But while we of this generation stand in laughter and in tears under the effulgence of our anticipation of this supreme event for mankind and while the exemplars of American liberty in France dip their colors in a tribute to the token of French liberty in America, whose flaming torch in New York harbor gleams now in new enlightenment of the world, there is an elementary thing which we must not forget, and that is that German military autocracy attempted by most heinous crimes and outrages the subjugation of mankind for their own selfish purposes and profanely claimed God Himself a participator in their perfidy and crime. It is not for men to fully rebuke and requite them, but this generation will be accursed by its posterity if it does not hold all who participated in the imperial conspiracy for world robbery and slavery or who drank themselves full of the greed, conceit and stupidity of the very dream of it, to the fullest personal expiation and national reparation—as their several shares may be. For the responsible leaders there should be condign punishment by legal trial and judgment: from all others, who knowingly abetted them in their devilish purposes, there should be taken all ill-gotten possessions for the requital of those whom they impoverished—while from the stupid proletariat who allowed themselves to be used for the abomination which had been set up as a national ideal, there must be exacted national repayment of wrongs and outrages until they realize that the "gott mit uns" of their impious profanation was an insult to all that is god-like in mankind and "bring forth fruits meet for repentance."

* * *

WHAT WE MAY FORGET.

BUT THOUGH it is the duty of every American to "carry on" until the fruits of righteous victory are securely garnered and not to relax a single heart-throb of determination until those who planned to enslave the world are purged of their very last longing for evil, we may forget much of the bitterness and hate of our thought and expression while we cling to the indispensable principle of righteous wrath for the spirit and methods of German aggression. It is god-like to abhor the sin and to love the really repentant sinner, which is a safe proceeding for the omnicient because "God is not mocked." We had better leave it to God then to discern and love the repentant, militant German—if He can. During the armistice and the planning of peace it will be better for us to watch him and all his kind. But we may forget that we ever declared a purpose to destroy. We may even release Satan from the danger of hospitality to the kaiser in view of his protest against our putting one over on him—and yet what shall we do with the outcast abhorred of earth? As we write on Tuesday it is reported that Holland still holds him smoking on its outer wall! Satan himself could not do better.

All this is given as a sample of what we may forget. It is, we hope, our last denunciation of the German, for in spite of his abominations he is still a man and brother and we must live with him and draw him with us into the better world which we have achieved by shooting light into him. We can henceforward refrain from denunciation, perhaps, because we hold no brief for statesmanship and world-polity. Our license is to preach only farming and all that the word implies, and there will be plenty of that in the changed conditions which the world victory over tyranny will induce and enforce. And yet we can go so far in stating a world motive to endorse what President Wilson said on Monday in announcing the end of the war:

My Fellow Countrymen: The armistice was signed this morning. Everything for which America fought has been accomplished. It will now be our fortunate duty to assist by example, by sober friendly counsel and by material aid in the establishment of just democracy throughout the world.—Woodrow Wilson.

We may then forget the asperities of the war which we have won, because it is the fruits of the war that we must ripen and guard with all our might. But we can never forget the evil which the war arraigned and punished. To forget that would be an admission that our heroes had died in vain and that our invaded and devastated European defending peoples had suffered and sacrificed to no purpose. Never that—but still there are things which, in the common interest of humanity and its advancement to a better heritage, we may forget. What they are it is not for us to prescribe: it is rather the duty of every conscience, newly quickened to the true needs of humanity, to dictate such things to its fortunate possessor.

* * *

RECONSTRUCTION.

THE WORLD will now pass from destruction to reconstruction and our part of that is exhortation to effort to more properly place agriculture among the callings of mankind. As we have recently claimed in other connections in these columns, the world mind is awakened to the fundamental relations of an enlightened and self-conscious body of food producers to the prosperity of all peoples. If those who are giving their lives to farming allow this occasion for reforming such relations to pass without impression of just arrangements upon the mellow world mind, one of two things is likely to happen: either the old popular injustice to farming will return in hardened and multiplied discriminations or a new swirl of socialistic vagaries and visions will hurl American farming from its old foundations of personal endeavor and responsibility upon the shifting sands of economic fallacy and social anarchy. But is not the same alternative facing all Americn industries at this time? the reader may ask. Possibly, we answer, but it is not for us to speak for all. We only speak for our part of them and say with conviction that between the far extremes of riveting machines of monopolistic trade, capital mongering and labor exaction on the one hand and of paternalistic and nationalistic confusion on the other, Americn farming is in dire danger of losing its hold upon the principles of independence and self-determination which have achieved its greatness and constituted the American farmers the dependable bulwark of our wonderful industrial development. But again says the reader: is not this also a world problem for all industries? In the present flux of affairs are not all industries liable to fall more deeply than ever into the jaws of monopolistic control or to be spewed out by conquering disorder upon a howling wilderness of Bolshevism? And again we answer: possibly, but we speak only for our own.

* * *

A NEW AUTOCRACY OF DISTRIBUTION.

EUROPEAN reconstruction is imminent and is likely to engross public attention. American reconstruction is a matter which should not be overlooked by American farmers and such reconstruction must either install the American farmers in control of production and sale of their products or it will throw them into the economic jail of distribution by vast incorporated middlemen. A reader of the Rural Press who has seen a glad-hand announcement of a large Eastern packing establishment sends us this note:

To the Editor: I am sending you a booklet and circular of a packing concern which seems to be straight propaganda of a distributing agency somewhat camouflaged as philanthropic extension work, and proposing to issue in the public interest "unbiased reports." When I consider the fact that the distributing agencies of these great monster corporations are rapidly gaining control of evaporated milk, cheese, butter, poultry, eggs, rice, rolled oats, sauerkraut, grape juice, vegetables, and to a large extent canned fruits, I am wondering whether it is good for the people's food supply to be subject to control by such large private corporations. If this thing continues, we will soon of necessity have to buy everything we eat, except fresh milk and a few things, through the packing corporations.—Constant Reader, San Francisco.

Our reader approaches the problem from the consumer's side, but his insight illumines also the aspect which the food producer must contemplate. If a vast corporation, or several of them, gain control of the consuming side as our correspondent fears, it must also close to producers all avenues to selling except that which it offers, and that means slavery to the producer. Evidently our great corporations have learned much by the war and are marching out briskly toward reconstruction on their own lines!

* * *

BETWEEN DEVIL AND DEEP SEA.

ALTHOUGH the "old boy," according to current reports, will brook no partnership with the kaiser for fear of a freeze-out, he seems to have no reluctance in taking the farmer into his hot-box for better or for worse. There is just one way the farmer can get the better of it and that is by co-operation. This is the only way the

food producer can protect himself against oppression by great distributing corporations—such as the one to whose propaganda our reader calls our attention. Food producers must organize not only to produce but ultimately to pack and distribute the product, as the current experience of our citrus, raisin, walnut, prune and other associations amply demonstrates. But before this is attained they must organize even to regulate the movement of their raw products to packing corporations, or they will be ground down to living expenses—with all profits taken away from them. On another page of this issue there is a most important statement by Frank T. Swett, president of the Pear Growers' Association, which gives accurate demonstration of what has been gained by the associated growers of that fruit through presenting a firm front to those who needed pears in their business. No matter how much public good packing and distributing corporations may do, and we are not denying their claims to public service nor disputing their right to do a profitable business, the original producers of the materials they need must qualify themselves to trade with them on a fair basis of profit to him to whom profit is due and on no other basis. If they do not it will be the deep blue sea for all their producing enterprises.

WHO CAN RECONSTRUCT FARMING?

WE HAVE cited a suggestion that farming can be so reconstructed that it will find itself in a reinforced concrete jail instead of the old stockade in which country storekeepers and bankers used to imprison it—and of course the new corporate construction affords less chance of breaking out. The opposite danger in reconstruction which we have hinted at is that which will surely result to American agriculture if blown about by too much paternalism and communism—of which we have no space for discussion at this time. If such policies will destroy the distinctive character of American farming, who can reconstruct it in such a way that earlier achievement shall be developed into the greater accomplishment which the present and the future demand? Obviously it must be advanced by internal forces—farming must be carried forward by joint effort of farmers.

We have harped on this string for some time. We have exhorted the different groups of co-operators to co-operate to secure the general things which agricultural reconstruction under new conditions requires. We do not seem to be accomplishing much: each group seems to prefer to get in a corner and co-operate by itself! This being the case, we are disposed to exalt and impress an opportunity for delegated representation and some joint action for agricultural solidarity which was mentioned on page 505 of our issue of November 9. The California Farmers' Union will issue a call to all other farming organizations to send delegates to a joint meeting which will be held in Modesto on December 3 to 5 next. There are a good many things about this invitation which commend it to our judgment as entitled to wide consideration. California farmers must co-operate to reconstruct: why not start in at Modesto?

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

More About Rye Grasses.

To the Editor: In your answer to "rye and rye grass," in your issue of November 2, I notice you say that English and Italian rye grasses "live from year to year." In England, English rye grass only is used on permanent pastures and there it extends in forming a sod. Italian rye grass is considered a biennial and is only used as a rotation crop sown with crimson clover (Trifolium camatum). A clover ley is rarely left after two years, as it "runs out" after that and wireworm is generally very bad after a three-year ley. The reason for sowing Italian is that it gives an enormous crop the first year, while in England it takes two years to mow anything appreciable from English rye grass. This clover and rye grass is harrowed in amongst the young wheat or oats in March or April in some parts of England and the herbage produced by harvest time increases the feeding value of the straw. I do not know whether the Italian rye grass is a perennial in California, but it may be.—Britisher, San Francisco.

What you say about the rye grasses in England is interesting, but you will have to forget in California much that you learned in England, just as we have to forget much that we learned in New York State. English rye grass is only a short-lived perennial in those countries—even if the terms are mutually contradictory. Italian rye grass, to continue the term, is a shorter-lived perennial: that is, it is not a "biennial," which is a plant that seeds in the second year and then surely dies. That is the way the two plants stack up in foreign behavior. In California both plants live longer if they have summer moisture enough and both die sooner if they do not. On low lands in California both rye grasses are longer lived than they are in cold, humid climates, and show a disposition to become more properly perennial. Many other plants act that way in California—some plants rated as "annuals" even assuming a perennial habit, in a way. As Italian rye grass does this, it serves us as a perennial (limited) and as it comes more quickly and is more leafy, or less stemy than English rye grass, it is given preference, especially as it seems to them sufficiently "perennial." What you say of raking in rye grass and clover with grain in the spring is a humid climate practice. In most parts of California if you tried that you would not get much grass and might lose the grain from the heads not filling through lack of soil moisture.

Grafting Over Wine Grapes.

To the Editor: I have acquired a property near St. Helena which contains 25 acres of wine grapes. The soil is a deep, rich, heavy loam, but is not bottom land. I would like your opinion as to the feasibility, both horticulturally and from the business standpoint, of grafting these grapes to a raisin or table grape variety. If neither of these are practicable, what would you advise that would require the shortest period to come into profitable bearing?—J. M. B., Willits.

Thrifty wine grape vines can be easily grafted over to raisin and table varieties by anyone who understands the job, and there are such men to be found in all grape districts. It is therefore feasible horticulturally. As for the profitability of enterprises we offer no advice: that is for a man to fight out with his own financial soul. St. Helena is not a raisin district nor is it likely to be commercially, though raisins can be made successfully in most years from the proper grapes. What the chance is of selling table grapes profitably, in view of the amount of grafting over which is likely to be done in well-developed interior table grape districts, is a matter to be carefully looked into. As for other fruit crops than grapes, bush fruits (berries) will come in soonest, but they have problems of their own. All the tree fruits commercially grown in the district will require about five years or more to get around. Of course, we cannot tell you what fruit will pay best. If we could, everybody would plant it and then it wouldn't. You are up against the whole practice and economics of agricultural production; God help you!

Is His Land Too Rich for Limas?

To the Editor: I am desirous of knowing if land that will raise 18,000 pounds of headed and cured milo to the acre will be too rich for Henderson lima beans. I have asked a great number of people the question, but no one has such rich land, perhaps, and I am still at sea. You will say it can't be done (the milo yield), but that is the actual weight over the scales, though, for 3.4 acres, and the balance of five acres was better. Last year five acres went better than 40 sacks per acre and there were lots of poor spots. My motto has been for four years: "Haul something home."—C. E. C., Van Nuys.

It seems to us that we would keep on hauling milo if we could get it at that rate. As you are in the lima belt, you might try Henderson on some of your "poor spots" because they may need the soil improvement which bean roots furnish. We are in the same class as your neighbors—disqualified to answer your question. You will have to try it out for yourself on a small piece and see how the results stack up with the milo—the most of which we would hang on to. A winter hay crop will help you hold the land down for the milo.

Black Scale on Lemon.

To the Editor: I am mailing a sample of scale from our lemon trees. We have three trees in our garden which are yielding a good supply of lemons, but we fear the scale will kill them. At first this black scale was just on the leaves, but it is now growing on the branches, too, and even the fruit. The tree is almost black with it.—R. K. D., Watsonville.

The scale of which a few specimens are on the leaves is the common black scale, but what is much more conspicuous and perhaps is what you mean by "black scale" is the black smut, which is a by-product of the scale insect. Prune out all dead and weak growth so as to open the tree so you can get at all parts of the interior and spray and scrub thoroughly with distillate emulsion. Fumigation is the best treatment, but perhaps hardly practicable for a few garden trees in a place where outfits are not handy.

Patriotism and Profit

You can combine them by joining us in our campaign to help farmers raise more and better crops. We need more men to attend to our renewals and present the paper to those who are not already subscribers. If you have an automobile, can give us your whole time, and think you can present the merits of the paper in a convincing way, let us hear from you. We have an attractive proposition. Pleasant work; straight salary; permanent, with advancement.

Don't let this opportunity pass by.

To Knock Out Fleas.

To the Editor: Please prescribe a good cheap yet effective spray that will clean the barns, pens and yards of fleas. Please answer as soon as you can, as our lives as well as the lives of our animals depend on immediate help.—C. F. W., Paicines.

Tie a sheet of sticky fly paper around each of your legs and then rake up and sweep up all loose litter possible and burn it. Then scatter "flake napthalene," which you can get at the drug stores. It can be used as a liquid by dissolving the flakes in cheap kerosene (as much as the oil will dissolve) and sprinkling the mixture generously around the places overrun with fleas, or throw handfuls of the flakes, just as they come, here and there about the infested places. This has been approved by many as an effective flea killer.

Irrigation for Pear Thrips.

To the Editor: I have been told that if I irrigate my Bartlett pears during this month that it will practically eliminate the pear thrips. Do you know if there is any foundation in fact for this statement? I should be glad of any information you can give. I am familiar with the formula for spraying for the pest, but if flooding the ground in November will do the trick it will beat spraying which is unsatisfactory at the best.—W. E. A., Suisun.

You surely have one on us, but we seriously doubt if you have anything on the thrips. We should say that an insect which can seal itself so snug and warm in its little earthen casket that it can go through ground freezing at the East and ground soaking in California might find a November irrigation not unpleasant. However, who knows anything about it from actual experience?

Cabbage Pests on Kale.

To the Editor: I have a patch of kale that I am using as green food for poultry. It has become infested with highly colored bugs similar in shape to a lady bug; also a long green worm. What can I use to get rid of them that will not be injurious to the chickens?—Subscriber, Cupertino.

You probably have the "harlequin cabbage bug" and the caterpillar of the cabbage butterfly. Kerosene emulsion spray ought to get both of them. You can defoliate the worst infested plants and give the hens both kale and the pests of it. Later growth from the old stem will be too late for these bugs and be ready for lice. The way to get most from kale is to keep on pushing the leaves into the hens.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 12, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.60	5.73	6.53	64	40
Red Bluff	...	10.13	3.39	68	38
Sacramento	...	4.44	1.95	68	40
San Francisco	...	4.59	2.18	68	48
San Jose	...	7.12	1.65	68	34
Fresno	...	1.00	1.21	68	40
San Luis Obispo	...	1.75	2.19	80	40
Los Angeles	...	.71	1.17	86	50
San Diego	.40	1.23	.78	74	46

Pear Growers Gain $228,619 Thru Co-operation

Written for Pacific Rural Press by Frank T. Swett, Manager California Pear Growers' Association

CALIFORNIA'S PEARS are famous over the civilized world wherever a superbly luscious fruit is appreciated. So rapidly is her reputation extending in this line of horticultural preeminence that many new plantings have recently been undertaken and others are in contemplation. At this writing it is estimated that there are about 17,000 acres of bearing pear trees in California. In addition to this there are about 30,000 acres planted but not yet in bearing. In 1917 the crop was about 90,000 tons. In 1927 it is possible that the tonnage may amount to 250,000 tons. Without organization disaster would undoubtedly overtake those engaged in the industry.

In June, 1918, thanks to the volunteer work of many prominent pear growers, assisted and advised by the State Market Commissioner, the California Pear Growers' Association began its work of stabilizing present markets and planning for the future. In 1917, when there was no organization, growers who sold to cannery received from $25 to $40 a ton, a price which in many cases meant a loss instead of a profit.

PRICE SET INSURED FAIR PROFIT TO GROWERS.

In June, 1918, with the requisite acreage signed up, our first work was to ascertain the average cost of production, something that had never been done. Groups of growers from different districts met, and after days of investigation the directors decided to set a price of $70 a ton on No. 1 pears and $35 a ton on No. 2 pears. These figures insured a profit on well-managed orchards. In many sections the pear grower must plow, prune, cultivate, spray from four to seven times, to control the eighteen different insect and fungous pests which afflict pears, in addition to the costs of picking, sorting and hauling. He has to fight pear blight at a cost in some orchards of not less than $30 an acre annually. At the present time he is paying more than twice as much for labor and material as before the war. All these costs have been advancing by leaps and bounds. At the old schedule of prices growers would face bankruptcy.

CANNERS VOLUNTARILY ADVANCE 1918 PRICE $10.00 A TON.

We found that there were about 6000 tons of pears under long-term contracts, made before the war. To relieve these growers a conference was held with a committee of canners, under the auspices of the Food Administration, represented by H. Clay Miller, who acted as a mediator for both parties. The Food Administration has no direct authority over the price of pears. Upon our detailed showing of the advance in costs, the canners generously and voluntarily advanced the 1918 price $10 a ton, making a difference to the growers concerned of $60,000. This enabled them to properly handle their crops and care for their orchards during the year to come. This action of the canners was greatly appreciated by the growers affected.

GOVERNMENT APPROVES PRICE BASIS.

Besides the pears affected by these contracts, over which, of course, the association had no direct control, the association had for sale to canneries about 6000 tons. At first canners hesitated to purchase at the association price, fearing that possibly the Government, which had announced its intention of commandeering 60 per cent of the canned output of pears, might not approve this price and might commandeer at a lower basis. But when we submitted our figures of costs of production to the Government representative on this Coast, he wired Washington that the growers' price was entirely justified both on the basis of cost of production and upon the prospective demand for fresh pears in Eastern markets.

HAD TO DECLINE ORDERS AND PRORATE AMONG CUSTOMERS.

By the end of July we had booked orders for every ton at our disposal, and could have sold a considerably larger tonnage had it been available. Much to our regret, we had to pro rate among canners, and to decline orders from several canners who notified us of their requirements after we were sold out. We hope to supply every cannery in California during the 1919 season. The last two weeks of July and all of August were spent in attending to details of delivery, in inspecting shipments to see if they were up to standard and in expediting the delivery of empty picking boxes to growers.

At the close of the season we had marketed every ton of pears at the full price for the respective grades. In a half dozen cases growers failed to deliver up to specifications. This was due to the carelessness of tenants in shipping wormy or scabby pears. But with these exceptions deliveries were acceptable. This is a good record, for we have 323 members and the results are shown in the panel printed above.

WHAT DID IT COST TO SECURE THESE RESULTS?

1. The unpaid, volunteer work of leading growers who unselfishly gave their time and study to wisely planning an effective organization. They took no pay for their work, which could not have been duplicated for thousands of dollars, for it took days and months of attention and endeavor to convince some of their doubting and ultra timid neighbors.

2. For paid organizers the sum of $2,545 was paid. In June we opened offices in the Consular Building, 510 Battery street, very modest quarters, at the trifling expense of $25 a month. The expenses for the assistant secretary and one stenographer have been less than a total of $300 a month.

The writer deserted his own pear orchard during the season and served from July 1 to September 15. For the whole marketing season, including the work of securing the raise on contract pears and the placing of the 6000 tons of association pears, the manager's salary, if pro rated, would amount to less than 10 cents a ton. So we have been economical.

We have closed the season without the loss of a single cent in bad debts. Nearly all the canners were prompt in payment, in spite of the difficult position of all canneries, owing to the Government directing them to hold half the pack for future delivery, with payments in the dim future. Only one cannery failed in reasonable promptness and this was partly due to the difficulty of their securing accountants to handle their work. This cannery has now settled its accounts with us. Our relations with canners have been friendly. They have been fair with us and we have tried to be equally fair with them.

MAY HANDLE DRIED PEARS IN 1919.

During 1918 it was thought best to confine our work simply to the cannery pears. We did not want to attempt too much the first season. While under our crop contracts we could have handled all the dried pears of all our members, it was thought best by the members this season to market as individuals.

However, the manager made a study of the changing prices on dried pears and answered all inquiries that came in from members. One member informs us that one letter was the means of his getting the full market value for 20 tons of dried pears. At the prices his neighbors sold for the same week, his gain was $600, or 1½c a pound. In 1919 if the members desire we can make adequate preparations for getting full value for every ton of dried pears.

JOINS FEDERATION OF CO-OPERATIVE MARKETING ORGANIZATIONS.

The association has joined the Federation of Co-operative Marketing Associations, which is at work planning for shipping connections, shipping space in steamers equipped with refrigerating rooms, and export connections for a variety of California products.

It is within the bounds of probability that after the war is over there may be found in South America markets for a considerable tonnage of late varieties of pears, and even of Bartlett pears, under refrigeration. The foreign markets for dried pears will not be overlooked.

Many owners of young orchards who have as yet no pears to market are joining the association in order to build up a strong organization for the extension of markets to keep pace with the prospective enormous increase in annual production.

Unorganized and Organized Selling Contrasted

An analysis of the difference between the 1917 (unorganized) and the 1918 (organized) marketing operations discloses the following:

1. The raise on contracts amounted to	$60.000
2. The 1918 sales ($378,619) if sold on the 1917 basis would have brought only $210,000, making a difference to growers of	168,619
Total gain over 1917	$228,619

These gains were, in a very large degree, due to the work of the association.

Sulphur Saves Wet Raisins

[Written for Pacific Rural Press by John J. Fox.]

This year of showery weather has been the means of developing a definite plan for saving raisins in showery weather. The viticultural division of the University of California has for several years carried out experiments in sulphuring wet raisins in the field and under field conditions such as those prevailing this year. Many hundreds of tons of raisins could have been saved this year had preparations been made for the use of sulphuring hoods which could be used in the field. If grapes get wet, especially before they have been turned on the tray, they will mould whether in the stack or exposed, moist, warm weather especially aggravating such condition.

But if these fresh or partly cured raisins had been stacked—even after the rain started and they became wetted—they could be sulphured in this wet condition and remain safely in the stack until ready to set in the sun again. Of course, those using paper trays were out of luck anyway, but another year it is probable that many growers will be supplied with portable hoods for this purpose. They may not be wanted, but they would be insurance against too heavy a loss. Where hoods and sulphur are provided beforehand, it is not necessary to be in such haste to stack when rain threatens, as the raisins can be saved even after a thorough wetting. After stacking and sulphuring, they should remain in the stack until the weather appears settled.

COMMISSIONER HECKE'S CONCLUSIONS.

We noticed some results of sulphuring on Geo. H. Hecke's grounds at Woodland. He says: "The results from the re-sulphuring of seedless (Thompson) and Sultanas after the September rains was satisfactory. The re-sulphuring was done immediately after the cessation of the rain. It stopped mold and gave a uniform color to the product. This does not mean, however, that I have not suffered from the rain, because the loss

The War Is Won

But the consumer of Food
Must Still Economize

and the producer of Food
Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.
While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.
Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

GOLD BEAR

FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

in weight was quite material and there was a large amount of half-dried raisins in which the mold had made such progress that further attempts to save the fruit were considered inadvisable.

If the weather conditions immediately following the rainstorm had been normal, it would not have been necessary to re-sulphur, but the nights and mornings continued to be foggy—weather the most unfavorable we have ever had for drying. On the whole, I am well satisfied with the salvage, considering my loss at approximately 35 to 40 per cent, including additional cost of re-hauling and loss in weight."

Loss of weight is occasioned partly by sugar being washed out of the fruit in solution and partly by its loss through process of fermentation so far as it goes.

SPREADERS AND STICKERS FOR SPRAYS.

[Written for Pacific Rural Press by Prof. G. P. Gray, University of California.]

It is a common practice in California to use soap as a spreader in tobacco preparations. Soap is added at the rate of about five pounds to each 200 gallons of spray, the amount used depending upon the character of the water. The use of flour paste as a spreader for lime-sulphur solution is commonly recommended but is not generally practised. W. B. Parker, formerly of the U. S. Department of Agriculture, recommends the use of four gallons of flour paste to each 100 gallons of diluted lime-sulphur spray. Parker's directions for mixing the flour paste are as follows: "Mix a cheap grade of wheat flour with cold water, making a thin dough, without lumps, or wash the flour through a wire screen with a stream of cold water. Dilute until there is one pound of flour in each gallon of mixture. Cook until a paste is formed, stirring constantly to prevent caking or burning. Add sufficient water to make up for the evaporation."

Soap is used to some extent as a spreader for lead arsenate sprays, but is not recommended by this station on account of occasional foliage injury. Glue is used to a slight extent in place of soap as above. The proper amount has not been definitely determined. A few growers are using glue in the preparation of home-made wettable sulphur. This, however, is not a general practice, as most growers prefer to buy ready-made sulphur pastes, such as "Atomic" sulphur or "Milled" sulphur. The spreading agent in atomic sulphur is glue and in milled sulphur is dexterine.

Miscible oils are used to some extent and so far as I know have given excellent results. These are usually quite expensive, so that growers generally use the common emulsions. As far as I know, casein has not been used to any extent as a spreader in California.

IMPROVED APPLE PICKING BOX.

Apples are not improved by bruises in picking; and finances of growers are not improved by paying $5 per day for slow methods of picking. More rapid picking and less bruising of apples are claimed by N. Nielsen of Santa Cruz county as a result of the picking box devised by Pink Dickerson, who works in the same orchard. A Northwestern apple box or a common apple box cut down so it will go inside a 50-pound lug box is fitted with a wire handle and hook to hang it from limbs. Its bottom is hinged by leather straps on both sides and free to open lengthwise along the center line. It is held shut by a piece of half-inch rope from the center edge of each half to a hole through the opposite side of the box near its top. The rope is knotted and the hole notched to catch the knot until the box has been filled. To empty into boxes in which the apples will be hauled to the packing house, the picking box is set inside the lug box and the ropes loosened. When the picking box is lifted, its bottom opens and the apples are thus dumped without bruising.

The Fruit Growers' Convention that was to have been held at Riverside this week has been called off by State Horticultural Commissioner George H. Hecke owing to the influenza epidemic.

TREES

Peach, Apricot, Almond — Plum, Prune, Pear — Apple, Cherry, Olive — Fig, Orange, Lemon, Etc.

MORE THAN A MILLION PER YEAR FOR CALIFORNIA PLANTERS

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Sheep Manure Steer

From highest nitrogenous feed.
Decomposed and concentrated by age in their own liquids, containing the highest percentages of Nitogen, Phosphoric Acid, Soluble Potash, and readily available Humus.
Shipped commercial dry. Cars average 22 to 24 tons. Saves four-fifths labor in application. Thousands of tons now being shipped to citrus and deciduous growers in California.
Write for samples, prices and particulars today to insure prompt deliveries.
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"They're *All* First Grade"

"And from new-bearing trees, too!—I can hardly believe that this lot has not been sorted. *That's* what comes of using my *head* as well as my muscles in planting and taking care of this new orchard."

"I thought when I sent to the Hercules Powder Co. for their book, 'Progressive Cultivation,' that all I could use dynamite for was to blast out the old, dead trees before I planted again, but I found out that *that* was only a starter.—

HERCULES DYNAMITE

can be used for all sorts of other things. Why—I blasted the holes for this whole orchard in a third of the time that the old, 'spade dug' method would have taken; and with only one helper instead of five. The young trees grew faster and looked better than any I've seen in this locality and are in bearing a full year ahead of their time."

"Then I used Hercules Dynamite to dig a mile of new ditches; that work took only about half the time I had reckoned on—and a lot less than half the back-ache. Now I'm using it to keep the earth loosened around the roots of my bearing trees and I figure that it'll make a difference of 20 per cent. in the yield this year."

"I'm advising all the men in this locality to send to the Hercules Powder Co. for their free book, 'Progressive Cultivation'—They're sending, too—for they can *see* how I am '*cashing in*' on the information that I got out of that book."

HERCULES POWDER CO.

1016 Chronicle Building

San Francisco California

Hercules Powder Company,
1016 Chronicle Building, San Francisco, Cal.

Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for _____

Name _____

Address _____

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Status of the Grape Crop.

According to the latest report of the United States Bureau of Estimates, the total production of wine grapes in California in 1918 is estimated to be 92 per cent of a full crop. The rain of September spoiled the promise of a full crop or better, and the quality suffered fully as much or more than quantity. November 1 showed a still further decline in the condition of table grapes as picking progressed following the rainy and unsettled weather conditions of the first week in October. Raisin grapes on September 1 promised almost a full crop, but some damage followed the rain of September 12 and 13. At the time of making the October report the heavy raisin-producing counties of Fresno, Kings and Tulare were experiencing rainy, cloudy weather, with a resultant increase of damage daily which it was utterly impossible to estimate. Reports as of November 1 indicate an average yield of 1800 pounds per acre and a total production of 135,000 tons. Practically all of the raisins outside of the sweat-box on October 1 were damaged more or less in quality.

Rodent Control.

Most of the Western States are conducting rodent control work in co-operation with the Biological Survey, U. S. Department of Agriculture. Washington, Montana, Colorado, Arizona and New Mexico are very active in this line. North Dakota in 1917 cleaned up 17,000,000 acres and in 1918 13,000,000 acres. In California it is hoped that in another year co-operative agreements will be in operation covering work by the Biological Survey on State lands and by the Rodent Control Division on Government land, under State Commissioner of Horticulture G. H. Hecke. Horticultural Commissioner Rutherford plans a squirrel poisoning campaign for November 1 and 2 in co-operation with the State Council of Defense and the County Division. Every constable in the county will be squirrel inspector, to report on November 3 to the chairman of the Council of Defense.

Blackleaf 40 for Pear Root Louse.

H. A. Bolster of Grass Valley has been using a douch of blackleaf 40 to destroy pear root louse on his young trees, where any of this pest manifests itself. He makes a basin around the tree and pours in about 15 gallons of mixture of one gallon of blackleaf 40 to 600 gallons of water and claims good results. He has 30 acres of pears four years old, consisting of Bartletts, Comice and Beurre d'Anjou, planted in alternate double rows, also a few acres of bearing trees. He averaged a net of $3 a box for his pears this year.

A Soldier's Ranch and Management.

Right across the road from the above we went to see the ranch of a young friend who has been called to the colors and who had bought this ranch on time, bravely shouldering a considerable weight in the purchase. His father, A. Sorrensen of Fresno, is running the place for him in his absence and the 15 acres of peaches have turned off 15 tons of dried fruit and a small acreage of Thompson Seedless grapes producing four tons of raisins. At this rate the boy's ranch will soon be paid for. Good luck to Leland Sorrensen.

A Good Average in Peaches.

The average production of dried peaches per acre in Merced county is said to be three-quarters of a ton to the acre. Landram & Clough, near Livingston, have 80 acres of peaches, half drying and half cling. The freestones (Albertas and Muirs) averaged one ton to the acre of dried fruit this year and the clings (Tuscans, Phillips and Orange) averaged over six tons.

Dr. Mead in the South.

On November 11 Dr. Mead will speak at a conference of men from the Southern States on "Land Settlement." California has set an example that other States desire to follow and carry out successfully, and Dr. Mead's services are now much in request. Canada has also applied for his help for the purpose of placing the returned soldiers on the land.

Smyrna Figs Unirrigated.

There is a very handsome young Calimyrna fig orchard of 22 acres in the Wolters district, near Fresno, that is never irrigated. It is ten years old, makes good growth, is said to bear regularly and it is kept like a garden. It belongs to C. T. Forbes, who also has a peach orchard and five-acre orange grove on the same tract.

Grape Leaf Roller.

Fred K. Howard, Horticultural Commissioner of Kings county, reports some damage to grapes in his section by the action of the grape leaf roller in curling up the leaves and vines, so that many grapes were injured by exposure to the rain and sun.

Young Growth on Apricots.

Apricot trees are still putting forth new growth (November 4). From Haywards south it looks like early spring in these young orchards. Fortunately the older trees have better judgment and are only developing their buds. Pruning has commenced in prune orchards and a lot of the dead wood has already been cut out and piled up.

Mallow in Orchards.

We have noticed more mallow growing as a cover-crop in orchards this year than for many years. This and mustard crops will need to be turned under pretty early if the best results are expected. With such an early start they will be woody by the middle of March and will also be taking too much out of the ground in the shape of moisture.

Precocious Young Orchard.

Richards & Denel of Chico have a 30-acre almond orchard five years old that produced over 13 tons of nuts this year. The varieties are Nonpareil, Drake's Seedling and I X L and a new huller was bought and installed to deal with the crop, which was all saved in good condition.

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Why "Bushels" Instead of "Sacks"

The field agent is often asked, "Why does the Bureau of Crop Estimates persist in estimating crop production in bushels instead of sacks or hundred weight?"

The bushel is the standard unit of measure throughout the United States. Ninety million people in forty States of the Union think and talk bushels. The bushel measure is definite, and Congress and the various States have stabilized it, enacting laws specifying the number of pounds of the different commodities legally constituting a bushel. The census figures of crop production have all been reduced to bushels for all commodities for which legal weights have been established, and doubtless will be until a different unit of measure has been adopted.

A sack is not definite and cannot be made so, except by legal enactment standardizing the volume and then in turn standardizing the weight per volume of the different commodities.

The cental or hundred weight is now in general use in buying and selling grain and vegetables and seems quite likely to come into general use in estimating crop production throughout the State.

Oranges and apples are thought about and talked about in boxes, dried fruits in pounds or tons, and it is doubtful if custom will permit of a material change. A big box may hold 30, 40, 50 or even 60 pounds, yet market quotations are often made in lugs, without specifying the size. If the bulk handling of grain ever becomes prevalent; as now seems likely, the sack will largely disappear, particularly as a unit of measure, and the cental or bushel take its place.

Estimates of average yield per acre and total production will undoubtedly continue to be made in bushels for all grains and some fruits, as long as the bushel continues to be the standard unit of measure throughout the United States.

The following weights per bushel are used by the Bureau of Crop Estimates in all estimates of crop production:

WEIGHTS PER BUSHEL.

Apples	48	Barley	48
Beans (dry)	60	Buckwheat	48
Clover seed	60	Corn (shelled)	56
Corn on cob	70	Flaxseed	56
Oats	32	Onions	57
Peaches	48	Peanuts	22
Pears	48	Potatoes	60
Rough rice	45	Sweet potatoes	56
Rye	56	Timothy seed	45
Tomatoes	56	Wheat	60

THE FARM LABOR CONFERENCE.

Under the joint auspices of the State Council of Defense and the U. S. Department of Agriculture a conference was called in this city, November 8, to consider California's complex labor problems, and especially the shortage of workmen in rural communities. Farmers, fruit growers, labor union men and others joined in the discussion of the problems presented.

A resolution calling for the importation of 25,000 Chinese into California for a period of four years to relieve the labor shortage on the farms was rejected. Its rejection followed a day of argument and debate in which Colonel John P. Irish maintained that the scarcity of labor and the demand for increased production made the importation of Chinese a necessity. John A. O'Connell, secretary of the San Francisco Labor Council; John P. McLaughlin, State Labor Commissioner, and others allied with the State and Federal employment service opposed the resolution and voted against its adoption.

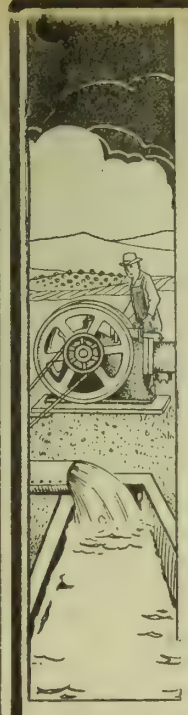
The conference went on record in favor of a more drastic law against vagrants and urged it as a means to compel men who are offered employment in orchards and on farms to accept such work under penalty of prosecution. A closer co-operation of farmers in organizations to solve the labor problem and standardize wages was also endorsed.

Resolutions urging a law to make it a misdemeanor to accept transportation to work and then refuse the work; a resolution scoring the "poaching" of one farmer on the workmen of another and one commending the work of the Woman's Land Army were approved by the conference.

The resolution committee was composed of John P. Irish, Stockton; W. F. Setchel, representing the Valley Fruit Growers' Association of Fresno; J. P. Dargitz of the Farm Labor Bureau of the State Council of Defense; H. J. Fleming of Ripon, and Frank T. Swett of Contra Costa county.

Professor R. L. Adams of the State Council of Defense and the University of California presided at the conference, which adjourned to meet at the call of a committee of three named by Chairman Adams.

"Were you ever rewarded for bravery?" "Oh, yaas." "Did you get the Iron Cross?" "Nope." "The Victoria Cross?" "Naw; I got the Maltese cross." "How did you get the Maltese cross?" "I stepped on her tail."—Exchange.



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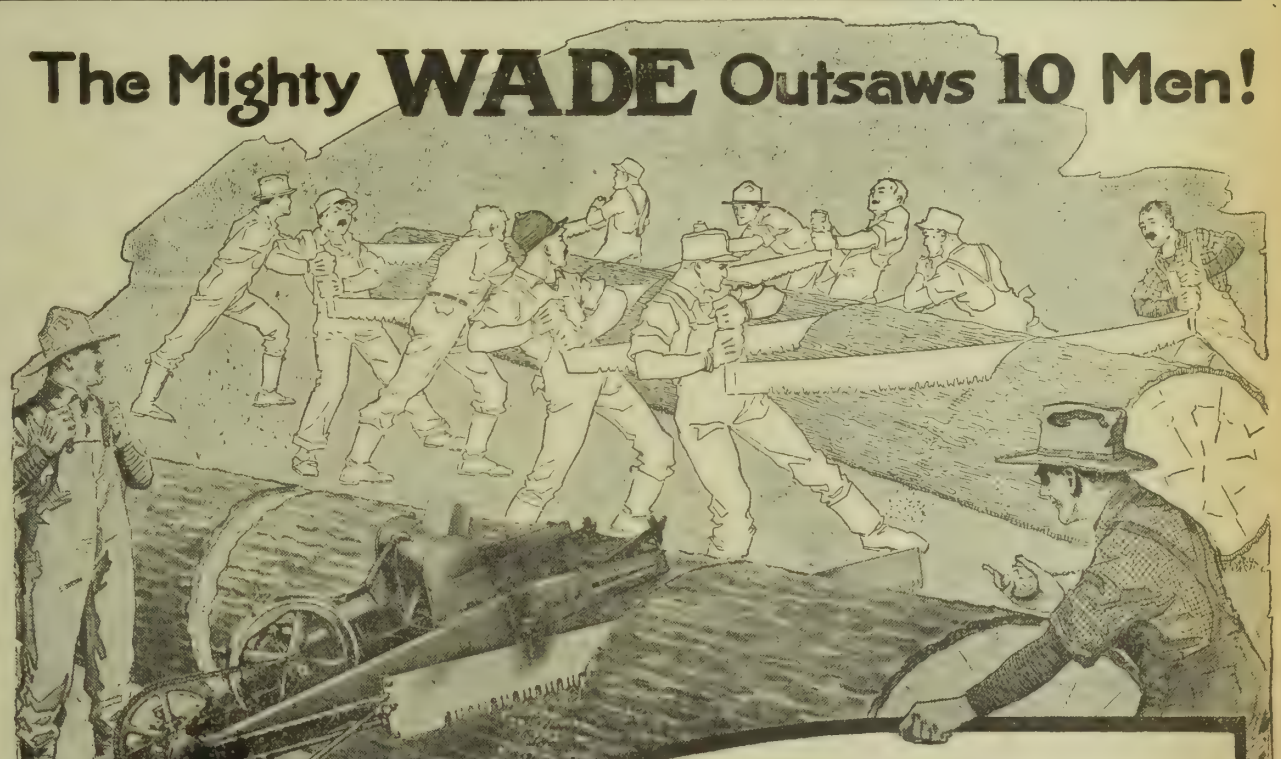

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I cut thirteen and one-half ricks of cottonwood in six hours.—J. W. Stratton, Atkins, Ark.

One gallon of gasoline will cut six to ten cords of wood; it depends on the kind of timber you cut.—W. D. Thomas, Bull Run, Or.

My WADE saw paid for itself six times over.—F. W. Taylor, Swisshome, Or.

I am making $250 a month with my WADE.—F. A. Storts, Orville, Cal.

Thirty-six inches in diameter, yellow birch, is the largest I have cut and I cut down to six inches.—P. L. Cole, West Duluth, Minn.

I cut down to eight inches in diameter.—F. T. Swank, Park Falls, Wis.

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A 53 YEAR REPUTATION BACKS THE WADE

Farm-Demand for Returning Soldiers

To the Editor: Labor unions are not and do not claim to be altruistic institutions. Perhaps it is because they have so formed the habit of always speaking for themselves first that they framed the resolution on demobolization at San Diego in the form which you interpret as opposed to the welfare of the future soldiers and in favor of labor profiteering. Read it over again fairly and you will surely see that they had more in view than the continued exile of four million Americans in order to bolster up wages, or they would have richly deserved your editorial castigation. Namely, what can these boys do, when they return, to make a living?

The labor unionist sells the pure commodity of labor on the labor market while the farmer sells his labor in the form of wheat, cotton, milk, etc., the value combined with other charges incidental to production. We all know the effect of dumping commodities on the market and the consequent glut, from sad personal experience. The effect of glutting the labor market is similar.

Now to the point. Ninety-nine per cent of the soldiers are workers without capital or business and have to find work at a living wage to make an existence when they return. If they had farms, they have sold them and only a small per cent will find their old jobs open. It will have taken two years to mobilize the army and the incidental hardships to industry and agriculture have been many and real. The turning loose in say two weeks of four million ex-soldiers together, with other millions of war workers to seek work would be aptly paralleled if the Government should buy and store vast quantities of farm products for the army and on the day peace was declared dump them on the market. Would we farmers think that was a square deal and worthy appreciation of our efforts to produce foodstuffs during the war? And will the released soldier thank us for throwing him adrift upon the labor market in competition with other millions of war workers? In that case your desideratum of lower wages will be speedily reached. And a few large employers might profit, temporarily.

The man over there deserves a better deal than this. He deserves the best we can do for him. There should be provision made now for increased production and more jobs when these millions are taken from the debit side and placed on the credit side of production. He should have better prospects than a bitter struggle for jobs with long hours and low wages.

Secretary Lane's honest but inadequate scheme for placing soldiers on farms only scratches the surface of the problem, for the farms can only absorb a small per cent of new producers.

The answer to the question is increased production, a better standard of living and decreased hours of labor. Yes, even for the farmer. We will always lag along behind the city producers in the fight for better conditions, but when they get their six-hour day we may at least expect an eight- or nine-hour day. In the meantime let us not get jealous of their success and start a row with organized labor, for our interests, while not identical, are similar to theirs and can best be achieved by co-operating with them.

Finally, don't say these "radical" ideals of better living standards can't be realized because this is a poverty-stricken old world, for the war has scrapped the word "can't" from the vocabulary.—K. S. Harlow, Imperial.

[We have received a number of communications approving our protest against the labor federation's plan to hold our soldiers abroad and "feed them into industry" in their own homes so as not to upset wages and the claim of a six-hour day. We cannot give indefinite space to the subject, so we take an opposing communication so that readers can have another point of view. Mr. Harlow does not convince us of the patriotism or humanity of the San Diego proposition. We are willing to agree with him that the holding-back scheme has more bearing upon urban conditions than rural, for we believe that rural interests, which underlie all others, require that these boys be brought back just as soon as autocrats are securely tied down. If this country is to proceed with production, which all interests require, it is indispensable that all these war schemes of farm production by boys and girls and city idlers be forgotten and the countryside recover just as soon as possible all it can of the spirit and muscle which it has sent abroad to win the war. Anyone who tries to interfere with this is neither American nor patriot.—Editor.]

SQUASH VARIETIES TO PLANT.

Hubbard is the standard by which all other varieties may be measured. Mrs. A. M. McCall of Santa Cruz county says it is the best all around, but Mr. McCall says the Sweet Potato squash is just as good in every way. He has several varieties now mature. Among them is the Banana, so named from its flavor. Its shape is a bit like its namesake, but its color is reddish orange. It keeps and bakes as well as Hubbard and its flesh is thicker. Mr. McCall last year grew a wagonload of them in a short corn row, planting a couple of seeds in alternate hills of corn in April or May. A peculiar squash is the one called Century for lack of a better name because it is of ancient California history. It is shaped somewhat like a pear and the small end is solid meat five or more inches in diameter. Ordinary specimens are about two feet long. It may be peeled as easily as a potato, yet a specimen has been kept by Miss Arano of Santa Cruz county in perfect condition at the end of a year. This squash bakes up watery; but is fine for cooking, having an old-time pumpkin pie flavor like the writer's grandma used to make, and it is extra sweet, requiring very little sugar.

SWEET CORN STALKS SYRUP.

Samuel Haigh of San Jose writes us that he took the butt ends of 20 or 30 stalks, cut in quarter-inch lengths in a feed cutter, steeped it in water and evaporated the water until a nice light-brown syrup was made. The first joint only is sweet enough to use if the corn is ripe.

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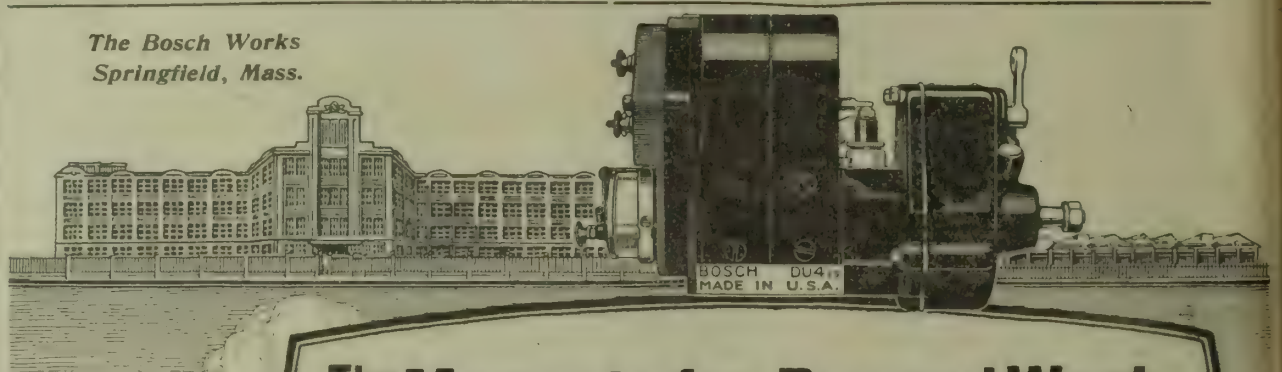

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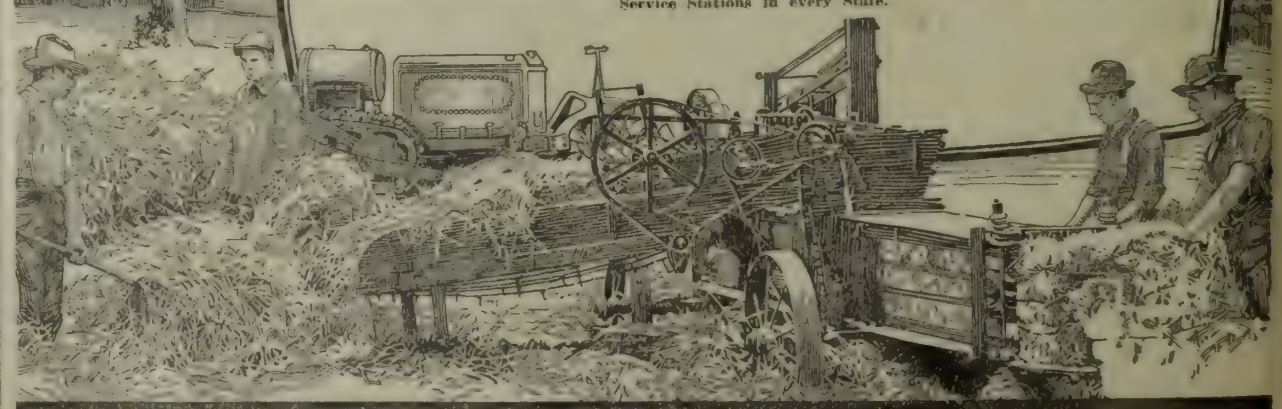

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Delay buying until you have compared my samples with seed others offer.

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Field and Garden Notes

Inoculating Alfalfa Increased Crop.

"I'm satisfied that I got as much prune alfalfa hay in one cutting from five acres as my neighbor did in two cuttings from 12 acres and we both planted last spring," says S. W. Turner of San Joaquin county. Mr. Turner inoculated the seed and he thinks that was largely responsible for the great growth. He had cut it twice when the writer saw his field last September, and it was again nearly knee high with no blossoms showing. It had stooled wonderfully and was as pretty a stand as could be wished. The soil is a sandy loam with some hardpan. It had grown beans in 1917 and gyp corn in 1916. It was checked last spring and planted with a drill in March. Some of the seed went too deep into the loose soil; but what came up soon filled the vacant spaces. Both Mr. Turner and his neighbor clipped the weeds once in the spring. When the alfalfa was ten or twelve inches tall, it showed need of water and was irrigated. Water came again in about two weeks and was applied. No more irrigation was given until after the second cutting. No manure or fertilizer had been applied.

Squirrels in Peat Levees.

To the Editor: How can we kill ground squirrels in our peat-soil levees? We can't explode gasoline or carbon-bisulphide in them for fear of setting them on fire. We can't flood them; and the critters won't eat poisoned barley, or at least it doesn't get rid of them.—J. P., Holt.

[The only way that appears feasible is to use a "gun" such as the one designed a few years ago by the U. S. Health Service and force carbon-bisulphide or Kilmol into the holes when the ground is moist. It is not necessary to explode the gas.]

Cost of Bulk Grain Handling.

In a test, the Sperry Flour Co. transferred 2500 tons of grain in bulk at a cost of 3 cents per ton and lost practically none by spilling. In the same year they transferred the same amount in sacks at a cost of 35 cents per ton and lost several tons by spilling. The cost of taking bulk grain from barges, cleaning it, and loading it on barges or cars is about 8 cents per ton, according to George H. McLeod.

Irrigated Wheat.

In planting irrigated wheat in Kern county G. H. Peters irrigates and plows thoroughly eight inches deep, planting not later than December, and leaving the land level because no more irrigation will be needed. He drilled 20 pounds of Chul wheat per acre in the fall of 1917 and harvested 200 sacks from 18 acres. This winter Mr. Peters plans to greatly increase his wheat acreage.

Irrigate Farthest Furrow First.

In irrigating by furrows from a lateral ditch, some folks run water into the nearest furrows first. Another way is to run into the farthest furrows and simply shut off water in the lateral as each set of furrows gets filled. Thus no gates or work are needed at the inlets to the furrows, and if another irrigation is to come before cultivation the furrows are all ready for it.

Lime Shows Increased Vegetation.

Hydrated lime applied last December on several ranches in Santa Cruz county had small chance to show results on account of lack of moisture, but it is showing a considerable difference since the 1918 fall rains, on whatever vegetation is growing where it was applied, according to Farm Adviser H. L. Washburn.

Plant Peas Now.

Peas are a good winter growing crop for the farm garden, as well as for a cover-crop. If they are not already planted, the sooner the better, and you will appreciate peas from the garden when town people are eating them from cans at extravagant prices. They stand quite a bit of frost.

The Germain Seed and Plant Company first introduced the genuine proven strain in Hairy Peruvian Alfalfa to the farmers of California.
Our seed has produced wonderful results—in most instances 2½ more tons per acre per season. Don't be fooled—buy the genuine—Germain's—the proven strain.

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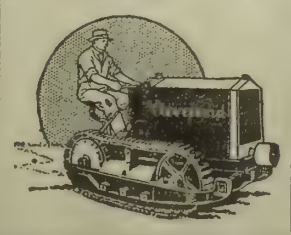

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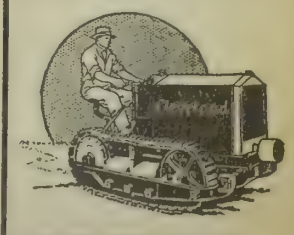

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General Agricultural Review

Field Crops.

A $60,000 crop of hay is reported in Alaska.

Approximately 8,580,318 bushels of corn are being produced in the State of Washington this year.

A large acreage of kafir corn is being harvested in the Delano section. The weather has been ideal for the maturing of the grain.

The bean harvest of Ventura is about cleaned up. The yield was very heavy, many fields going as high as 40 to 45 sacks per acre.

The United States Department of Agriculture's November bean crop report has placed the preliminary estimate of production at 2,749,000 bushels.

Corn production this year will be 2,749,198,000 bushels, the Department of Agriculture announced in its November crop report giving the preliminary estimate of the crop.

Women's organizations are sending women and girls to the fields throughout Georgia to save the crop of cotton staple. Farmers are paying from $1 to $1.50 per hundred pounds for the picking.

The new sugar beet contracts offered to growers in all sections of Southern California are very favorable, and will enable the beet farmer to net as much from his crop as the bean planter.

Regulations limiting the importation of wheat and wheat flour to shipments from Canada and Mexico in wagonload lots by producers and customary border traffic, consignments to the Food Administration Grain Corporation, and shipments in bond in transit to allied countries were issued by the War Trade Board November 1.

Mr. Churchill, its president, states that the California Bean Growers' Association is not quoting lima beans at any other price than the set price, which is 12c, less the customary discount. Selling is not active, but some orders are coming in. Dealers are trying to break down the association's price.

Picking is under way on the first commercial tract of long-staple cotton to be grown in the Porterville district. Arizona cotton men who have seen the product say it is high grade and declare it indicates much of this district can be used to advantage in cotton culture. A resurvey of the section for cotton-growing possibilities will be made by United States experts early in December.

According to a food survey of the Department of Agriculture, dated October 1, 1918, the commercial stocks of wheat reported for that date amounted to 195,997,839 bushels, as against 114,331,842 bushels reported on hand in a similar survey for September 1. These figures refer to stocks actually reported and do not represent the total commercial stocks of the country, nor do they include stocks on farms.

According to the Scientific American of October 19, a machine is now operating successfully in the Imperial Valley which promises to revolutionize the cotton industry. The persons running the machine claim that five men with the machine can pick 1000 pounds per man per day of ten hours, or 5000 pounds per day, and it does a clean job instead of a wasteful one. Hand pickers gather from 100 to 200 pounds of seed cotton in eight hours.

Cotton ginned prior to November 1, the U. S. Census Bureau has announced, amounted to 7,793,615 bales, including 120,343 round bales and 15,780 bales of Sea Island. Ginnings by States were: Alabama, 55,061; Arizona, 9565; Arkansas, 537,605; California, 18,404; Florida, 16,111; Georgia, 1,475,090; Louisiana, 359,644; Mississippi, 688,471; Missouri, 25,094; North Carolina, 414,478; Oklahoma, 398,901; South Carolina, 966,040; Tennessee, 152,144; Texas, 2,168,495; Virginia, 6307. All other States, 1835.

The Food Administration at Washington has appointed L. D. Sweet to take charge of dehydration for the Department of Agriculture, which announces a campaign to increase the use of dried fruits and vegetables. The War Department says the value of dried produce compares favorably for table use with the fresh article. Last spring the army ordered and used 14,000,000 pounds of dried foodstuffs, costing $3,000,000. Potatoes, carrots, onions and soup mixtures are in greatest request.

Deciduous Fruits and Nuts.

One hundred and twenty-six fruit specials, with 4758 cars, operated from California to the Missouri river and to Chicago last month.

The almond crop is expected to reach nearly 5000 tons for the State. Definite figures cannot be obtained until deliveries have been completed. The loss on almonds was small.

The Golden State Canning Company at Ontario and its branch cannery at Cucamonga have become links in a chain of deciduous fruit canneries under the control of the California Packing Corporation.

In New Mexico this fall much of the apple crop was saved by women's labor in picking and packing the fruit. When a shortage of box-makers occurred the women undertook the job and turned out an average of 200 boxes a day.

The Winters Fruit Packing Company is making large shipments of dried fruits, mostly consignments to the Government. It is anticipated that during the season over 600 tons of dried peaches and 200 tons of dried prunes will be shipped.

About 900 sacks of black walnuts, nut shells and fruit pits is the contribution of the San Joaquin Junior Red Cross to the Government for making carbon for gas masks. It takes seven pounds to make enough carbon to last twenty-four hours in one mask.

The embargo on Oregon prunes has been lifted. Arrangements have been made by Willamette Valley prune men for shipment of 18,000,000 pounds of dried prunes for the British Government, and they have received an order for 10,000,000 pounds for the United States Government.

Prof. T. Francis Hunt has arranged for this week a two-day series of orchard meetings in Fresno county for study and observation of common diseases of orchard trees, with methods of control. The purpose of these open-air meetings is to bring together statement of orchard conditions last year and success attained through the use of various control measures. Different orchards were to be visited to determine whether peach blight is again making its appearance. Other diseases to receive attention are leaf curl, little leaf, crown gall or any other disease conditions about which questions may be raised.

Citrus and Semi-Tropical.

Some navel oranges from orchards at Narango, Tulare county, have tested as high as 15.2 to 1.

While the retail value of the 1917 crop of citrus fruits was $58,277,000, even better returns are expected for that of 1918.

The California Associated Olive Growers recently obtained a court decision compelling growers to deliver crops under existing contract.

San Bernardino is making elaborate preparations for its annual exposition, the ninth National Orange Show, to be held February 14 to 23, 1919.

About 100 Los Angeles women are at work picking olives in the orchards of the Los Angeles Olive Growers' Association near San Fer-

LOOK for the K-W Trade Mark on the MAGNETO

Before Buying Your Tractor Make Sure Of Its Ignition System

Every K-W Magneto carries the K-W trade mark. It is put there for your protection. It is a symbol of quality. It assures you of continuous, reliable, no-trouble ignition regardless of working conditions.

K-W High Tension MAGNETOS

give immediate and easy starting regardless of the weather, how large the motor or how slowly the engine is cranked. K-W Magnetos fire any kind of fuel and increase the power derived from the same amount of fuel over that of any other ignition system. They enable you to plow additional acreage *without additional fuel cost*. They are protected against powder-fine dust, oil and water.

The Time To Avoid Ignition Trouble Is When You Buy Your Tractor

Forty tractor manufacturers pay more for K-W Magnetos but it is their assurance that you—the tractor buyer—are being provided with the most reliable ignition system, guaranteeing to you a "no-trouble" service day in and day out.

If you are *not* using a K-W now write us. Let us show you how a K-W Magneto will give quick and easy starting, and get full power out of the cheaper grades of fuel. There is a type for *your* tractor that will do this.

Before You Buy A Tractor

look up one neighbor or a dozen using K-W Ignition and talk it over with them. Then we know you will *insist* upon a K-W Magneto on *any* tractor you may decide to purchase.

Write for list of K-W equipped tractors and full information.

THE K-W IGNITION Co.
2889 Chester Ave. CLEVELAND, OHIO. U.S.A.

Pear Trees

There's money in pears if you get started right.

Elmer Bros. Trees are the best you can plant. Grown on virgin soil and

Blight Resistant

Pears have been grown in this valley for forty years and blight has never made its appearance. That's why our pear trees are so much in demand.

Send for copy of our latest price list.

Elmer Bros. Nursery

"The Nursery That Helped to Make Santa Clara Valley Famous"

76 So. Market St. San Jose, California

"A dip in time saved mine"

Harness rots because the natural oils of the leather fiber dry out, and dust, sweat and moisture get in and cause rot. Eureka Harness Oil takes the place of the natural oils and keeps rot out—keeps harness strong, flexible and jet black. No animal oils in "Eureka"; rats, mice and other rodents dislike it and won't gnaw harness dressed with

EUREKA HARNESS OIL

MADE BY STANDARD OIL COMPANY (CALIFORNIA)

nando and have proven so adept at it that the growers want more.

The first olives of the season have reached the local wholesale market. They are said to be selling at 8c and 10c a pound. The yield is expected to be heavy, according to reports from the olive-growing belts of the State.

Estimates compiled by the railroads indicate the total output for the Porterville district this season will be 2000 cars of Washington navels. Price conditions are good. Consignments are being made at about $5 a box f. o. b., it is reported.

A $5,330.90 check was received early this month by the Hillside Orange Association of Lindsay for a car of Valencia oranges containing 462 boxes. It is said to be the highest price on record for San Joaquin Valley oranges.

A new species of codlin moth has made its appearance in the walnut groves of Southern California, according to statements made by a committee of the Walnut Growers' Association, who ask that some official action be taken to check the pest.

The 8-to-1 test for oranges may have to undergo revision. This year fruit has been brought in which tests as high as 18 to 1. Nevertheless, because the acid content is much below the normal this fruit is insipid in flavor and deficient in color. Federal chemists are collecting data on the 8-to-1 standard, and they are of the opinion that some change will be needed which will take into account the citric acid content of the early fruit to safeguard its quality.

Grapes.

The big raisin plants at Fresno have been badly crippled for want of help, due to the absence of employes retired by the influenza. Urgent orders have been seriously delayed.

The Lodi wineries ceased grape crushing this week. Nearly half the grapes were Tokays. The sum of $5,481 was received recently for a carload of Emperor grapes shipped from Fresno to Boston.

As a result of the German devastation of hundreds of thousands of acres of French vineyards and orchards, Europe may have to depend upon American vineyards for the greater portion of its wine for many years to come.

THE 1918 CROP OF CALIFORNIA CITRUS FRUIT.

Following is an abstract of the crop report of the U. S. Bureau of Crop Estimates, San Francisco, as of November 1, 1918:

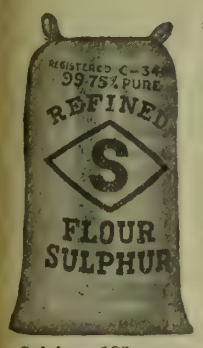
ORANGES.

The 1918 crop of California oranges is beginning to ripen and an estimate of the number of boxes now indicated as likely to be marketed between November 1, 1918, and October 31, 1919, eagerly awaited by both producer and consumer. Reports of correspondents as of November 1, supplemented by personal investigations of the field agent, warrant a production forecast of 14,322,000 boxes. Of this total, Northern California will produce approximately 138,600 boxes; Central California 1,339,800 boxes, and Southern California 12,843,600 boxes. Conditions are more or less spotted, although in some sections the crop is uniformly good. The fruit generally runs to large sizes, which has materially helped to increase the total number of boxes. For the shipping year just closed approximately 7,893,270 boxes were moved. About 800,000 boxes were carried over from the 1916 crop, leaving a total of 7,093,270 boxes to represent the production in 1917. California's big orange crop was grown in 1916. Shipments for that crop amounted to 19,374,873 boxes, plus about 800,000 carried over for shipment in the succeeding year, making a total for 1916 of 20,174,873 boxes actually marketed.

LEMONS.

The condition of the lemon crop is 88 this month, compared to 86 October 1 and a ten-year average of 86. Following the heat wave of June, 1917, lemons recovered very quickly and according to shipping records the crop of 1917 was under-estimated by practically everyone. The 1918 crop is very promising and the big crop of two years ago may be exceeded.

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDEW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH.

Try our new brand of VENTILATED Sublimed Sulphur, 100 per cent pure, for making Paste—(Atomic Sulphur) and for Dusting.

For Lime Sulphur Solution, use our DIAMOND S Brand Refined Flour Sulphur. We can furnish you this sulphur at such low price that it will pay you to mix your own solution.

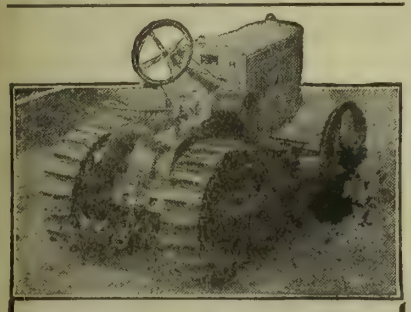
To create additional available plant food, drill into the soil 100 to 400 pounds per acre of our Diamond "S" Brand Powdered Sulphur.

It has been proven that sulphur has increased various crops up to 350 per cent.

Save this advertisement for reference, as it may not appear again.

SAN FRANCISCO SULPHUR CO.
624 California St., San Francisco, Cal.

We are equipped to make immediate shipment. Send for illustrated booklet; price list and samples. Tel. Kearny 871.



Bates Steel Mule Model D
F. T. Briles, S. Cal. Distributor
214-216 No. Los Angeles St.,
LOS ANGELES, CAL.
Branch House—110 Main St., Porterville, Cal.
TERRITORY OPEN FOR AGENTS

Ditching Made Easy

With this Simplex Ditcher

Fine For Irrigation. Can't be beat for cutting laterals and cleaning out old ditches. Works in any soil. Digs V-shaped ditch down to 4 ft. Practically all steel. Reversible. Equal to 100 men. Pays for itself in a day. Also grades roads. Fills gullies. Back fills and levels ground.

Sent on 10 Days' Trial

Write for Ditching book and money back guaranty

Simplex Farm Ditcher Co. Incorporated
Box 77 Owensboro, Ky.

THE H. C. SHAW CO., Stockton
B. HAYMAN CO., Los Angeles
Distributors.

Tractor Engineer
Seeks employment; four years' experience on all types of Caterpillars. Also wheel tractors.
C. J. SCHACK,
General Delivery San Francisco

How Special TrackPULL Tractor Works Orchards, Vineyards

The Bean TrackPULL Book tells plainly why you need a Bean Tractor if you want orchard and vineyard work. Worth its weight in gold because it posts you on vital qualities in such a tractor. You know what your tractor must do. Send for catalogs of all tractor makers and compare with Bean TrackPULL Book. Then decide on your tractor.

The Bean TrackPULL operates through single track which does all pulling and steering. Full power on turns same as on straightaway. Makes no difference how far off center you hitch—pulls just the same. Works close to trees and vines. Pulls, "gees," "haws" and backs just like team. 12-year-old boys can handle.

Made by manufacturers of orchard machinery for 34 years. All their specialized experience built into it. Advanced improvements in Motor, Track Rollers, Drive Sprocket, Bearings and Rear Wheels make the Bean the most efficient orchard and vineyard machine ever manufactured.

Get invaluable Bean TrackPULL Book Now—send the coupon before you forget it. Save money. Learn name of nearest agent who can show machine.

Bean Spray Pump Co.,
243 W. Julian St., San Jose, Cal.
131 N. Los Angeles St. Dept. A-11, Los Angeles,
Send me catalog and full information without obligation on my part.

Name .....
Street .....
City .....
County ..... State .....
No. of acres..... Kind of crops grown....

BEAN TrackPULL Tractor

Choose the Tractor with a Satisfactory 4 Year Working Record

WATERLOO BOY
Original Kerosene Tractor

Pin your faith to the tractor whose record you know. Four years of consistent success in the hands of thousands of American farmers have established Waterloo Boy supremacy.

Waterloo Boy users have demonstrated its ability for ample power in all work, under various soil conditions; its average consumption of less than 2 gallons kerosene to the acre of plowing; its threshing cost of 15c per hour. Waterloo Boy users plow from 8 to 12 acres per day and get special acreage advantages in other farming operations.

They have found this reliable Three-Plow Tractor easy to operate, strong and durable in construction, and fully up to their expectations in performance. Dust-proof gear construction, complete accessibility, automatic lubrication and reliable ignition insure easy and continuous operation. Every part of the Waterloo Boy performs its service.

Its Record Is Your Guarantee

Get these facts from our users themselves. They spell Waterloo Boy success for you. Many bona fide voluntary expressions of our users' complete satisfaction are contained in our catalog. Consult this book before going further into the tractor question. It will save you time, labor and money to buy a Waterloo Boy. Write for our literature today.

JOHN DEERE
6007 W. 3rd Ave. Moline, Illinois

W. L. CLEVELAND CO., Distributors
WATERLOO BOY TRACTORS
213 No. Los Angeles St., Los Angeles, Cal. Phone 11177

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

LOS ANGELES TRACTOR DEMONSTRATION NOTES.

Torbensen Gear on Tractor.

The R. & P. tractor, first shown in public at the Los Angeles Tractor Demonstration last fall, has an enclosed Torbensen internal gear drive like Republic trucks. Its drive wheels were fitted with shoes pivoted on rollers and rockers. It develops 20 horsepower and is rated at 12 horsepower on the drawbar. It pulled two 10-inch moldboards 6 to 8 inches deep and did a good job.

Small Track Type Tractor.

A small track type tractor, built for California vineyards and orchards and demonstrated at Los Angeles last fall, is the Monarch Lightfoot of 6-10 horsepower. It has one clutch and is turned by braking one track. It has a great opportunity on small farms where wet or sandy spots occur, but the writer got rather uncomfortable while driving it on account of the solid wooden seat. This feature was to be fixed for greater comfort. A shield was provided on the demonstration machine to brush aside the limbs of citrus trees.

Needs Disk in Orchard.

A 6-foot double disk set at the full angle and loaded with 200 pounds of concrete pipe is pulled easily in A. G. Beaulieu's Santa Clara county orchard soil by a Bean tractor. It pulverizes the dirt beautifully and Mr. Beaulieu says he would not farm without a disk.

What One Tractor Had Done.

"This Best tractor is three years and four months old. It has subsoiled 2100 acres, plowed 300 acres, and cultivated 7400 acres. The expense for repair parts has been $63.38.—J. E. Dullam, Rancho La Brea." This was the sign on a 75-horsepower tractor, pulling five 14-inch Oliver moldboards in the hard adobe at the Los Angeles Demonstration. Mr. Dullam has two other tractors of the same make.

Single Track Tractor.

The Belt Rail tractor, first shown last fall at the Los Angeles Tractor Demonstration, has a single track behind two wheels, one of which runs in the furrow. Its three-point suspension two ways automatically keeps the frame and motor level when one wheel goes into the furrow. It is a 12-20 tractor and it pulled two 10-inch P. & O. moldboards 8 inches deep in the hard soil fast and easy.

Pumping for Field Crops.

Last summer and fall, when Weed Patch farmers in Kern county were suing the ditch water company for ruining their crops by diverting water which they claimed by contract rights, G. H. Peters was irrigating all he wanted, when he wanted to, and with water which did not carry weed seed onto his land. He had paid $6,000 to put a well 320 feet deep through a gravel stratum of 140 feet, and was lifting 125 miner's inches or about 1100 gallons per minute 100 feet by a 50-horsepower electric motor which cost some more. The water was used for irrigation of potatoes, corn, and small grain, besides a family orchard and garden. Mr. Peters has farmed many years in this district and he knows that his expensive pumping plant will pay even when using the water on common field crops.

CHAIN-DRIVEN PUMP.

To the Editor: I have a small centrifugal pump driven by belt from an electric motor. I want to change the drive and put the motor in the pit with the pump. I had thought of direct connection, but the motor runs 1800 r. p. m. and the pump should run about 1200 r. p. m. Would a chain drive two or three feet between centers be practical?—A. M. H., Florin.

[You could have a direct connection geared down properly, but such installations are not common. Chain drives are more common and quite feasible. We can refer you to parties who can equip your outfit this way.]

THE TRACTOR OPERATOR.

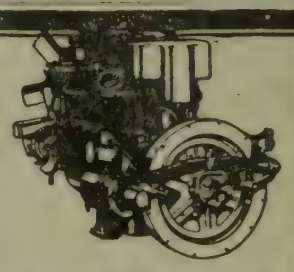
Difficulty in operation is mentioned by tractor owners as the principal disadvantage of the tractor, says A. P. Yerkes, United States Agriculturist. Though any man of ordinary ability can operate and care for a gas tractor very satisfactorily after a little study and experience, it is decidedly unwise for him to undertake to gain the necessary experience by experimenting with his own machine. Experience in running stationary engines or automobiles, while of some value, is not enough. The important thing is the ability to detect trouble the minute it begins to develop and to be able to remedy it promptly instead of allowing it to run along until an expensive delay results.

Many owners report that it is extremely difficult to get hired help capable of operating a tractor satisfactorily. Where a tractor is to be so operated it is very important for the owner to understand the proper care of the outfit in order to see that it is not abused.

Usually the necessary training can be obtained rather easily without great expense. It pays to spend a few days in gaining experience under a competent instructor, and it is unwise to attempt to run a tractor without such preparation. Very often the time and expense involved in obtaining such training will be offset during the first year's operation.

House moving by automobile is not common. The writer recently saw a large chicken house being carried rapidly down the road on an automobile trailer.

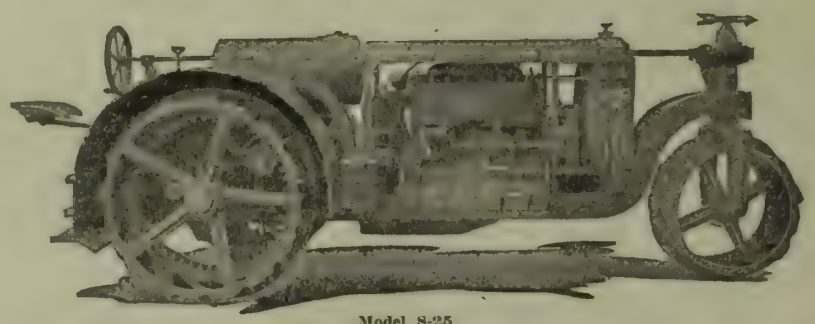
Experts Say
"ZEROLENE IS BETTER"
—because it holds better compression, gives better protection to the moving parts and deposits less carbon.
Zerolene is the correct oil for *all types* of automobile engines—the correct oil for your automobile.
Get our Lubrication Chart showing the correct consistency for your car.
STANDARD OIL COMPANY
(California)



The "T"-Head type engine, illustrated here, like all *internal combustion engines*, requires an oil that holds its lubricating qualities at cylinder heat, burns clean in the cylinders and goes out with exhaust. Zerolene fills these requirements perfectly, *because it is correctly refined from selected California asphalt-base crude.*

ZEROLENE
The Standard Oil for Motor Cars

Samson
GMC TRACTORS SIEVE-GRIP GMC TRACTORS
Tractor



Model 8-25

Simplicity, dominant feature of the GMC SAMSON SIEVE-GRIP TRACTOR, goes hand in hand with efficiency. Correct design and few and accessible working parts assure low up-keep cost and long life to the GMC SAMSON SIEVE-GRIP TRACTOR.

Thousands of owners testify that where the GMC SAMSON SIEVE-GRIP TRACTOR goes the farmer's trouble ceases. This is its record for nearly two decades of trying service here and in far corners of the earth.

Mere youths are successful operators of the GMC SAMSON SIEVE-GRIP TRACTOR, and in the emergency, even women have proved equal to the task.

The GMC SAMSON SIEVE-GRIP TRACTOR performs tasks requiring the power of ten horses and does the work better, faster and cheaper than any other power. It is also adapted for many farm labors for which horses are unsuited.

The GMC SAMSON SIEVE-GRIP TRACTOR is simplicity itself.

Further information is furnished by our illustrated booklet, Better Farming.

Samson Sieve-Grip Tractor Company
DIVISION OF
GENERAL MOTORS CORPORATION
STOCKTON, CAL.

GROWING EFFICIENCY OF MOTOR TRUCKS.

Motor truck hauls in 1918 from farm to shipping point averaged 11.3 miles, while wagon hauls averaged 9 miles; and a motor truck made 3.4 round trips per day over its longer route of 11.3 miles, while wagons made 1.2 round trips per day over the 9-mile distance.

The estimated cost for hauling in wagons from farm to shipping point averaged in 1918 about 30c a ton a mile for wheat, 33c for corn, and 48c for cotton; for hauling in motor trucks or by tractors the averages are 15c for wheat or corn and 18c a ton-mile for cotton. These figures are based on reports made by correspondents of the Bureau of Crop Estimates of the United States Department of Agriculture.

A similar inquiry in 1906 showed an average for wagons of 19c per ton-mile for hauling corn or wheat, and 27c for cotton. In 1918 wagon costs were naturally higher, since prices and wages have increased, but motor truck costs were much lower in 1918 than even the wagon costs of 1906, due to greater efficiency of the motor truck.

The cost of wagon hauling a ton-mile for wheat among the geographic divisions in 1918 was lowest in the Pacific States, 22c. Above this, in order, are the North Central States east of the Mississippi river, with 26c; the West North Central States, 29c; the West South Central, 32c; the East South Central, 36c; New England and the Middle Atlantic States, 38c; the South Atlantic States, 39c; and, highest of all, the Rocky Mountain States, with 42c a ton-mile.

In motor truck hauling the order of the different divisions of the country begins with 9c a ton-mile for wheat in 1918 in the East North Central, 10c in the East South Central, 14c in New England, the Middle Atlantic, and the West North Central, 15c in the West South Central, 17c in the Pacific, 18c in the South Atlantic, and 29c in the Rocky Mountain States.

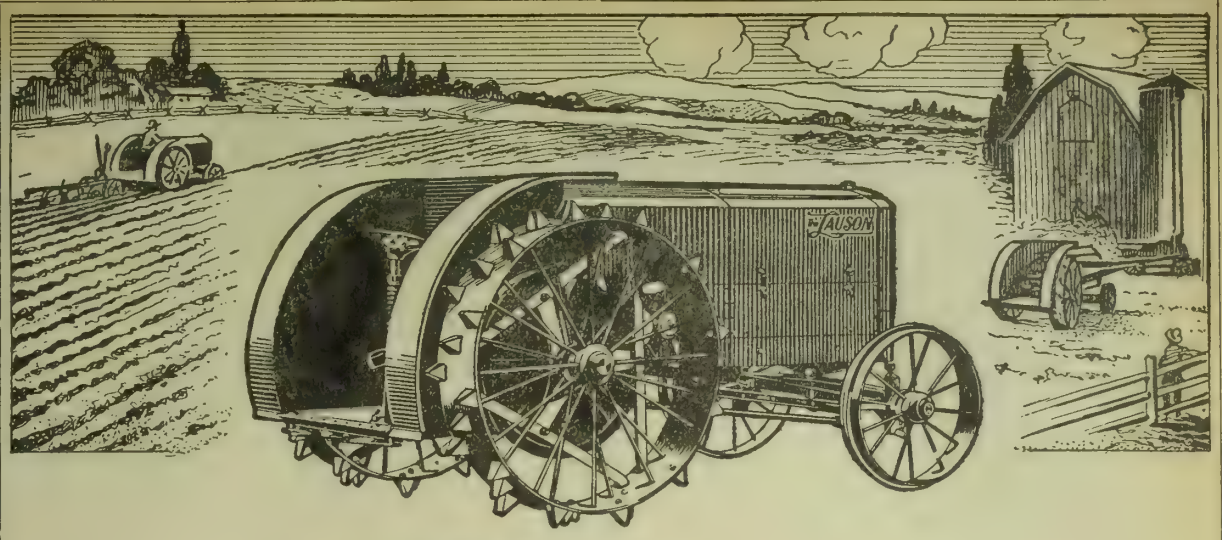
The motor trucks generally in use by farmers are not large trucks, but small ones whose nominal capacity is usually 1 to 2 tons. In quite a number of counties throughout the country the trucks used for hauling are made-over passenger cars. In some cases light wagons are attached as trailers to ordinary passenger cars and produce is taken to market in that way. In North Dakota and California, as well as other States, tractors, each drawing several wagons, are used for hauling grain. Trailers are also used, especially in the West, with horse-drawn wagons.

For the United States as a whole the average wagon load of wheat was 55 bushels in 1906 and 56 bushels in 1918, and the motor truck load in the latter year was 84 bushels. For corn, the wagon loads of 1906 and 1918 were 39 bushels, and the motor truck load of 1918 was 58 bushels. The cotton load for 1906 and 1918 for wagons was 3.4 and 3.6 bales, respectively, and for motor trucks 6.6 bales in 1918.

TELEPHONES A NECESSITY.

The telephone is not strictly a convenience, but a necessity. The cost is small and every farmer should join with his neighbors in installing a system on a co-operative basis. The chief financial value of the telephone (apart from its social benefits and prompt help it insures the family in case of fire, accident or sickness) lies in the fact that it enables the farmer to keep in closer touch with his local markets. When you have a telephone, you can call up several merchants and get their prices on the things you have to sell even before you start to town.

The "Little Husky" Laughlin 8-16 track type tractor, demonstrated in public for the first time at the Los Angeles Demonstration last fall, is to be handled by the J. W. Leavitt Co. of San Francisco, who recently contracted with the Homer Laughlin Engineers Corporation of Los Angeles to take 500 of the Huskies per year for five years.



The LAUSON 15-25
DUST PROOF-ALL GEARS ENCLOSED

FULL JEWELED TRACTOR

24 HYATT AND TIMKEN ROLLER BEARINGS
REDUCE FRICTION TO THE MINIMUM

The Maximum One Man Machine. Power, Stamina, Utility, Coupled with Low Up-Keep Cost High Efficiency and Moderate Price

FOR five years we watched the Lauson before taking it into the De Laval Line. We visited the factory, studied the Lauson factory methods and policy, and compared it with other tractors; we tried it out ourselves and saw the Lauson Tractor prove itself 100 per cent right.

The Tractor Thoroughbred

Before making your selection compare some of the mechanical refinements of this tractor thoroughbred with the cheaply built "get the money" tractors:

In the first place, don't make the mistake of buying a tractor too small to be practicable or one too large for efficient general utility.

Why choose a tractor with a cheaply built, unreliable fuel-wasting motor instead of a Lauson with its efficient, accurately machined, perfectly balanced Lauson-Beaver motor?

Why select a tractor with driving gears or other heavy wearing parts exposed to dirt and grit instead of a Lauson in which every vital part, including the machine cut steel drive gears, is enclosed and constantly bathed in oil?

Do you prefer rough, exposed cast iron driving gears which absorb power and soon wear out to the machine cut steel driving gears of the Lauson?

Why purchase a cheaply constructed tractor with a necessarily inferior transmission rather than a high-class Lauson with its hardened chrome nickel steel transmission gears built 100 per cent over strength?

Select the Lauson, which has ample strength in every piece of its high quality materials to withstand the grinding demands of tractor service year after year.

De Laval Service

The De Laval Dairy Supply Company stands squarely behind every Lauson Tractor delivered to a purchaser. The same prompt attention and service given to the thousands of De Laval Separator owners on the Pacific Coast may be expected and will be received by all purchasers of Lauson Tractors

IMMEDIATE DELIVERIES FROM WAREHOUSE STOCKS AT SAN FRANCISCO, LOS ANGELES, PORTLAND AND DEALER AGENCY STOCKS THROUGHOUT THE COAST

De Laval Dairy Supply Co.

61 Beale Street

SAN FRANCISCO CALIFORNIA

Just Fill in and Mail the Coupon for Full Data.

De Laval Dairy Supply Co.
San Francisco:

Please mail me the Lauson Tractor Catalog.

No. Acres.....Kind of Soil.....

Name.....

Address.....

P.R.P 11-16

Livestock Industry Outlook Prosperous

[Written for Pacific Rural Press by R. H. Whitten.]

Are you prepared for peace? It was all right to talk about how we lacked preparedness to go into the war. You know what that cost us. It is past history. But why not take a lesson from it and prepare for the next chapter that is about to be written? England has been preparing for peace for some time; so has France, and even Germany. America has been preparing along industrial lines, but how much thought has the farmer given the matter?

To the average farmer the war has been a far-off event. He has been too busy to clearly realize its tremendous bearing upon American agriculture. Thus far he has thought of the war mainly as it has affected the labor necessary to handle his crops, and as to their market value. But with the end of the war at hand the far-seeing, thinking farmer begins to consider the future, and as he investigates he wakes up to the tremendous possibilities which will follow the close of the war. He sees that the preservation of breeding stock on our farms is one of the most vital factors to all nations in order that the world's rapidly disappearing supply of meats, dairy products, wool and leather may be replenished, and he sees that livestock raising is going to be the most profitable branch of farming for years to come.

One of Uncle Sam's officials at Washington was showing a visitor about and pointed out the new "temporary" structures that have been hastily put up to accommodate the new war-making organizations. "Temporary," said the visitor. "Why, they look as though they were good for twenty years of service." "Don't worry," replied the official, "they may have to be in use longer than that."

Undoubtedly the official had in mind the time that the Government would have to lend a hand in reconstruction work both at home and abroad. Too many persons have felt that as soon as peace was declared all of the commissions and bureaus doing war work would immediately be disbanded, but we find that there will be equally as important work to do from now on.

It was understood that the Food Administration was organized for the period of the war only, but along comes an announcement that President Wilson has instructed Food Administrator Hoover to make immediate arrangements for supplying the food and livestock necessary for the rehabilitation of northern France and Belgium and the demoralized civilian populations in southern Europe.

As long as our boys are in France we must send to the armies and the allies three times the normal amount of our exports, and in addition to this we must feed for a long time 180,000,000 people who are actually facing starvation at present. Apparently the demand for grain and other crops should keep up for a reasonable time, yet if ships are available other nations may step into the market with their grain.

TREMENDOUS LIVESTOCK SHORTAGE.

With livestock, however, it is different. In the first place there is an enormous shortage in all classes of meat, milk and wool producing animals. The most recent survey of the livestock situation of the world showed a net decrease during the first three years of the war of 28,080,000 cattle, 64,500,000 sheep and 32,425,000 hogs—a total of 125,000,000. The total number of these animals in the United States is only 187,000,000, so Europe has already lost over two-thirds as many animals as there are in this country today.

In the second place, the United States is the only nation that is in a position to even help replenish the depleted herds. Of the producing countries, Mexico has been rapidly exhausting her supply of meat-producing animals, pending restoration of stable government. Canada, suffering from an acute shortage of labor, has been reducing her livestock and will not have much for export, except perhaps a few hogs. Australia and New Zealand are recovering from the effects of several seasons of drought, which greatly depleted flocks and herds. In South America livestock conditions are far from normal. Money has been scarce in Brazil and Argentine and breeding operations have been checked for two years.

MUST COME TO UNITED STATES.

Consequently, our herds will constitute the main source from which Europe will draw for both her present and future needs—for both meats and breeding stock. "Restoration of normal conditions," says Thos. E. Wilson, who was made chairman of one of the important livestock committees, "will open the flood-gates to an unprecedented demand for meat from foreign countries which will sweep into the United States as the only available source of supply. Even the Scandinavian countries, which in pre-war years were able to export meat products, have been stripped of their livestock resources and must turn to this country for replenishment. Add the demand for breeding stock to that for meat, and I look for a long period of uninterrupted prosperity for livestock men under after-war conditions."

SHORTAGE AT HOME.

Yes, the demand is coming all right, but how about our ability to supply it? Let's see. During the first nine months of this year 17,531,560 cattle, 31,278,887 hogs and 14,348,578 sheep were received at stock yards, as against 15,490,931 cattle, 27,690,247 hogs and 13,204,678 sheep for the corresponding period in 1917. An increase in all classes, but this does not mean an increased production. For instance, since the first of the year shipments of hogs have increased 27 per cent, while production has increased only 8 per cent. Because of frequent peace rumors and the weakness of corn and other feeds, the markets have been flooded with stock, and this means a tremendous future shortage, for, according to statistics, the rate of livestock production in normal times did not keep pace with the increase in our population. Consequently, even before the war, we were approaching a serious problem, and now, with Europe crying for meat and breeding stock, the problem is all the more complex.

It's the same with dairy products. In October, 1917, 390 storages reported 104,926,813 pounds of butter and in October, 1918, only 86,253,033 pounds, a decrease of 17.8 per cent. On the same dates 470 storages reported 89,082,290 pounds and 38,249,780 pounds of cheese, a decrease of 57.1 per cent. Consequently, holdings are below normal and no vast quantities of dairy products will be dumped on the market.

Furthermore, on account of the high price of feed, the shortage of labor and the good price received for beef, many dairy herds have been sold off since the war began and have found their way to the block. It is estimated that in this State 25 per cent of the dairy cows have been slaughtered in the last year and a half. This statement is borne out by the receipts of butter and cheese. For instance, in October, 1917, 1,952,400 pounds of butter were received at San Francisco and in October, 1918, only 1,374,400 pounds. Of cheese, 1,035,300 pounds in October, 1917, and only 776,500 pounds in October, 1918.

GOOD DEMAND FOR YEARS.

There is a real shortage, all right, and it is certain that the demand will continue good for a long time. Recently butterfat has gone up to nearly 70c here in this State; hogs have brought as high as $18.75, and steers as high as $13.10. Prices may be lowered, but the margin between farm costs and market prices should even then guarantee the farmer a substantial profit.

The price of farming machinery will go down soon. Labor will not be so scarce or so high priced, as the demobilization of the army will turn hundreds of thousands of men back to the farm. Barley will remain low, and the prospects are good for a wet winter, with plenty of good feed.

Certainly the future looks bright for the livestock industry, and the only danger is that our herds will be depleted in an effort to supply Europe with meat and breeding stock, unless special effort is made to increase breeding operations in this country.

EXPAND CAUTIOUSLY.

But this does not mean that it is a good time to plunge into livestock breeding recklessly. "De befo-dewah days hain't never comin' back," and there never again will be a time when scrub stock can be made to pay. In the ten years between 1900 and 1910, according to U. S. census figures, American farm lands doubled in value—an increase greater than during the entire fifty years preceding. With land growing costlier every year it must bring a greater return per acre if it is to yield the farmer the right kind of profits on its higher valuation and the increased operating costs.

This is a time for conservative expansion only, and just as much attention should be paid to breeding up herds and culling out the boarders as to increasing the numbers. "More and better livestock"

THE GREATEST AUCTION SALE
Ever Held West of Chicago
Tagus Ranch, Tulare, Cal.
December 10, 11, 12, 13, 1918

90 REGISTERED HOLSTEIN COWS, HEIFERS, AND BULLS
200 REGISTERED DUROC-JERSEY SOWS, GILTS, AND BOARS
200 GRADE ANGUS BREEDING COWS
100 GRADE SHORTHORN BREEDING COWS
15 REGISTERED ABERDEEN-ANGUS BULLS
3 SHORTHORN BULLS
100 HIGH-GRADE BROOD MARES, WORK HORSES, AND MULES
14 REGISTERED PERCHERON MARES
13 REGISTERED PERCHERON STALLIONS
3 REGISTERED BELGIAN MARES
3 REGISTERED BELGIAN STALLIONS
5 15-35 H. P. SANDUSKY TRACTORS
2 BULL TRACTORS
$50,000 WORTH OF TOOLS AND IMPLEMENTS FOR EVERY KIND OF CROP.

There will be hundreds of opportunities for first-class investment by breaders and livestock farmers in the splendid animals that will positively go to the highest bidder, without reserve or limit, in this sale. There are scores of outstanding individuals, both as to breeding and individuality, and the blood lines are among the soundest, most popular of the respective breeds. Merciless culling has been the rule at Tagus Ranch for years, and the present breeding herds represent literally the selections from thousands of animals. Everything must go, as the entire ranch will be leased.

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in tracts of 20 acres and up, on liberal and attractive terms, to
SUCCESSFUL AND RESPONSIBLE PARTIES
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TAGUS RANCH
The richest, most productive, best watered and equipped
6000-ACRE RANCH
in California. Located in Tulare county, five miles north of the city of Tulare, on the main cement State highway. Apply to
PACIFIC STATES CORPORATION
(Owners)
At office on ranch, or write
P. O. Box D, Tulare, Cal.

The tremendous amount of high-class equipment on the ranch is also rich in opportunity for buyers. Only the most modern, highest quality implements and tools have ever been considered at Tagus Ranch, and all of the hundreds of articles to be sold are of comparatively recent purchase, in first-class condition, and in many instances still in the original cases and crates in which they were received from the manufacturer or dealer. Not a few of the items to be sold are entirely out of stock with jobbers and dealers at present and cannot be bought new at any price.

Watch later issues of this paper for more detailed announcements of this mammoth event—and prepare to profit by it.

CATALOGS IN PREPARATION. WRITE FOR ONE.

Owners:
PACIFIC STATES CORPORATION

Auctioneers—
COL. BEN A. RHOADES
HAROLD B. RHOADES

Tagus Ranch, Box D, Tulare, Cal.

Sales Manager—
C. L. HUGHES,
SACRAMENTO, CAL.

should be the slogan, with the emphasis on the "better." Meat is badly needed, and market prices never before were so near the prices for purebred stock, so we can well afford to sell all unprofitable animals and reduce our herd to a paying basis.

Then we should begin the program of rebuilding our herds upon the foundation of profitable animal husbandry. We should have better breeds to make bigger profits. For instance, a well-bred beef animal attains larger size on less feed, and puts on more quality meat in a shorter period than a low-grade steer. In other words, it costs no more to raise a 1200-pound well-bred steer than a 500-pound scrub, and the profits are vastly larger.

The same applies to hogs and sheep. When there is too much daylight under a hog it costs you extra money to feed him and you get nothing for it. High-grade sheep produce finer cuts than can be secured from scrubs; they are worth more and bring more. With dairy cattle, two animals may consume exactly the same amount of feed, yet one may produce twice as much as the other. It's all a matter of breeding.

So sell off the stock that doesn't pay, keep the rest, and add to your herd if you have the feed and means. The biggest profit-making proposition that looms up on the agricultural horizon at present is the raising of high-class stock. Go into it as heavily as your means will permit, with full confidence as to the future.

ARE YOU FINDING CHURNING DIFFICULT?

"Oh, dear, oh, dear! What is the matter with my cow?" writes a discouraged subscriber. "For months I have been making the finest butter you ever ate, but now I can hardly make any at all from her cream, and when I do succeed the butter gets strong in a day."

This poor woman is not alone in her dilemma. A dozen of subscribers are writing us similar letters, perhaps not all in such endearing terms but all having the same trouble with churning. Cheer up! There is nothing wrong with dear bossy. As soon as cold weather arrives and a change is made from green pastures to dry feed these troubles occur. They are usually experienced when only one or two cows are used, and these are quite far along in their lactation periods.

The slowness of churning results from a combination of the hard fat and the large amount of curd found in the milk of stripper cows. The trouble has no connection, contrary to what is often thought, with failure to supply salt, nor is it the result of using any particular feed or combination of feeds. Sometimes the trouble comes from too thin cream or attempting to churn at a too low temperature.

The first thing is to make sure the temperature is right and the only safe way is to use a thermometer. During the winter season 65 to 70 degrees is generally about right for churning such cream and no advantage results from having it warmer. However, having the temperature and thickness of the cream right will not always remedy the trouble. In some bad cases there is no practical remedy, especially when the milk comes from one cow. A cow producing milk giving this trouble had best be dried up as soon as she has been in milk ten months or more. Adding cream from a fresh cow will generally cause the cream from both to churn if the temperature is right and the cream not too thin.

TULARE SALE PROMISES BIG.

The first sale of registered Holsteins to be held at Tulare, Wednesday and Thursday, November 20 and 21, will be remarkable in more respects than one. The new sales pavilion will be dedicated, and there will be an offering of 125 Holsteins representing more high record reference sires than have ever before appeared in a sale in the West. The females will represent some of the very best blood lines of the breed, and they are bred to bulls with records of from 30 pounds to 40 pounds back of them. Thus purchasers will be afforded an unusual opportunity to buy well-bred cows, safe in calf to the greatest bulls ever represented in a sale on the Coast.

Every animal will be guaranteed to be a breeder, and all over six months of age will be tuberculin tested and sold subject to re-testing by the buyer. Assignments have been made by many of the leading breeders of the State. Plan to be on hand. You will find what you want.

TREATMENT FOR RINGBONE.

To the Editor: I have a mare that has developed lameness in one front foot just above the hoof. It seems puffed and spongy, and is sore to the touch. Can anything be done to relieve it?—S. T., Puyallup.

[Answered by Dr. E. J. Creely, San Francisco.]

It is quite difficult to effect an entire cure, and blisters alone are not generally sufficient. The best treatment consists in the application of cold water packs for one week. Then clip the hair and burn with a hot pointed iron. Immediately afterwards apply a Spanish fly blister made of 2 drams cantarides (Russian), 1 dram euphorbia, 1½ ounces benzonated lard. One month later apply a Mercury blister made of 2 drams bin iodide of mercury, 1½ ounces simple cerate. Remove all shoes during treatment and keep the animal at complete rest. It may be advisable for you to have a veterinarian do the firing and perhaps the blistering also.

NOT THE WAY WE ANSWER.

Recently one of our subscribers kindly requested us to cover ailments of animals at greater length in these columns. We shall be glad to comply with this request, but we hope that our answers will never be as complicated as the following, which is the reply that a subscriber to another magazine received:

"We are at a loss to account for this peculiar complexus of symptoms, a condition evidently chronic as revealed by the history of the last three years, with yaws and suppurating otitis as predecessors, yet with acute exacerbations, a condition not clearly explained on the basis of an organic lesion of any one organ, yet showing cardiac enlargement, albuminuria and cylindruria, general adenopathy, icterus, with a secondary anemia not remarkable for the great reduction in red corpuscles or hemoglobin, but strikingly atypical in the large number of nucleated red corpuscles of the normoblastic type and in the tendency of the erythrocytes to assume a slender, sickle-like shape."

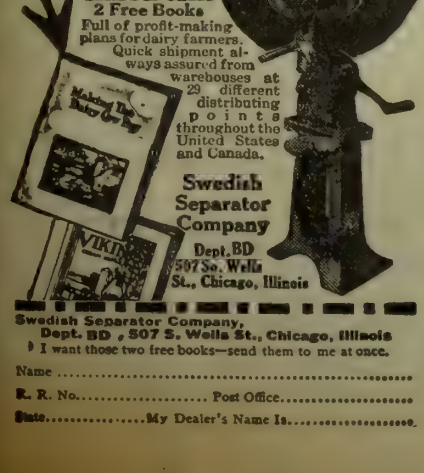
QUIT
Wasting Cream Profits

NINE out of ten dairy farmers are **actually throwing away $20.00 per cow per year!** They are doing it by using wasteful, inferior cream separators—or, even worse, by clinging to the old-fashioned gravity, shallow-pan method of separation. Stop this cream waste at once on your farm.

Get ALL the Cream—Use a

VIKING CREAM SEPARATOR

Over One Million In Use! Each Viking Guaranteed For a Lifetime! Greater in capacity than any other separator of equal rating. Easiest operated and easiest cleansed separator on earth. Lower in price than other standard separators—because it is made in the World's Largest Separator Factory. See the Viking at your dealer's.



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Be At TULARE
November 20-21, 1918

And be there early the morning of the 20th, for it is a two-day sale and the good ones start under the hammer right from the jump.

125 Registered Holstein Cows, Heifers and Bulls

will go to the highest bidders in this sale, absolutely without reserve or limit, and there has never been a better balanced offering of high-class registered Holsteins made in the State.

10 Consignors Contribute to This Sale

and there are first-class attractions in every consignment, practically all choice young cattle, bred in the greatest producing lines of the Holstein breed and sold under conditions most favorable to the buyer.

The Highest Record Group of Reference Sires

ever listed in a western sale are represented in this sale, among them some of the most famous California herd sires, two 40-pound bulls, one 36-pound bull, three 35-pound bulls, one 32-pound bull, two 30-pound bulls, and many of them out of dams with records from 1000 to over 1300 pounds butter in one year.

Outstanding Females Both as to Breeding and Records

are in the sale, bred to the great reference sires just mentioned, including the highest record junior two-year-old ever sold in the west, daughters of cows with records up to over 31 pounds butter in seven days, young cows with records up to over 26 pounds butter in seven days, and a wealth of good breeding.

Bulls to Suit Any Breeding or Dairy Requirement

are in this sale, out of dams with records up to over 30 pounds butter in seven days, dams with over 29,000 pounds of milk and over 1000 pounds butter in one year, and representing the best producing families of today.

Sold Under the Most Stringent Regulations

which positively guarantee every animal to be a breeder, either sex or any age; every animal over six months of age tuberculin tested and sold subject to retest by the buyer.

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We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it.

BREEDING DATE BOOK — HERE —

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Mature Stock and Weanlings of both sexes. Sure to please.
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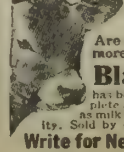

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Are you getting them? Calf profits mean more to you now than ever before.
Blatchford's Calf Meal
has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits
COULSON CO. - - - Petaluma, Cal.

Feeding Second Growth Sorghums Risky

[Written for Pacific Rural Press.]

Are you having any trouble from feeding sorghums? At this season of the year numerous cases of poisoning of livestock from Johnson grass, and some cases from various members of the sorghum family, are reported — generally among cattle and sheep.

An investigation of these cases shows that there are no losses from feeding grain heads, or sorghums fed as silage, dry fodder or stover. The trouble occurs when the sorghums are eaten green, when stunted, or in the stage known as "second growth." The plants are often stunted by frost or drouth, and afterwards begin to grow again.

In such cases a glucoside is formed in the new shoots, which sets free prussic acid through the action of a ferment. This prussic acid, also known as hydrocyanic acid, is a deadly poison and usually kills very quickly. The worst feature is that there is no method aside from a chemical analysis by which the presence of the poison may be detected. Furthermore, a chemical analysis would not be sufficient, for different plants do not always contain the same proportion of prussic acid. One plant might show a negative test and the very next one, looking almost exactly like it, might contain a large amount of the acid.

SYMPTOMS OF POISONING.

The acid is so strong and its action so rapid that a small quantity will cause severe symptoms in a few seconds. The animal generally staggers or falls, the eyes are motionless, the heart action is slowed and the breathing is slow and convulsive. It is recorded that a cow has died in ten minutes after taking a few mouthfuls of poisoned sorghum. If the animal lives a half hour, no more serious consequences are apt to follow and recovery is probable.

In non-fatal cases the symptoms vary from slight staggering and stopping of chewing the cud to severe convulsions. In cattle or sheep bloating sometimes occurs as a secondary effect. Recovery is generally rapid, and most animals that get well appear normal the following day, but in some cases cattle show weaknesses and a staggering gait for several days.

TREATMENT FOR POISONING.

It is claimed that large doses of ordinary molasses diluted with water will prevent the formation of prussic acid in the animal's stomach if given in the early stages of poisoning, before the animal goes down.

Cattle or sheep which are down in the hot sun should be protected by an improvised shade. If the ground is sloping, the head should be turned up hill, care being taken not to interfere in any way with respiration. When bloating occurs, it should be relieved by puncturing the paunch with a trocar and canula, or a sharp knife, thrust through the left side at a point a hand's breadth in front of the hip bone.

Dr. C. M. Having of the University of California recommends an ever-ready antidote to be prepared as follows:

Bottle No. 1—Select a strong bottle of at least a quart capacity, having a long neck suitable for use in drenching cattle. Place in this bottle one pint of water and one ounce of sodium carbonate (ordinary washing soda will do). Keep tightly corked.

Bottle No. 2—This should contain one-half ounce of iron sulphate (copperas) dissolved in a pint of water. Keep tightly corked.

When needed, pour the contents of Bottle No. 2 into Bottle No. 1, shake and administer immediately. A cow should receive the entire quart of mixture. For a sheep one-half pint of the mixture would be sufficient. Several bottles of the antidote may well be kept on hand in case there are a number of animals liable to poisoning.

Attempts to administer the drenches should be cautious to avoid choking, as the animal may be unable to swallow. The antidote may be given to cattle and sheep through a canula inserted into the paunch through the left side in the manner used for relieving bloat.

PRECAUTIONS.

Don't turn a valuable herd in to feed on sorghums of any sort. Try one or two less valuable animals, and note the effect. If they are not poisoned, it is then safe to turn in the balance of the herd.

When a crop is suspected of being in a dangerous stage, all risk can be eliminated by cutting and air-drying it before feeding it to the stock, or by making it into silage. Even if you know that it contains poison, do not destroy it, for it can always be rendered harmless by being made into hay or silage, and may then be fed with perfect safety.

ALL SHOWS POSTPONED.

As we announced in a footnote in last weeks' issue, the California International Livestock Show has again been postponed—this time until February 9 to 16. The change was made at the request of the Board of Health, and it was decided to put the new dates far enough ahead so that all chance of further interference by the epidemic would be avoided.

This will make the San Francisco show follow the International at Chicago and the Royal at Kansas City. Manager Jos. E. Painter will visit these shows and expects to induce many of the exhibitors to bring their herds out here.

The Shorthorn and Hereford sales will be postponed to correspond, and will be held during the show week.

No definite information has been received from Los Angeles except that the Liberty Fair will surely be held as soon as conditions permit. A large number of beef cattle breeders are still holding their herds there, expecting an early opening. We hope to be able to make a definite announcement next week.

The Pacific International Livestock Show at Portland will be held December 9 to 14. The Shorthorn sale will occur December 12; that of Holsteins December 13, and that of Herefords December 14.

TOMORROW.

"Tomorrow I will go into purebreds."
And he gazed with dreamy eyes
Toward the misty clouds that were
tinged with pink
From the glow of western skies.
"And I'll show the big, indifferent
world
How a good herd wins its way!"
But the prize he sought was won by
the man
Who started his herd today.

DUROC-JERSEY SALE

The Uneeda Duroc-Jerseys. The greatest herd on the Pacific Coast must be sold at once

I have been placed in Class A1 in the draft and my father, on account of ill health and old age, is unable to look after the herd.

This year we produced more champions and prize winners bred by exhibitor than any other breeder on the Coast showing at California and Oregon State Fairs.

UNEEDA QUEEN MODEL,
Grand Champion, State Fair, 1918.

Won at Sacramento

Grand Champion Sow
Senior Champion Sow
Junior Champion Boar
Seven Firsts, Including
First young herd and first produce of dam
23 other Prizes

Every animal must be sold. The herd includes:
A great bunch of sows, many with litters by their side.

Young gilts and boars by the greatest sires of the breed, living or dead.

Three great herd boars that you could not duplicate in the East at the present time at less than $1,500 to $3,000 each.

The **greatest opportunity** breeders on the Coast **have ever had** to secure the best Duroc-Jersey blood at a great sacrifice in price.

Write for full particulars
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Sweetwater Durocs

Great Model
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Durocs sired by these Two Great Boars, or out of Sows sired by them, won 60 per cent of the First and Second Prizes at the 1918 Southern California Fair at Riverside.

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Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.
Best families.
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We have sold all our young boars and are now booking orders for March delivery. Highlander, the $1,000 Grand Champion Boar, heads our herd of

CHESTER WHITES

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Livestock Queries

Close Breeding of Hogs.

To the Editor: Is it a good idea to breed a boar to sows out of the same litter? Also, will it be all right to breed him to his own mother? I have been told that it is well to do this if the stock is good. —F. H., Kenwood.

[Answered by Livestock Editor.]

To breed a boar to his full sisters is inbreeding and is not considered advisable. To breed him to his own mother is commonly called line-breeding, and is a practice that has produced some of the greatest hogs in the world. Greater progress can be made by this method of line-breeding than in any other way, but it must be practiced with great caution. You must be sure that the male and female do not have the same undesirable points, for if so they will be intensified in the offspring and you will be breeding backwards. Of course, every animal has certain weaknesses, but if they are not found in both sire and dam they are liable to be eliminated in the offspring. If a boar has been used on his mother the offspring should be bred to a boar representing an out-cross, as close line-breeding should not be carried on for more than one generation.

Difficult to Cure Heaves.

To the Editor: Can I cure a horse that has the heaves?—J. M. L., Red Bluff.

[Answered by Livestock Editor.]

When heaves are of long standing the disease is difficult to cure. Feeding small amounts of hay and larger amounts of concentrates will give relief. It is very important to see that the hay is free from dust. The horse should be kept in a stall where it cannot eat the bedding, and should be fed at least two hours before working. It should not be allowed to drink very much water before exercising. A bran mash two or three times a week containing one teaspoonful each of salt and baking soda will prove beneficial. Fowler's solution of arsenic may be given in tablespoonful doses twice daily in feed or water.

Pigs Have Stiff and Swollen Joints.

To the Editor: I have several pigs that get stiff in their legs and have swollen, tender joints. The lameness appears in one leg, then in another. What can I do?—R. W., Reedley.

[Answered by Livestock Editor.]

This is a form of rheumatism and the best treatment is to give salicylate of soda and baking soda mixed in equal parts. For pigs three or four months old, give each a half teaspoonful in the slop once a day for a week or two.

Don't Let Pigs Lose Tails.

Grease those pigs' tails if they become cracked, for even a farmer doesn't like to have a bob-tailed hog. He is always the hardest one to sell.

There is nothing that causes the loss more frequently than damp bedding or muddy quarters. Keep things dry and clean, and the minute you notice a tail crack and get sore, grease it with plain lard. This is an old one, but there seem to be lots of breeders who don't know it.

ANGUS CATTLE HEALTHY AND PROLIFIC AT TAGUS.

When Tagus Ranch, Tulare, Cal., brought out two trainloads of grade Angus cows and registered Aberdeen-Angus bulls some years ago, they made a noteworthy addition to California's beef cattle resources, and these cattle are proving most useful and satisfactory. During the past year the entire range herd of Angus had a calving record of 85 per cent and not a single one of them died from any disease. The breeding herd has been carefully culled, and now that all of the livestock and equipment on the big 6000-acre ranch is to be sold at auction on December 10-11-12-13, the pick of the Angus herd, 200 cows and 15 bulls, will be one of the many star features.

ROSELAWN STOCK FARM

SHORTHORNS

Headed by Ringleader, by Ringmaster, three times Grand Champion at Chicago International.

Crescent Dale, by Whitehall Rosedale.

Roselawn Champion, by Eastlawn Champion.

Roselawn Champion, the Junior and Reserve Grand Champion, and his dam,

Mischief E. 3rd, Senior and Grand Champion at the California State Fair in 1918.

We have for sale a choice lot of young bulls, reds and roans, five ready for service now and eight more will be ready by spring. We can also spare a few females.

A VISIT WILL INTEREST YOU.

Roselawn Stock Farm Woodland, Cal.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding. Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

SHORTHORN BULLS AND COWS

TOP NOTCH REGISTERED SCOTCH COWS AND HEIFERS

also one hundred head of unregistered Heifers.

FINE LOT OF REGISTERED BULLS

One to Three Years Old

85 Unregistered Purebred Weanling Bulls

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PAICINES, CALIFORNIA

Telephone to Paicines Ranch via Hollister.
Take train to Tres Pinos, where motor will meet you.
Train leaves S. F. 6:10 a. m., arrives Tres Pinos 10:30 a. m.

SAN FRANCISCO OFFICE:
607 Butler Building
Telephone Garfield 391

CALCO HOG TROUGHS

Your profit in hogs comes out of what you save in hog raising. Disease, filth, and dirt eat up profit—wasted feed is lost profit.

Calco Hog Troughs, with smooth metal sides and round bottoms, are made from rust-resisting Armco iron and cast iron. They are absolutely sanitary and cost less than wood or concrete troughs.

Serviceable sizes in Calco Troughs include:—

SIZE	DEPTH	LENGTH	PRICE
$10\frac{1}{4}$ inch	$5\frac{5}{16}$ inch	40 inch	$3.70
$10\frac{1}{4}$ inch	$5\frac{5}{16}$ inch	60 inch	4.50
14 inch	$7\frac{3}{16}$ inch	24 inch	4.55
14 inch	$7\frac{3}{16}$ inch	60 inch	6.55

Order by mail—with check or money order. Other sizes from 24 to 120 inches in length, from $2.95 up,

California Corrugated Culvert Company

417 Leroy street, Los Angeles. 406 Parker street, Berkeley.

Record Holstein

This four-year-old is first of all HEALTHY. Her record shows it. Her yearly production record is 30,230.2 lbs. milk and 1,111.56 lbs. butterfat. Surprising results are possible if a dairy cow's condition is kept perfect.

Go After Records YOURSELF

Production records of dairy cows are not just to read about—they are distinctly worth trying for, this year more than ever.

The fact is, the health condition of most dairy cows is decidedly lowered, especially during the winter and spring months. They need some medicinal aid to keep their digestive and genital organs in proper working condition, and to enable them to throw off disease.

KOW-KURE, besides being invaluable in the treatment of Abortion, Retained Afterbirth, Scours, Barrenness, Bunches, etc., is also a great PREVENTIVE of disease—a conditioner that works on scientific principles. It strikes at the seat of ailments peculiar to cows. By raising the health standard, it directly aids nature in increasing the milk flow.

Use KOW-KURE this winter to keep your cows healthy and then compare your milk records with other seasons. KOW-KURE can be bought of feed dealers and druggists; 60c. and $1.20 packages.

Send for our Free Book "The Home Cow Doctor" —very useful to dairymen

DAIRY ASSOCIATION CO.
Lyndonville, Vt.

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. **704 Townsend St.,** **San Francisco**

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

J. E. Wherrell, Fuimus Farm, Riverside, reports that Beauty of Walnut Park, a six-year-old Jersey, recently made a yearly record of 756.63 pounds of butter from 12,966.5 pounds milk.

F. A. Heroux of Oakland has sold to C. L. Morse of Modesto the bull, Dutchland Aaggie's Lucky Guess. This bull was shown at several fairs last year and won three blues, including first, at the State Fair.

The Kerman Creamery, Fresno county, recently sent out notices to its patrons that it would suspend operations on the 1st of November because of the small supply of cream that it has been able to obtain lately.

Lint Sanders, a dairyman of Imperial, has four Jerseys that within the past year have presented him with nine calves. One had triplets and the other three twins. Sanders claims the most patriotic herd in the State.

Five women cow testers have recently been appointed. One is in Iowa and the other four are in Wisconsin, where the first cow tester in the United States is now starting her second year of work. The women seem to be giving excellent satisfaction.

Apple Blossom of Indian Creek, an eight-year-old Guernsey owned by H. P. Hamilton, Two Rivers, Wis., recently completed a record of 702.57 pounds of butterfat from 14,107.8 pounds of milk in 275 days. This makes her champion cow in class AA.

W. J. Higdon of Tulare has a two-year-old Holstein, Madigal Mooike, that is coming along well under official test and in spite of the fact that she had a setback at the Fresno Fair she is expected to make 700 pounds of butter, 20,000 pounds of milk during her year.

Thomas Harrison of Glen Ellen purchased the Milking Shorthorn cow, Yellow Star, at the sale recently held by Otis Farms, Willoughby, Ohio, paying $500 for her. At this sale 31 head sold for an average of $978, the top animals bringing $5,000, which is the record price for Milking Shorthorn cows.

Milking Shorthorns are making good records back East. A report on the work of 28 cows shows that one averaged over 60 pounds per day; three 50 pounds or more; eleven 40 pounds or more; and twenty-three 30 pounds or more. Five averaged under 30 pounds, but only one of the five fell below 4 per cent in butterfat, and one reached 5.05 per cent. The highest butterfat percentage in the list was 6.72. It appears that all the Shorthorn cows needed was a little individual attention to the milking qualities, and we expect to hear much more in the future about Shorthorn milk records.

Beef Cattle.

In a series of auction sales held in the Middle West 1282 Shorthorns sold for $1,000 or more each, the average for all being a trifle over $1,500.

Recently a carload of Hereford steers sold at Chicago for $19.70, the highest price ever paid for a load of beef cattle at any market. The steers averaged 1442 pounds.

W. D. Duke, owner of the Alamo herd of registered Herefords at Likely, reports that the demand for registered Hereford bulls of breeding age has been very heavy and that he is entirely sold out.

E. E. Jones of the United States Forest Service warns cattlemen of the danger of breeding for color in Shorthorn stock cattle herds. He says that this is most injurious to the breeding game and that market qualities should be given chief consideration.

J. A. Bunting of Mission Hereford Farm, Mission San Jose, has just completed a 16x140 shelter for his cattle. At one end he has two bull pens, so that the animals can go in and out of the shed to suit themselves. Mr. Bunting plans on building a new silo next summer.

Cattlemen in Tulare county are reporting the feed situation serious on the ranges, with a prospect that herds may later be moved to portions of the State where grass is plentiful and ranges available. The rainfall of last week was very light in this part of the State and close feeding will be necessary even if more rain comes within a week or two.

Swine and Swinemen.

At a sale of Poland-Chinas recently held by A. D. Severe, Dows, Ia., the yearling boar, Chancellor, sold for $5,500. He was sired by Severe's Big Timm.

Chas. Gatewood & Son of Fresno report they have purchased a son of Caldwell's Big Bob to assist King's Big Bone Leader at the head of their herd of Poland-Chinas.

Falfadale Farm, Perris, has at the head of its Duroc herd the boar, Alexandro, son of Orion Cherry King. He weighs 980 pounds and is one of the smoothest, best bodied boars in the State.

At the recent Topeka State Fair E. J. Erhart & Sons of Ness City, Kan., showed the Poland-China boar, Big Sensation, weighing 1204 pounds at three years. If he had been developed in California probably he would have weighed 1500 pounds.

P. E. Mitchell, the Poland-China breeder of Atwater, is selling hogs like hot cakes, recent sales including three gilts to Martin Veraguth, Atwater; a young boar to Theo. Wackerman, San Luis Rey; a young boar to Mr. Schwin, Le Grand; a service boar to J. S. Rogers, Chow-

Grand Champion BERKSHIRES

AMES RIVAL 70TH

We have in our herd the Grand Champion Boar, Grand Champion Sow and First Prize Senior Herd at State Fair.

Forty-three litters this year averaged ten to the litter. Let us supply you with foundation sows and boars to head your herd.

JAMES MILLS CO.
Hamilton City : : California

HAUSER'S DIGESTER TANKAGE

Gives Greatest VALUE for LEAST MONEY. **IT MAKES THEM FAT.**

HAUSER PACKING CO. LOS ANGELES

chilla; a service boar to John Yager, Merced; and a weaned boar pig to Mrs. A. M. Flint, Hermitos.

One of the leading Duroc breeders in the State, who has been touring the East in search of good stock, recently visited Donald Graham at Lancaster and said that with but one exception Mr. Graham's Orion's King Gano was the best fall boar he had seen. The boar was farrowed October 5, 1917, and on October 30 of this year weighed 500 pounds in breeding condition. Mr. Graham will breed the best of his sows to this boar and says that next year he will bring him out as the best hog of the year.

Sheep.

Over two hundred members of the Sheep Shearers' Union are "over there." We hope that they were among those who sheared the kaiser's goat.

E. C. Spear, the Rambouillet breeder of St. Helena, sheared three yearling rams last month. The first one sheared 18 pounds, the second one sheared 18 pounds, the third one sheared 20 pounds, and afterwards weighed 143 pounds. She is out of an ewe that sheared 24 pounds and raised a pair of twin lambs the same year. These are not record breakers, but, considering that the ewes ran with the band until three weeks before they were sheared and received no grain, it proves that well-bred stock is the most profitable in the end, even if it does cost more at the start.

MORRIS & SON HOLD SUCCESSFUL SALE.

The auction sale of registered Holsteins held by A. W. Morris & Sons Corporation at their farm near Woodland on Tuesday of this week was well attended. The popularity of the Morris breeding is shown by the averages received. Eighty-six head of females, many of which were aged cows, some with missing quarters and none tuberculin tested, brought an average of $286.50 each. Twelve bulls brought an average of $219. Most of the females were bred to the great Morris herd sires, King Morco Alcartra, Sir Aaggie De Kol Acme, King Mead of Riverside, Prince Gelsche Walker and Segis Pontiac De Kol Burke. The bulls sold were by the same sires. Bidding was brisk and there was manifested a good demand for both bulls and females.

W. L. Hodges of El Centro was the largest buyer, securing 18 head; Leeman & Kilger of Sacramento bought 15 head; J. S. Dato of Petaluma bought 12 head. Other large buyers were Dr. E. J. Weldon of Sacramento, J. McKinley of Acampo and Harvey De Wolf of Ripon.

The sale was held under the auspices of the California Breeders Sales and Pedigree Company. Col. Ben Rhoades of Los Angeles and Col. Cy Clark of Modesto were the auctioneers.

LIBERTY FAIR WILL OPEN NOVEMBER 21.

The announcement is made that the Los Angeles Liberty Fair and Stock Show will open November 21 and continue to December 1 by permission of the health office. As a good part of the show and stock exhibits have been on the grounds for some time, there should be little difficulty in getting the rest of the stock from over the State in place by the opening time next Thursday. Now that the war is over and the influenza rapidly becoming only a memory, it is time to celebrate. Take a week off and visit the Los Angeles Liberty Fair, also the various beautiful sections in the "sunny southland." You will be well repaid.

LIVESTOCK DIRECTORY.

Rate in this directory 3c. per word each issue.

SWINE.

Poland-Chinas.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

ELDERSLY FARM—Big type Poland-Chinas with quality. Young stock from the breed's best big type sires for sale at reasonable prices. J. H. Ware, Live Oak, Cal.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength and quality, everything that goes to make the **Profit Producing Hog.** Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

BIG, SMOOTH POLAND-CHINAS — with plenty stretch and bone. Stock for sale—the kind that will make money for you. A son of Gerstdale Jones, the $6600 boar, just arrived. A. Buckland & Son, Fresno, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

GATEWOOD'S BIG POLANDS—The offering for our February bred sow sale is comprised almost entirely of sows and gilts by eastern-bred sires and bred to King Big Bone Leader, the California champion. Chas. Gatewood & Son, Route G, Fresno.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

A FEW EXTRA GOOD POLAND-CHINA boars, ready for service. Prices reasonable. Write for description and breeding. E. Miner, Lodi, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood, B. M. Hargis, Tulare.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
906 K St., Sacramento.
In charge of Natomas Land sales.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Paso Robles, California.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Chester Whites.

"BILLIKEN"—CHESTER WHITES — Time to breed for 1919 spring farrows. Do you need a boar that will produce those fine growthy pigs? Have only 10 yearling boars left. For December delivery have a nice lot of yearling gilts that are bred for March farrow. Weaned pigs, both sexes. C. B. Cunningham, Mills, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

OPEN GILTS and young boars from Taxpayer 13th, Burks Good Enough, Kings Col. strains; one dandy boar sired by Kings Col. de Lux, out of Miss Good Enough II, by Burks Good Enough. Shipped on approval. F. W. Gardiner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

BIG TYPE—Our Duroc weanling pigs are all sold. We are now booking orders for our fall litters. River Bend Farm, St. Helena, Cal.

START RIGHT—Registered Duroc-Jersey weanlings. Three for $35; satisfaction guaranteed. Red Rock Ranch, Glen Ellen, Cal.

REGISTERED DUROCS—One choice September boar. Weanlings October delivery. H. E. Boudier, Napa.

DUROCS—Defender, Clinton B, and Golden Model strain; the big type. Allen Thompson, Tulare.

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

NO MORE BOARS sired by my 1917 State Champion, but can furnish a few sows. J. M. DeVilbiss, Patterson, Cal.

DUROC-JERSEYS—Only a few sows and boars left. Am booking orders for September pigs. F. M. Barney, Hanford, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

ANDREW'S QUALITY DUROCS—Young boars, open and bred gilts, weanlings, priced to sell. W. P. Andrews, Rt. A, Modesto, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

YOUNG SONS of Prince Gelsche Walker 11th and out of A. R. O. dams, for sale. Write me for prices. J. M. Campbell, Escalon, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEINS — Bull calves. Joseph Paxton, breeder, Athlone, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal.

Jerseys.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

FOR SALE—Young registered Jersey bull. Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City.

FOR SALE OR EXCHANGE—Guernsey bull, "Pilot of Menlo Park" 51688, fourteen months of age. Address, Box X, Menlo Park, Cal.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, R. D. Berkeley.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORThorns—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

AM A SPECIALIST in registered beef cattle and familiar with the best herds in the country. If you need Shorthorns or Herefords, make use of my experience, save money and be satisfied. R. M. Dunlap, Hotel Land, Sacramento.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

GEORGE CALLAHAN, Breeder of registered Herefords, Milton, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

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SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

WANTED—500 to 1500 head of sheep on shares on good coast range, with an abundance of feed. Address, Sheepman, care Rural Press.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

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MAMMOTH JACKS AND JENNETS for sale; good ones; seeing is believing. Write or come and see. A. L. Allen, Perris, Cal.

FOR SALE—Fine team bay mares; splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal

MISCELLANEOUS.

FOR SALE AT THEIR MARKET VALUE—125 two-year-old heifers, about one-fourth Durhams, the rest Herefords. 140 yearling heifers, will run 90% white faces, and 275 weaned calves will run 95% white faces. All these cattle are high bred from Durham and Hereford cows and sired by purebred Hereford bulls. J. C. Farrar, Bishop, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

WANTED—To buy, twenty brood sows already bred. State age, breed and price. H. Chaplin, Suisun, Cal.

FOR SALE—A few Hampshire rams, 1 registered Duroc boar, 1 6-year-old jack—large breeder. H. M. Barngrover, Santa Clara, Cal

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

FEEDING THE THANKSGIVING TURKEY.

The wise turkey raiser has selected all the birds he intends to put on the market for Thanksgiving, and is already feeding to give that finish to both quality and quantity that is desirable for both producer and consumer. The consumer gets little satisfaction from an underfed turk, no matter what it weighs; in other words, the quantity is not desirable unless quality goes with it.

FEEDING.

Corn cooked and allowed to get cold before serving is one of the best all-around finishing feeds for turks; next comes a mash of boiled potatoes mashed up and mixed with ground oats and cornmeal. This, too, should be left to cool. No hot feed of any kind should be served to poultry of any kind. If a handful of salt is added to the water before cooking, it makes for palatable food. Whole corn takes a long time to digest, and if it is to be served it should be given at night, when there is time for the turk to get the good out of it. By feeding cooked corn or mashes in the early hours of the day it is possible to get them to eat much more—consequently make more good meat, in a given time, than can be done by feeding all raw food, no matter what it is.

NEW LAW GOVERNING TURKEY SALES.

The new law is that all poultry must be sold with empty craws, and the Los Angeles buyers are sending out statements that turkey hens under six pounds are not wanted and young gobblers under thirteen pounds are better kept for a later market. It has taken the buyer a long time to realize that these changes were necessary, but now that they are laying down rules it will pay the turkey raiser to not only take notice but to conform to them as near as possible. They are good rules, not only to protect themselves, but they are a sort of guarantee to the purchaser that he is getting a square deal; and they are good for the producer because they will encourage the feeding and proper care that should be given turkeys intended for market. Too many think that, provided they can grow a lot of bone and muscle, it can be unloaded on the market and bring top price. In New York chickens have been killed with more than half a pound of clear gravel in the intestines, crammed into them to make them weigh. No such rascality as that can be good for any business and sooner or later the whole business has to be reorganized in order that such crude methods of robbery can be eliminated.

Turkey crops are worth money these days and it really pays to take the very best care of them. Naturally,

MITES LOWER THE CONSTITUTIONAL VIGOR

and every breeder should have poles put up in the lee of some windbreak for his turkey perches. These should be sprayed and kept free from mites and vermin. The worst case of mites I ever saw was in a pear tree where chickens roosted. The tree was literally alive and had to be sprayed several times to clear it of the pests; yet most people think that birds sleeping in the open are bound to be free from mites, but they are not. Now, as

TURKS PREFER TO SLEEP OUTDOORS

of the birds, they are to a great extent the cause of roup and other troubles in turkeys, so that the sleeping-place should be often inspected and at the least sign of trouble the cure should commence with cleansing the perches and arranging so that the birds are protected from a direct draft on their heads. A sick turkey is so unnatural a thing that the cause should be run down and stopped at once. Medicine may relieve, but nature is the direct cure for turks. Clean, wholesome range, clean perches, good, clean feed—this is the trio of things that makes for both quantity and quality.

HENS SUDDENLY STOP LAYING.

I have 180 White Leghorn hens. From March 1st to September 1st they averaged 90 eggs per day. They then began to moult heavily, and the eggs dropped to about six per day. I have continued their regular feed. The hens have an unlimited range to forage on alfalfa and various other greens. Their quarters are light, clean and airy, with no sign of vermin.—V. M. E., Hollister.

[Your hens need a little tonic to start them off. You should have a copy of "California Poultry Practice," which contains several good flock tonics. However, here is one to start them off. One pound sulphate of iron; one pound red oxide of iron; quarter pound of cayenne pepper, and four ounces of powdered nux vomica. Mix thoroughly and give one tablespoonful in mash, either moist or dry, for one dozen hens, more in proportion to number. Serve every day for one week, then drop to twice a week, and when you think the hens are all going good, drop to once a week, then altogether. This is not a food, just a tonic.]

DOES DO NOT BREED.

To the Editor: I have been trying to breed eight doe rabbits. So far only three have had young, and the rest have had repeated service with no results. The rabbits are fed alfalfa hay, with occasional green stuff. Rock salt and fresh water are kept in their pens and the pens are clean. They are all fat and healthy. What is wrong?—Subscriber, Sutter.

[A little rolled barley or oats would be advisable, cutting out a portion of the hay. The does may not have heat enough to make them breed to best advantage. Grain in some form is necessary for best results. It gives heat, strength and more vitality than an all-around vegetable diet.]

Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

EGGS, MEAT, GOING HIGHER!—Great shortage. Big profit for years sure on really heavy laying strains. Our 200-290 egg Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Orpingtons, ducks, turkeys, are more profitable now than ever, clearing $5 yearly. Some best Government trap-nested hens, 280-283-eggs. Hundreds breeders; laying, younger pullets; thousands chicks weekly; reasonable. **Chicks scarce.** Few open dates winter, spring delivery, last year's prices. J. Beeson, Pasadena, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. R. Vodden, Box 396, Los Gatos, Cal.

BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks, Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

BOURBON RED TURKEYS—Order now and we'll reserve them until January 1st. Mrs. Geo. F. Smith, Hardwick, Cal.

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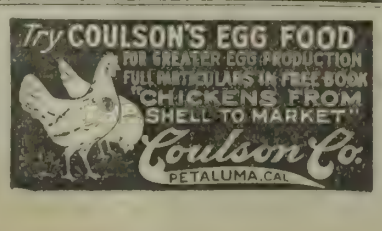

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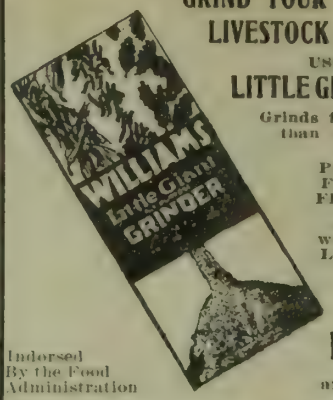

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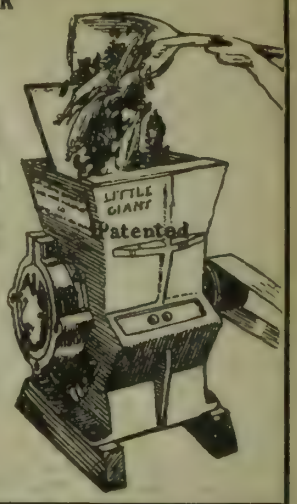

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THE HOME CIRCLE

HOLY WILLIE'S PRAYER.

O Mars, now hear thy servant's prayer—
I've always done my best to square
Mysel' wi' those who've gow'd to spare
A' for thy glory;
For my ain guid I dinna care
I bow before ye.

I praise thee, Mars, by day and night
An' treat thy chosen junkers right,
Those that be smirched I render white
Wi' words o' grace.
As thy high priest I am a light
To a' the race.

Then bless thy junkers in this land;
Tho' they be but a little band,
Thine enemies are like the sand
In numbers;
Let not their threatening, selfish stand
Disturb my slumbers.

Lord Mars, hae I not sarved thee well?
Still in thy service, fain I'd dwell,
To minister, anither spell
To thine elect;
Then let my foes in flames o' hell
Their fau'ts correct.

Tho' millions die o' common swine
Beyond the sacred river Rhine,
Be kind, O Mars, to me and mine
And let me reign.
For I am King by right divine,
Excelled by nane.
—Wi' Ian's apologies to Robert.

THE BOY WHO DIDNT WANT TO.

"Don't want my hands and face washed," whimpered the Boy Who Did Not Want To, holding his hands before his face, spreading his fingers fan-like.

Mother came closer. "Why, that looks just like a little picket fence!" she exclaimed.

"What does?" asked the Little Boy, curiously.

Mother touched the grimy little fingers. "One little, two little, three little, four little, five little, six little, seven little, eight little, nine little, ten little, pickets," she counted. "Why, that's quite a nice little fence. But I think it needs a new coat of paint."

Little Boy held the little fence farther from his face and regarded it thoughtfully. "Maybe it does," he said.

"But first," said mother, "we shall have to clean off the dust.

Little Boy giggled. Mother filled a bowl with splashy water and put in a cake of pinky white soap.

"I'll clean this side first," mother said, holding up the fuzzy washcloth and drawing it between each stiff little picket.

"Why, I don't believe the fence needs to be painted, after all," she said. "I'll just fix up these shiny ornaments at the top a little." So she cleaned his nails.

Little Boy giggled. "Play that again."

Mother studied his face thoughtfully.

"Such a nice clean fence," she said. "I declare it makes the little house look kind of shabby. Don't you suppose we could just clean up the front door a little?"

"What door?" he asked.

Mother tapped his mouth. "I'll have to use a brush like the man had who came to clean our porch," she said, picking up toothbrush and paste. "There! Our front door is clean, at any rate, but it makes the walls and the windows look positively ashamed."

Little Boy laughed. "You may clean the walls and the windows if you like," he cried. So mother washed his rosy cheeks and blue eyes. Still she seemed downcast.

"Those dreadful side porches!" she said.

Little Boy clapped his hands to his ears.

"What will the little words think," continued mother, "when they have to go through such dirty porches?" Down came the hands and in a moment the "porches" shone like pink seashells.

Her eyes traveled to his neck next. "That awful basement!" she cried.

Little Boy wriggled delightedly. "Take a brush to it," he suggested.

She shook her head. "I'll take this cloth."

"Is the dirt coming off?" he asked.

"Indeed it is! Now the house is all right but the slates on the roof. Do you think we could straighten them a little?" Little Boy nodded, and mother combed his curly hair.

"Now!" she exclaimed, "the house is all bright as new, and here comes a snowstorm." With talcum powder she dusted his hands and face, then she and Little Boy went to tea.—London Christian Life.

TAMALE LOAF.

One can corn, 1 can tomatoes, 2 tablespoons shortening (melted), 1 large onion (chopped), 1 tablespoon pepper, 2 eggs (well beaten), 1 cup cornmeal, 1 dozen ripe olives, 1 cup chopped nuts or meat. Season with salt and cayenne to taste. Melt shortening, add onion and cook until tender. Add corn, tomatoes, salt, pepper. Bring to boiling point. Add cornmeal gradually, stirring constantly. Cook about twenty minutes, then add eggs, olives, nuts or meat. Pour into baking dish and bake forty-five minutes. Serve with or without tomato sauce.

SAUCE FOR TAMALE LOAF.

Two tablespoons salad oil. Cook in it 1 onion and 1 clove of garlic chopped fine. Add 1 cup of tomatoes, season generously with all kinds of seasoning — sage, thyme, bay leaves, tabasco sauce, Worcestershire sauce and salt. Simmer slowly one hour. Strain before serving.

WHERE OUR STRENGTH LIES.

In the homes of America is the strength of the people. By household habits national vigor is greater or less. The new conservation program is an appeal to all households to save food.

It would be easier, perhaps, to follow specific directions—the wheatless days and meatless meals. The new program calls for individual initiative and resourcefulness, which is the spirit of democracy. The new program is in terms which only an intelligent people could execute—a people actuated by a war conscience.

Intelligence and thoughtful conscience are required. Nourishment must be watched intelligently, cost must be counted intelligently, values must be regarded intelligently, waste must be avoided intelligently, saving must be made intelligently. The consumption of food must be reduced intelligently.

The sugar allowance, the rule of universal Victory bread—these are but incidents in the program. It is the original program of the Food Administration in a new setting.

FIG PICKLES.

Irresistible fig pickles enjoyed by the writer at the homes of Mrs. H. A. Clark and Mrs. Leroy Anderson are made by the following recipe, as told by Mrs. Anderson: Fill a two-gallon crock with clean, ripe figs of any common variety and cover them with water to which ½ cup salt is added. Let soak over night and in the morning soak them an hour in fresh water. Make a syrup of one quart vinegar, four pounds brown sugar, and spices to taste. Bring it to a boil, put the figs in and cook ten minutes. Let them stand until next morning, when they are to be cooked ten minutes more, after bringing them to a boil. On the following day cook at least an hour. Mrs. Anderson has generally used stick cinnamon and whole cloves for the spices, keeping them in a bag, but her last ones were made with powdered cloves and cinnamon.

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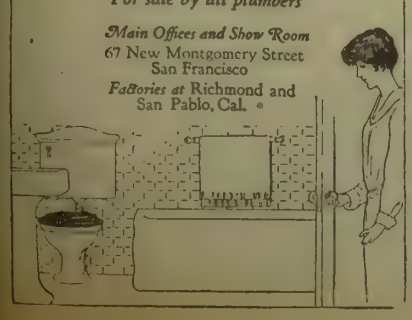

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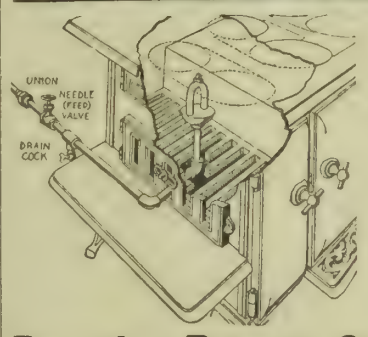

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Agricultural Summary

Next Season's Orange Outlook.

Oranges brought record prices this year, but few profited thereby, as high prices are little satisfaction to the grower who has little or nothing to sell. According to the latest figures, this State shipped this year to date about 23,000 carloads of citrus fruit of all varieties. Shipments last year reached a total of over 53,000 cars, and it is predicted, from estimates based on a painstaking survey of California's citrus districts, that next year our shipments will probably reach 43,000 cars. It is almost futile at this time to make a forecast of prices, as great uncertainty hangs over the political and economic future of our foreign competitors in citrus production, and natural conditions can never be foreknown — except to the almanac makers and sunspot gazers. Nevertheless, it seems fairly safe to hazard a guess that prices next year, though somewhat below this season's high level, will be satisfactory to California growers.

California's Bean Production.

The preliminary estimate is for an average yield of 14 bushels per acre, making a total production of 6,258,000 bushels. The preliminary estimate of limas last month was 2,610,000 bushels, making the total production of "all beans" 8,868,000 bushels, compared to 8,091,000 bushels in 1917. The bean market continues to show evidences of weakness throughout the list. There is an unconfirmed rumor that the Government is making heavy purchases of Asiatic beans, despite the seductive encouragement held out to American bean growers at the beginning of last season. The enormous bean crop in Michigan this season seems also to have had a depressing effect on the local market.

California Crop Conditions, 1918.

E. E. Kaufman, field agent, local office U. S. Bureau of Crop Estimates, issues the following estimate of the total production of important crops compared with last year:

Corn	110.8 per cent
Potatoes	82.5 per cent
Sweet potatoes	101.8 per cent
Apples	97.3 per cent
Raisins	82.8 per cent
Almonds	130.7 per cent
Walnuts	112.0 per cent
Beans	109.6 per cent
Oranges	201.0 per cent

Egg Shipments; New Regulations.

The U. S. Food Administration has just issued specific instructions to govern henceforth the distribution of fresh eggs. Special regulations covering the kinds of cases and fillers to be used are set forth in "Special License Regulations, No. XIX," copies of which may be obtained from your dealers. Permits to dealers to use up supplies now on hand should be secured from the local Federal Food Administrator.

California Eggs in Eastern Markets.

Last week's market report from New York quotes the highest grade of eggs at $1 per dozen. The arrival of several carloads of fresh California stock is also reported. One car sold at 95c even before the Eastern market reached the dollar mark. The high quality of California eggs is accepted without question in the Eastern markets.

California Barley, $2.38 Per Cwt.

Local grain traders recently stated that the Government is buying all California barley offered at $2.38 per cental for export to England, but that many farmers are holding for higher prices. Brokers are not permitted to hold their stocks more than thirty days, but farmers are not restricted in this respect.

The National Wool Harvest

The wool clip of the United States for 1918 totals 290,000,000 pounds, S. W. McClure, secretary of the National Wool Growers' Association, announced. The clip has a value of $170,000,000, according to the same authority.

Two Rice Grades.

There are two Government grades of rice as it comes from the mill—Fancy No. 1 Cal. Jap, 7½c; choice Cal. Jap., 7⅜c.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, November 13, 1918.

WHEAT.

The following are Government prices per bushel for wheat in bulk at San Francisco. The quotation for recleaned is the price per hundred and the charges are strictly regulated by the Government. Per carload the quotation is $4.15. Less than carload lots is $4.25.

Per bushel—

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 2	2.09

Recleaned for seed, per ctl.—

California Bluestem	$4.15@4.25
Early Baart	4.15@4.25

BARLEY.

The barley market was a little stiffer, probably on account of the prospect of freer shipments to Europe, which are expected to follow the cessation of hostilities.

Choice feed, per ctl	$2.10@2.20

OATS.

Oats are dead, although choice red feed is quoted at a slight advance over last week's prices.

Red feed, per ctl	$2.30@2.50
Red for seed	2.80@3.00
Black for seed	2.80@3.00
Recleaned Red or Black for seed	3.35@3.50

CORN.

Some good Eastern corn has been offered on the exchange at $3.75, but found no buyer. An inferior lot was offered at $2.75 without sale. Milo maize and Egyptian are offered at $3 to $3.10, but there seems to be no demand at these figures.

HAY.

Receipts of hay for the past week were 815 tons, compared with 644 tons the previous week. Most of this hay arrived by water and was more or less damaged by the September rains. Very little arrived by rail, and this was from warehouses. Trade has been dull and it is difficult to sell these arrivals ex-warehouse to advantage. The Government is again in the market for a large amount of hay, but outside of this feature the market is almost at a standstill.

Wheat No. 1	$25.00@27.00
do, No. 2	20.00@24.00
Choice tame oat	25.00@27.50
Wild oat	20.00@22.00
Barley	20.00@22.00
Alfalfa	18.00@22.00
Stock	18.00@21.00
Barley straw	.50@ .80

FEEDSTUFFS.

The market for feedstuffs is dull and unchanged. It is anticipated that the stoppage of fighting in Europe will have a considerable effect on this market, but as yet the influence has not made itself felt.

New alfalfa meal, per ton	$35.00@36.00
Coconut cake or meal	Nominal
Cracked corn	$86.00@88.00
Oilcake	77.00@78.00
Rolled barley	45.00@47.00
Rolled oats	55.00@57.00

POTATOES, ONIONS, ETC.

A good local demand increased the price of potatoes somewhat this week. This advance, however, is not expected to stand for any length of time, as the local market is said to be higher than nearly all other markets. The onion market is weaker. Fancy stock of both descriptions is selling higher than the ordinary run. There were few changes of importance in other vegetables.

String beans	5@7c
Wax beans, per lb	5@7c
Pole beans	5@7c
Carrots, per sack	50c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
Pumpkins	75@90c
Cucumbers, Alameda, lugs	$1.00@1.50
Eggplant, per box	75c@$1.00
Livingston	$1.25
Lettuce, Sacramento, doz	25@40c
Celery, bunch	20@25c
Tomatoes, per crate—	
Bay	75c@$1.50
Potatoes—	
Garnet, Chile, on street	None
Fancy	2.10@2.20
Whites	$1.65@2.00
Sweets, per sack	3.00@3.25
Onions—	
River Reds	None
Yellows	65@90c
Australian Browns	65@90c
Fancy	$1.00@1.15
Garlic, new	15@20c
Green corn, Alameda, per sack	Nominal
Okra, box	$1.00@1.25

BEANS.

Beans showed a further inclination to slump this week and lower prices are quoted on the leaders. So far it is said the armistice has had no effect on the local market, and no prediction is made regarding the future.

BEANS—	
Bayos, per ctl	$7.25@7.50
Blackeyes, new crop	5.00@6.00
Cranberry beans	8.50@8.75
Limas (south, recleaned), new crop	$10.25
Pinks	$6.60@6.80
Mexican Reds	$6.75@7.00
Tepary beans	6.25@6.50
Garbanzos	8.00@8.75
Large whites, new crop	8.25@8.40
Small whites, new crop	9.40@9.60

POULTRY.

Five carloads of poultry from the East on Monday of this week depressed the price of small to medium sized hens. However, the demand was good and the price recession not great. Dressed turkeys are strong and are now quoted at 10c a pound higher than the live bird. The entire poultry market is steady, with no other changes. Prices of jack rabbits fluctuate daily.

Turkeys, live, young spring, lb	32@35c
do, old	32@33c
do, dressed, old	42@45c
Broilers, 1½ to 2 lbs	39@42c
do, 1¼ lbs	45c
do, ¾ to 1¼ lbs	48c
Fryers	38c
Hens, extra, per lb., colored	40c
do, Leghorn	38c
Smooth young roosters, per lb. (3 lbs. and over)	37@38c
Old roosters, colored, per lb	24c
Geese, young, per lb	27@28c
do, old, per lb	25c
Squabs, per lb	55@60c
Ducks	29@30c
do, old	25@27c
Belgian hares	21@22c
Jack rabbits	$3.00@3.50

BUTTER.

Butter was marked up 2c on Monday of this week. It was found that at 59c the price was low enough for shipments to be made to other markets. A considerable quantity was sent to the north and some went south. This had the effect of lowering the local supply and a higher price was made to keep a normal supply in this market. Some butter also went into storage at 59c, while other butter that had been placed in storage at a lower price was brought out and sold. The stock in storage shows a constant diminution. Street stocks of butter are also reported lighter than a week ago.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	59	59	59	61	61	61
Prime firsts	59	59	59	Nom.	..	..
Firsts	58	58	58	Nom.	..	..

EGGS.

While extra eggs touched 89c during the week, the price quickly receded to 86½c. On Wednesday the first sale was made at 84½c and each subsequent sale showed a lower price until the close at 80c. No opinion was forthcoming from members of the exchange for the sudden drop. The Eastern markets were strong and Chicago showed an advance. On the street it is said that eggs have been too high and that they have "been due for a drop" for some time. The movement into storage has been nominal for some time past, while the movement out has shown a steady increase. This fact, together with the refusal of the average user of eggs to pay the high price demanded, probably accounts for the drop.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	85½	89	89½	89½	85½	80
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	79	74½	75	73	71	64½

CHEESE.

There was not much interest in cheese this week. All prices were lowered with exception of California Cheddar.

California Cheddar, flats, fancy	32c
Fancy California flats, per lb	32½c
First California flats, per lb	Nominal
California Y. A. fancy	Nominal
Oregon triplets, fancy	35½c
Oregon Y. A. fancy	Nominal
Monterey cheese	22@25c

FRESH FRUITS.

There is very little doing in the fresh fruit market except in the case of apples, which are on the market in good variety and condition. The demand is excellent. Following are the principal varieties with the prices at which they sell at wholesale:

Apples—	3½-tier	4-tier	4½-tier
Jonathan	$1.75@2.00	$1.50@1.75	
Newtown Pippin	1.50@1.65	1.35@1.50	1.25@1.35
Bellflleur	1.50	1.50@1.65	1.35@1.40
Baldwin		1.25@1.50	1.00@1.25
R. I. Greenings		1.25@1.50	1.00@1.25
Wagner		1.50@1.75	1.25@1.50
Lauver		1.50	1.25

	Extra Fancy	Fancy
Spitzenberg (N. W.)	$2.75@3.00	$2.50@2.75
Jonathan (N. W.)	2.50@2.75	2.25@2.50
Baldwin (N. W.)	2.25@2.50	2.00@2.25
Winesap (N. W.)	2.50@2.75	

Other Fruit.

Peaches, 4-box crate	None
Figs, black, per box	None
do, double layer	None
do, Single Row Whites	None
Strawberries, per chest	$10.00@13.00
Blackberries, per chest	None
Raspberries, per chest	$9.00@12.00
Plums	None
Cantaloupes, flats	None
do, ponies	None
do, standard	None
Watermelons, per lb	None
Pears, Bartlett, per box	None
Winter pears	$2.00@3.00
Grapes, Tokay	2.00@2.50
do, Muscat	2.25@2.50
Persimmons	1.25@1.50
Alligator Pears	$4.00
Cal.	$1.00@2.00
Pomegranates, small box	1.25@1.50
do, large box	1.50@2.00

CITRUS FRUIT.

Navels are now coming on the market, but the price is high and most of the fruit is moving slowly. Grapefruit of the new crop is quite plentiful. It is somewhat green. The price was materially lowered and the fruit is moving at $3 for the best. Lemons are selling for less, and it is expected that the passing of the influenza epidemic will cause a further drop.

CITRUS FRUITS.

Oranges	$12.50
do, Navels	$9.00@10.00
Lemons, fancy	$8.50
do, choice	7.00
do, standard	6.00
Grapefruit	Nominal
Grapefruit, new	$3.00@3.00

DRIED FRUIT.

There was no change this week in the dried fruit market. The market is quiet but firm and last week's quotations are maintained.

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop, at mill	7.00

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, November 12, 1918.

Practically all auction markets held up remarkably well during the past week, taking into consideration the indiscriminate offerings that prevailed. Sound, good-keeping stock averaged with the highest prices of the year, and over ripe and weather damaged grapes were picked up for wine making. An unusual fall has made it possible for the fruit stands to remain open and, consequently, has resulted favorably for the California shippers. This, together with the light offerings, has resulted in a strong market.

Averages for the week:

New York—Grapes: Malaga, $2.13; Emperors (crates), $2.00; Emperors (drums), $5.75; Emperors (kegs), $5.07; Cornichon, $2.11; Tokays, $1.74. Pears: B. Clairgeau, $3.68; Winter Seckle, $3.40; Winter Nellis, $2.79; Easter Buerre, $2.64; Glout Morceau, $4.18.

Boston—Grapes: Emperor (kegs), $5.20; Emperor (drums), $5.65; Emperor (crates), $2.23; Malagas, $1.92; Tokays, $1.66; Cornichon, $2.30. Pears: Winter Nellis, $2.25; Glout Morceau, $4.22; B. Clairgeau, $4.82.

Chicago—Grapes: Malaga, $1.61; Emperor, $1.82; Tokay, $1.54; Cornichon, $2.11.

Shipments from November 1st to 8th, inclusive (incomplete), 29 pears, 432 grapes.

Special Citrus Market Report

Los Angeles, November 11, 1918.

The new crop of navels is not moving to market as expeditiously as was expected a few weeks back. While the fruit seems sufficiently matured and meets the 8-to-1 test readily, it is not coloring up as well as desired, and growers have been advised to hold back a little while. Prices on the new crop have not yet settled down. F. o. b. quotations on last week's shipments ranged between $3 and $9 a box. On fruit shipped up to November 15 several cars have been sold on a $5.50 cash basis. For shipments November 20 to 25, $4.50 f. o. b. is offered for top grades.

The movement of Florida fruit has set in strong, the Florida shippers being anxious to forestall the arrival of California navels and to take full advantage of our between-season period. Valencias are about cleared up.

California lemons are moving freely to market. The crop is large, and although there is no competition from foreign sources, the tendency of prices is strongly downward. Between 25 and 30 carloads are leaving daily.

Deciduous Fruit Shipments 2,358 Cars Over Last Year

This week will undoubtedly terminate the deciduous season for California, one that will go down in history as probably the most profitable for nearly all of the districts, despite a few shortages that developed on account of early rains in some sections. It must be borne in mind that the figures are not quite complete, as some minor additions are still to be made, but they serve to show in a striking way California's capabilities as a fruit growing State, even in an "off" year.

Shipments to date, Nov. 5, 1918	24,600 cars
Shipments to date, Nov. 5, 1917	22,242 cars
Excess of shipments this year over last	2,358 cars

LOS ANGELES

Los Angeles, November 12, 1918.

BUTTER.

A steady market and very good demand was had the past week for what little came in. The receipts were light, only 249,500 pounds against 320,000 pounds the same week last year. To make up this shortage there was withdrawn from cold storage during the week 30,616 pounds, leaving the cold storage holdings now only 171,379 pounds against 163,697 pounds the same week last year. Eastern advances had no influence upon the markets here on the coast.

We quote—

California fresh, extra....................57c
California fresh, prime first..............55c
California fresh, first.....................54c

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Daily quotations—						
Extra	57	57	57	57	57	57
1917—						
Extra	43	43	42	42	42	42

EGGS.

There was a little done on 'change in eggs the past week. The receipts were light, only 394 cases against 510 cases the same week last year. Under scarcity the market for fresh ranch eggs was steady and firm, but dull. The trade turning to cold storage eggs for relief, they finding more ready sale at the difference in prices. There was taken from cold storage during the week 3112 cases against 3863 cases the same time last year, leaving the holdings now 39,998 cases against 30,323 cases the same week last year. San Francisco declined 2½c on fresh extras up to Monday, but this failed to influence the market here. Chicago is 1c higher than a week ago on first, and New York is 5c higher, which more than offset the weakness in the San Francisco market.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	78	78	78	78	78	78
Case count	70	70	70	70	70	70
Pullets	68	68	68	68	68	68
1917—						
Extra	57	58	58	58	58	58
Case count	56	56	56	56	54	54
Pullets	51	52	52	53	53	53

VEGETABLES.

There was quite a falling off in the receipts of potatoes the past week and market higher and demand very good at the advance. Sweet potatoes continue dull and weak under free offerings. Onions influenced by a falling off in the receipts and cooler weather met with a better demand than for some time. Peppers steady. String beans slow of sale. Cabbage dull, but steady. Not many tomatoes now coming in; the best in very good demand.

We quote from growers:

Bell peppers, per lb....................3@4c
Chile peppers, per lb...................3@4c
String beans, per lb....................5@6c
Lima beans..............................4@4½c
Potatoes, northern, per cwt........$2.25@2.50
do, Idaho Russets, per cwt..........2.25@2.40
Sweet potatoes, per cwt.............1.25@1.40
Garlic, per lb............................20c
Onions—
Australian Brown, per cwt.........$1.40@1.50
White Globe, per cwt................2.50@2.75
Cabbage, per 100 lbs................1.00@1.25
Celery, crate.......................3.50@4.00
Tomatoes, No. 1, lug....................70@80c
do, No. 2, lug..........................25@35c

POULTRY.

Receipts continue light and the market the past week was steady for everything. The heavier broilers, fryers and hens were all in good demand. Turkeys, too, were in better request, dealers stocking up for the Thanksgiving trade. Ducks in fair demand and geese also.

The following prices were agreed upon last Friday, November 1, and hold good until the coming Friday:

Broilers, 1@1¼ lbs.........................37c
Broilers, 1½@1¾ lbs........................41c
Fryers, 2@3 lbs............................33c
Roasters (soft bone), 3 lbs. and up........30c
Stags and old roosters, per lb.............20c
Hens....................................26@32c
Tom turkeys.............................31@34c
Ducks...................................22@28c
Geese......................................20c

MELONS.

The melon season is now over.

BEANS.

It is still dull in this market. The trade only buying what is needed from day to day, and there is no disposition to anticipate future wants. Limas are meeting with more ready sale than anything else.

We quote from growers—

Limas, per cwt.........................$10.00
Large white, per cwt.....................9.00
Small white, per cwt.....................8.00
Pink, per cwt............................6.50
Tepary, per cwt..........................4.50
Blackeyes, per cwt.......................5.00

FRUITS.

Not much now in, aside from apples, save cold storage stock. Pears have stopped coming in. Grapes are getting scarcer and higher. Demand is good. Apples continue steady. Few figs now arriving and are in good demand. Japanese persimmons are meeting with a good demand.

We quote from growers:

Figs, Black Spanish, per lb.............10@12c
do, White, per lb.......................10@12c
Grapes—
Malagas, per lb..........................6@7½c
do, Rose Peru, per lb......................6@7c
Tokay, per lb..............................6@7c
Cornichon...................................6c
Apples—
King Davids, 4-tier......................$2.75
Black Twigs, 4-tier.......................2.75
Baldwins, 4-tier..........................2.00
Red Pearmains, 4-tier.....................1.75
White Pearmains, 4-tier...................1.75
Rhode Island Greenings, 4-tier............1.50
Yellow Newtown Pippins, 4-tier............1.75
Apples, Bellefleur, 4-tier..........$1.75@2.00
do, 3½-tier..........................1.70@1.80
do, Gravenstein, 4-tier...................2.25
Japanese persimmons, lb....................6@8c

BERRIES.

Few now coming in, but meet with fair sale and bring steady prices. Not enough arriving to justify a continuation of the market after this week.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate..........$3.50@4.00
Poor to choice, 30-basket crate......2.50@3.00
Raspberries, 30-basket crate.........5.50@6.50

WALNUTS.

Few are to be had even from independent growers, and the market remains steady and firm. The Association is still working on its contracts and shipped out about 25 cars a day the past week.

We quote f. o. b. California points:

	1918	1917
Fancy budded	34½c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

HAY.

The market turned quiet again. Receipts were not heavy, neither was the demand. Many buyers anticipated their future wants last week and were therefore out of the market. Prices held steady all round.

We quote f. o. b. Los Angeles:

Barley hay, per ton...............$23.00@24.00
Oat hay, per ton...................25.00@27.00
Alfalfa, northern, per ton.........20.00@21.00
Alfalfa, local, per ton............21.00@23.00
Straw, per ton......................9.00@10.00

COTTON.

There is not much change to note in the cotton market since our last review. The market in New York opened our review week a little stronger under fair buying by shorts. But later it lost tone, though prices held up under the prospect of peace. In New York December closed last Friday at 29.35c and January at 28.75c. In New Orleans the same day December closed at 28.70c and January at 28.76c. Since then there has been little doing owing to the excitement over the signing of the Peace Armistice.

Special Livestock Market Report

San Francisco, November 13, 1918.

CATTLE—Cattle have been somewhat scarce during the past week, especially steers of good quality and good weight. Prime, well finished stock, when obtainable, commands a premium. Prices are firm, with a tendency to advance in the near future.

Grass Steers—
No. 1, weighing 1000@1200 lbs.......12¼@12½c
do, weighing 1200@1400 lbs..........12@12¼c
do, second quality..................10½@11c
do, thin...................................8@9c
Cows and heifers—
No. 1....................................8@8¼c
do, second quality.......................7@7½c
do, common to thin.........................5@6c
Bulls and stags—
Good.......................................6@7c
Fair.......................................5@6c
Thin.......................................4@5c
Calves—
Lightweight................................11c
Medium.....................................10c
Heavy....................................8@8½c

SHEEP—Mutton sheep are not plentiful, and the bulk of the stuff coming in is from the feeding stations.

Lambs—
Yearlings...............................12@12½c
Milk....................................14@14½c
Sheep—
Wethers................................11½@12c
Ewes.....................................9@9¼c

HOGS—Hogs are offered very freely, and packers are accepting all coming their way, notwithstanding there is continued difficulty in securing adequate help for killing and cutting. Stuff of good quality and good weight bring the market price.

Hard, grain-fed, 100@140...................16c
do, do, 140@250..........................16½c
do, do, 250@325..........................15½c

Los Angeles, November 12, 1918.

CATTLE—There was a little more life to the market, incident to cooler weather, but no changes in prices. Choice fed steers continue scarce.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs.....$9.00@12.00
Prime cows and heifers..............8.00@ 9.00
Good cows and heifers...............7.00@ 7.50
Canners, per cwt....................5.50@ 6.00
Calves, per cwt.....................8.50@10.00

HOGS—There were more in the past week than for some time. Under the influence of the increased supply and lower markets east of us, the market broke sharply and sales were slow. While the demand for fresh pork was somewhat better under the influence of the cooler weather, it was not sufficient to keep the market up at old prices.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs..$14.00@15.00
Mixed, 225@275 lbs.................15.00@15.56
Light, 175@220 lbs.................15.00@16.00

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—Few are offering, and the market was steady and rather firm for all choice offerings.

Per cwt. f. o. b. Los Angeles—

Prime wethers.......................$9.00@10.00
Prime ewes...........................8.50@ 9.50
Yearlings............................9.50@10.50
Lambs...............................15.00@16.00

Portland, Oregon, November 12, 1918.

CATTLE—Steady; receipts, 2015. Steers, prime, $12.25@12.75; good to choice, $11.00 @$12.00; medium to good, $10.00@11.00; fair to medium, $8.50@9.50; common to fair, $6.00@8.00; cows and heifers, choice, $8.25@ $8.75; medium to good, $6.50@7.50; fair to medium, $5.50@6.50; canners, $3.00@4.00; bulls, $5.00@7.50; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Steady; receipts, 2152. Prime mixed, $17.25@17.35; medium mixed, $17.00 @17.25; rough heavies, $15.25@15.35; pigs, $14.00@15.00; bulk of sales, $17.25.

SHEEP—Slow; receipts, 4127. Prime lambs, $11.50@12.50; fair to medium, $8.50 @10.50; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@8.50.

"Best by Test"—The Verdict

Two men were hotly discussing a book. Finally one of them, himself an author, said to the other: "No, John, you can't appreciate it. You never wrote a book yourself." "No," retorted John, "and I never laid an egg, but I'm a better judge of an omelet than any hen."

So we believe that our subscribers are better judges of magazines than we are, and it is gratifying to receive this renewal letter from Sam Devine of Sattley: "You bet I don't want to miss a single issue. I take eight different farm papers and the Rural Press is the best of the lot." And in writing about a sick cow, D. M. Searby of Sebastopol adds: "I could not get along without your 'bully' paper. I read it from 'kiver to kiver' every week, and only wish it came bi-weekly.. I haven't missed a copy for thirty-nine years."

Why has the Rural Press become the one indispensable paper in its field? Because for forty-two years we have been doing something for California farmers which they needed to have done for them, and in the way they preferred to have it done. We have championed their interests, fought their battles, solved their problems. We have spared neither effort nor expense in our endeavor to put before them everything that they needed to know to make farming highly profitable.

Notice how much we give in this issue. Read Mr. Swett's great article on the results of co-operation; the one by Mr. Whitten on the effects of peace upon the livestock industry; the one by Mr. Fox on the artificial stimulation that fruit trees require; the suggestions by Mrs. Swaysgood on feeding the Thanksgiving turkey; the notes by Mr. Hodges on the recent tractor demonstration; and the valuable short articles that you will find on every page. Some issue, isn't it?

But "Every week better than the last," is our slogan, and as good as this issue is, the next will be better. It will contain some mighty interesting articles—timely, too. They will be full of valuable tips. You will like them.

Classified Advertisements

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MISCELLANEOUS.

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FOR SALE—Holt 30 Caterpillar, ready for work, with engine completely overhauled and track in good shape, with Deere power lift plow, at a bargain; might consider roadster or light car as part payment. Box 116, Paso Robles.

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TRACTOR FOR SALE—Bean TrackPULL tractor. Nearly all improvements attached. Perfect order. Very little used. Price one thousand dollars. A. Ryder, Loomis, Cal.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

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TO LET, RENT FREE—160-acre hill ranch, 10 miles from Santa Margarita, on good road, two miles to small town. Rabbit-tight fence all around; small, 3-room house; plenty oak wood. Eighty acres cleared and in beans this year will pay for clearing balance. Fine springs; school across the road. Fine sandy loam soil, family orchard. Best climate in California. One to four years to first-class tenant. Plenty work in adjoining orchards. Address, J. G. McClurg, 431 Laine Ave. Monterey, Cal.

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FOR SALE—Black oats for seed, direct from grower. Prices on application. Werner Bros., Watsonville.

WANTED.

WANTED — Position as ranch manager. Married; 32 years old. Exempt. Capable of taking entire charge. Born and raised on ranch. Address: G. A. B., Box 386, Santa Cruz, Cal.

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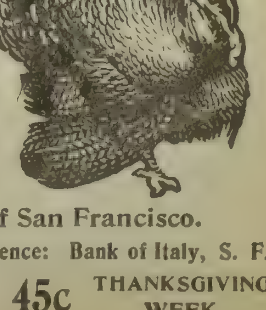

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Surelay is a perfect balanced ration—nothing less! Its function is to give your hens the exact ingredients they need to bring about the greatest egg-production in the most natural way. Now then—

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Vol. XCVI—No. 21

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — NOVEMBER 23, 1918 — LOS ANGELES

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The Dead Bean Market Will Come to Life

Written for Pacific Rural Press by R. E. Hodges

BEAN GROWERS want to know whether they will get prices that will pay their costs of production and living expenses. They also want to know when those prices will be available. Careful investigation from many angles leads us to believe the following statements of fact. There is an increased world production of beans and a greatly increased world hunger to absorb them. The Asiatic crop is more than double that of last year, but H. Clay Miller, California purchasing agent for the Government and Allies; President George A. Turner of the California Bean Growers' Association; Manager J. S. Courreges of the Hale Co., who do a million dollars worth of bean importation annually, and others unite in saying that Oriental beans are not likely to depress American markets materially. While large quantities of the 1917 Oriental crop are being imported at prices lower than our own growers feel able to sell in competition, these beans have not generally during the past month been stopping in America, nor have any of them been bought for use of American armies. They are mostly being trans-shipped to Europe. Those nations are all hungry. They are also poor; and will buy wherever lowest prices are to be found. They are likely to buy more beans than they would normally demand, because they will be studying how to get the most food value for their money. Much of their demand will be supplied by Oriental beans shipped through the Suez Canal, a far shorter route than the present one across two oceans and one continent. Many may perhaps be sent via the Siberian railway, which reaches almost to Japan, the principal producer of Oriental beans. Still, if exportation from the United States were free-for-all, it is predicted that the price of American beans would soar. All exportations until peace is actually declared are and will be under direct control of the Food Administration, to prevent waste and to prevent their going where they might aid our enemies. It is easily possible, however, that the Food Administration should put forth rules to encourage exportation.

Threshing beans in California. Our investigations seem to indicate that while much of the crop has been damaged, there is hope for an early opening of the market at prices that will mean no loss. (Photo by courtesy Stockton Chamber of Commerce.)

Meanwhile, America will have her own populations to supply. No great Government orders can be expected, for there is a considerable carryover from the supplies of pinks and whites commandeered for the army last February. The navy uses relatively few beans. Mexico uses quantities of reds when transportation is available. Blackeyes are largely shipped to the Southern States and there seems no indication of a lessened demand. Teparies were sold heavily last year, due to their resemblance to small whites and to the scarcity of other varieties. They are not selling this year, however, and there will be a heavy carryover. People who buy teparies once usually specify some other variety next time. Nevertheless, teparies can be cooked into a tempting food by using right methods; and while it may take a few years to teach housewives generally how it is done, we will not be surprised to see factories scientifically cooking and canning this variety for an increasing trade. Until that time comes, however, we can neither hold forth hope for a market nor can we encourage further planting of teparies. We have always aimed to lead our readers to go slow on this variety.

California Canned Beans.

The canned dry beans whose brilliant labels decorate California grocery shelves were grown in Michigan mostly. Some were grown in California and shipped East to be canned and shipped back again. They are practically all large or small whites. A very few California beans have been canned in California in previous years. These include some pinks and a few reds. Last season a small but definite beginning of what promises to become an important factor in the marketing of the bean crop in this State was made by California packers canning about 2000 tons. Their product, as the writer can testify personally, is far superior to many of the Eastern brands we have been buying to help Eastern farmers market their crops and to help railroads pay dividends. When Californians eat California canned beans exclusively there will be profit in growing a few more acres. Only a small amount of canning was permitted the past season by the Food Administration in order to save canning facilities, labor, and tinplate for more perishable foodstuffs than dry beans; but permits have been more freely granted of late, and soon there will be no artificial limitations on this industry.

This Year's Crops.

California in 1917 produced over half of the beans grown in the United States — 8,091,000 bushels. She has this year, according to latest Government estimates, produced 8,868,000 bushels of 60 pounds each. The fall rains caused total loss of hundreds of tons north of Santa Barbara and Merced counties and damaged the quality of those remaining. Many fields in widely scattered sections were left uncut. In many harvested fields so many beans shattered out that the plants grown from them have made the fields green. In the sacks of harvested beans are so many spoiled and discolored ones that whole districts are hand-picking the bad ones from moving belts on which the beans are spread. The present rains, coming since the above estimates were made but while threshing was still in progress, have reduced the tonnage considerably below those estimates. Southern California had but little rain damage. Monterey and San Luis Obispo counties suffered severely, the former losing about 50 per cent besides the labor of turning piles of vines many times and hand-picking the bad ones out of the threshed crops. The pinks, Lady Washingtons, red kidneys, and Mexican reds of the North San Joaquin and the Sacramento valleys were less damaged, but of the 30,000 acres crop in Sutter Basin 40 per cent had to be thrown away and the remainder must all be hand-picked, according to Manager George F. Maddock of the Sutter Basin Co. The vines, which had not set a heavy first crop, took new growth after the September rain and set a big crop, which was destroyed by frost in November. Michigan, New York, and Colorado are the only rivals of California in bean production. All of them together had less acreage than California and only Michigan produced a notably large crop. Japan alone produced a closely estimated yield of more than 7,500,000 bushels in 1917, and the 1918 crop is increased to an amount not accurately known. Reliable estimates place the Kotenashi (small white) crop of

(Continued on page 560.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - - Editor
R. E. HODGES - - - Assistant Editor
R. H. WHITTEN - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

WHAT SHALL WE DO ABOUT IT?

THE WAR has stayed "over" for a week. The Huns are raising the devil with each other—to "taper off" their murderous impulses. The allies are moving nearer to the Rhine to establish themselves as peace-makers. Hoover has gone abroad to establish multitudinous free-lunch joints in devastated districts and to dispense American good cheer to the miserable millions who can best understand the blessings of freedom in terms of doughnuts and flapjacks. It is announced quite confidently, as we write on Tuesday, that President Wilson will himself soon go abroad and slap the kaiser's face for what he so insolently said about "settling up with America after the war." At home the draft has been called off and draft boards are instructed to get busy finding jobs for soldiers released from training camps and war industries in this country and to keep right at it after that to find jobs for those who will soon be coming home over seas at the rate of a quarter of a million a month possibly. Fortunately those who have this homeward movement in charge do not seem to be deeply impressed with the "infiltration" process of re-Americanizing Americans with which the politicians are flirting with the labor unions. They have probably learned that schemes to indefinitely exile the nation's heroes after the glorious work they have done and the sacrifices they have made are abhorrent to the American people. They are perhaps beginning to understand that we propose to have all those boys back in the arms of their mothers and their sweethearts just as soon and just as fast as possible—or there will be more dish-rags flying around the heads of our rulers than ever there flopped down sea-gulls upon a floating biscuit! "Yo dun har muh. Ananias?"

WHERE ARE THE BOYS NEEDED?

IN THEIR old homes first of all, of course. They must tell their stories to those whose old eyes will glisten and whose young eyes will sparkle as they realize how nobly they have played men's parts in the world: how they have yelled their triumph in the ears of the fleeing enemy: how they have suffered and endured in silence: how their great joy is in the success of their cause and in their return to those who love them and who bravely bade them go forth and do their duty in the world. They must go first to their old homes, of course. They must bring the last tender consolation to the darkened homes of their fallen comrades: they must deliver their last messages to those who loved them: they must pour the balm of personal knowledge of their brave deeds and noble deaths upon the hearts of those who have loved and lost. The words may be few and hesitating: they will be understood and remembered and God will make them messengers of "that peace which passeth understanding." The boys must go first to their old homes, of course—to hallow joy, to hallow sorrow: it is their god-like duty.

CITY OR COUNTRY?

WHAT THEN? Those who are strong of heart and sound of limb and have no city task which beckons them to return to activity which they understand and enjoy should seriously consider beginning life anew in the country. Everyone says these boys are a changed lot: they appreciate freedom and breadth of action and are keener to seize opportunity than they were before their eyes were opened and their spirits awakened. It is very doubtful if they can see as much in city jobs as they might if their skies had not been lifted and their horizons extended. It is also doubtful if the usual recreation joints of the city will content them now. If not, it will be well for them and for the city also—for the city does not want them and those who have most to say about city occupations declare that they should be "infiltrated"—not welcomed. If some reader should think that this unusual word signifies a surgical operation, it does not matter: it is at its best the cruel surgery of economics.

On the other hand, the country needs these returning soldiers and will do its best to welcome them to man-like industry and wholesome homes. The same qualities and attitudes to which they have been recently trained and which now nerve them and guide their actions are exactly what they need for success in rural pursuits—whether they work for others or have others working for them. A country job well performed requires knowledge, initiative and loyalty to the execution of it. It makes requirements which must be met: energy in attack; patient pursuance; no finish without success. Time-serving, slacking, striking are abhorrent from a rural point of view, whether one works for himself or for another. Demand what is right in pay, subsistence and environment and insist upon it before you begin, but, having accepted service, go through with it. This is just what our boys have done in Europe: it is what they are now better qualified to do in America than ever before. It is what their grandfathers and their fathers have done on American farms and it is the secret of their success and their dependable citizenship. To such success and to such citizenship the rural industries welcome the returning soldiers and sailors. There is room for every man and jack of them—for the prosperity of the whole country and their own. Upon them largely depends the future of American agriculture.

WHAT ABOUT CROPS?

WHILE the boys are returning, our political labor-dominators say they will let us have a few more Mexicans—if they too can be "infiltrated" so as to keep the wage-rate going up. The farmer then has to reckon on wages artificially going up and prices naturally going down. Evidently crops must be studied with increasing attention to their requirements of hand labor and with the expectation that tractors and other labor-saving machinery will at once become more available, for two reasons. One of these is that the War Industries Board has already knocked the limitation from steel for farming uses and factories released from an output for war will swing immediately to increased manufacture for peace. Another encouragement to build upon the availability of machinery lies in the fact that the farm labor supply likely to increase first is of the highest class—that is, men competent to run and keep in order tractors and power-tillage machinery of all kinds. Uncle Sam has been running gas engine and tractor schools and the like in France all the way from the wharves to the trenches and he has secured a great output of skilled graduates. Tens of thousands of practical machinery operators will be distributed over this country before next harvest. The use of power and the appliances for power must stand between the farmer's pay rolls and his sales returns.

What crops and other investments in production will pay best? We do not know. We never expect to know. As we have frequently intimated, it seems to be a scheme of economic salvation that no one can know "what will pay best" because such knowledge would immediately destroy its own truth through over-production of that thing. This is not particularly the case in farming: it is a universal truth in production. If manufacturing tailors could demonstrate that pants would pay better than coats, the human race would soon be marching around in its shirt sleeves—and vice versa! Therefore, neither we nor anyone else can say what crop should be preferred. That is up to individuals to choose, and the hope always is that the diverse tastes and judgments of men will hit off diverse human needs about right. But there is one thing which can be done and the Pacific Rural Press is trying to do it systematically, and that is to give the most up-to-date facts, and expert judgments about facts, concerning every important feature of food production, so that every reader can use his own noddle to fit these facts and judgments to his own conditions and abilities. Last week we expounded the matter of beef: this week we tackle beans—and so on. If the subscriber will faithfully use each issue to warm up his own brain-box before kindling the stove with it, he will not have to go around asking people, who know no more than he, to give him a fool tip about what crop to put in this year!

WHAT CALIFORNIA SHOULD DO.

BUT though it is and always will be a tough problem about what an individual should do, it is clear enough what California should do. California should keep right along in her scheme of diversified productions—with particular emphasis on things of world-want which most other countries cannot produce at all or not so well as we. But this does not mean that we need avoid world-competition even in great staples: they should be the background of our picture of production: or perhaps it would be better to call them the foundation upon which are built the pointed arches and clustered columns of our cathedral of special products. For instance, we have particular advantages in growing rice, long-staple cotton, beet sugar, beans, a group of truck crops for fresh sale out of the season of other parts of the country and for dehydration. We have capacity for all profitable animals and their products and we have immense opportunity for forage for local feeding and for export. We have a great chance for wheat and when we get a surplus again our millers will see to it that we export only flour—keeping the fraction of the total weight which is best for higher-value animal products and finally for the soil itself. Perhaps we should count less on barley in the immediate future, for tractors cannot eat it and Americans may not drink it, but other uses may call for it to an extent which cannot now be foreseen. All thees products, and others like them in the staple class, are firm in the foundation of our agricultural wealth and it is a great item in our natural endowment that we are equipped to hold them up in world competition and to turn them out with a short haul to the ships of the world. As compared with other States which must flip-flap between two or three staples and use them not merely as a foundation but for superstructure as well, California is grandly all right in the basis of her prosperity and development. As now the world has been thrown open as never before and as an American merchant marine has been realized in speed and capacity such as no one could have dreamed, California should push her production of staple products to the limits of her idle land.

OUR CATHEDRAL OF SPECIAL PRODUCTS.

AND if so much can be said of the foundation which surpasses that of other States in extent and variety of cornerstones and connecting walls, what can be said of the lofty structure of special products which rests upon it? The State Development Board estimated the selling value of our fruit products for 1917 at upwards of two hundred million dollars. War prices are involved, of course, but it is a question whether such inflation has not been balanced by the contribution of enduring publicity and popularity which it made to the future of these products. In a way it may be said that we have really advertised our brands at the consumers' expense—which every enterprising producer tries to do. Therefore we now have in the added pulling power of the brands assurance that we have established increased credit with the future and not incurred a debt of exaction to repay to it. In our mind the value of our war shipments to the allied armies and to the civil populations of European countries lies

more in the recognition of their desirability than in the money they returned. It has put California on the map for commercial fruits and fruit products of style, quality and nutritive importance beyond anything ever conceded to such foods before. To meet what seems to be a reasonable anticipation of increased demand there should be reasonable extension of fruit planting. If there has been a fortunate plunge in "crops to win the war," the one who made it should think seriously whether it is not now wiser to invest the money in permanent improvement than in making another plunge. In this line trees for orchard planting, pure stock for better breeding, more alfalfa for better feeding, better implements and machinery to better serve them all—might put more value on the farm inventory a year from now than another plunge in quick-selling produce would put in the bank balance. It may be a good year for quick-sellers, and the way the rains are coming makes it look as though there would be good yields of them, and yet it may be a bad year for over-reaching. If we had good land and money in hand, we would use some of the latter to fit the land for future production in California's most distinctive line, good fruits, or in the line which promises another great distinction—the larger production of good animals.

MAKE IT GOOD AT MODESTO!

WE HAVE just heard from Secretary Fred Millard of the Farmers' Union more about the coming delegated assembly of representatives of California bona fide farmers' organizations at Modesto, which we commended last week. Up to November 16 invitations had been sent to sixty organizations and only one had sent regrets. Mr. Millard wishes us to give notice that accredited representatives of all farming organizations will be welcome. It will be impossible to get formal invitations to all the organizations with which it is desired to co-operate. The Farmers' Union will hold its own closed meetings on December 3 and 5. On Wednesday, December 4, there will be nothing but this pan-conference. The questions proposed for the conference are these:

1—Are the farmers getting a fair share of the wealth they produce? If not, why?

2—Is the influence of the farmers in national, state and local affairs in reasonable proportion to their numbers and power and the value of the services they render to all people? If not, why?

3—What changes are necessary to bring about permanent agriculture—an agriculture yielding returns financially and socially as satisfying as those of other industries and modes of life?

These are the real things in the agricultural situation. They underlie and surround the farming industry as though with reinforced concrete. The only way out of them is upward. If California organizations will send their best men and women to Modesto on December 4 there may be a high jump! We are waiting for it.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Keeping Sweet Potatoes.

To the Editor: I do not have much success in keeping sweet potatoes. How can I keep them for general purposes, also to grow plants for next season?—E. E. W., Yuba City.

It is simpler to keep sweet potatoes in California than in regions of heavy freezing because "sweet potato houses" are not required and yet due care and proper arrangements are necessary. Many pack the potatoes in dry sand and keep them in the house. This is expensive and is not a sure way. Many will rot and sometimes only one-third of them will keep till spring. Storage in the open air with due protection against too great temperature changes and moisture is better. This method has been approved in Fresno county, as given in our book on "California Vegetables":

Take stout stakes, say five to six feet long, and drive them into the ground in a row and five feet apart, in some dry place that is not sheltered by trees. Dig the potatoes and throw them up around the stakes to the height of four feet. For a large field a great many such rows may be necessary; for a small patch perhaps one single stake will suffice. When all dug, put four inches of straw as covering. After a week or ten days, according to the weather, the potatoes will have undergone a sweating process. They first cover themselves with moisture, as if they had been dipped in water. This moisture gradually begins to disappear, and as soon as it does so it is time to throw off the straw. This should be done when the wind is blowing; the potato hills should be left open for three or four hours, or until the potatoes appear entirely dry. If the straw covering is taken off in the morning, the potatoes will be dry at noon. Then cover them again with three or four inches of fresh, dry straw, and on top of the straw put three or four inches of soil to keep out the cold. On the top of this must be placed a roof, which is easily made of shakes, nailed to strips of two by three and made in the shape of panels, to allow of easy handling and of repeated use year after year. Potatoes kept in this way will preserve perfectly until next spring. Very few, if any, will be found decayed.

This is the best way we now know and the potatoes are of course suitable to go into the sprouting bed in February or March, according as the locality is safe for an early start. If any reader knows a better or an easier way to keep the saccharine spuds, please tell us about it quickly!

Prefers One Nut in a Place.

To the Editor: In your issue of November 9, page 499, you give a reader advice for planting walnuts. I planted ten acres of walnuts just as you advised, but I will never do it again. It is very much better to have the land ready and the places for the trees marked out, and then watch the sand boxes and as soon as the nuts begin to sprout go over the boxes carefully every three days, pick the sprouted ones out when the sprouts are about one inch long and plant these nuts in their permanent place and only one nut—putting three stakes around each nut to protect it. I am sure the man will then have splendid trees, ready to be grafted over when they are three years old. It is essential to plant the remaining nuts in nursery rows in case he will have to replace some of the trees.—H. H. H., Oakland.

Yours is a good way if you wish to grow seedlings for grafting in the orchard. The only difference between your way and ours is that you put one sprouted walnut and three stakes in a place and we put three walnuts in a place. Black walnuts are cheaper than stakes and we would rather grow stakes than buy them. But we like also to choose the best of the three for the permanent tree. All walnuts that sprout alike do not grow alike. If your one happens to be a bum grower, you have to stay with it or pull it out and plant in another. We pull it out and keep the better one already growing alongside. You say you will never plant another orchard our way. We would never do it our way nor yours either. We would grow the seedlings in nursery row and plant out the best of them—keeping the land clear for crops a year or two. The inquirer did not ask us that. He asked how to plant the nuts in place and we told him. He may like your way better and we are glad to have it.

Pruning Trailing Berries.

To the Editor: Please inform me how to prune Himalaya, Logan and dewberry vines.—W. H., El Cerrito.

Briefly stated, the Logan hybrid and the dewberries should be pruned in house garden practice in this way: All the wood which fruited last summer should be removed—cutting away at the starting point or at the ground surface. The wood which grew last summer should be trained upon the fence or trellis and tied or nailed securely in place, to bear fruit next summer. If the canes have run out too long for your convenience in training up, cut them back wherever you wish to end them, but give all convenient length, because side shoots from them will bring the fruit. The Himalayas are different in this way: the fruit may come from canes which have fruited before—therefore train up all the wood which you have space for and run it as far outward as you like.

Make the Germans Eat Barley.

To the Editor: If the United States is to help feed Germany and other people, why not take it up with the right people and see that they use a lot of our California barley?—A. T. G., Chico.

Surely enough: why not? The Food Administration proposes to get good, patriotic Americans back onto pure wheat bread and it will only be fair to have our reformed enemies eat up the substitutes—which they will probably be glad enough to do, because they are accustomed to these substitutes and will consider them much better than the substitutes they have been making for the last four years. It may be urged that they are more likely to drink our plump California barley than to eat it, but need we take any responsibility for that? We have been fighting for the right of self-determination among small nations and Germany has got into that class both geographically and morally. Give them barley in the neck!

Field Men Wanted

Are you free to travel? Have you an automobile? Are you convinced that the Rural Press is the best paper of its kind on the Coast and that it should be in every farm home? If so, we need you to take the place of field men who have been drafted. Pleasant work, attending to our renewals and presenting the paper to those not already subscribers.

Straight salary; permanent work, with advancement. Lack of experience no barrier. If you are a live wire, are willing to learn and want to make more money, let us tell you how to do it. Our offer is a liberal one.

Lime on "White Ash" Soils.

To the Editor: Is it necessary to put on slaked lime in "white ash" soil for better production of olives?—C. W. P., Kingsburg.

As the "white ash" soils of your region are distinctively calcareous or rich in lime they, theoretically, do not need it for plant food: as they are readily permeable or well-drained and aerated, they presumably do not need it to correct acidity: as they are light and easily cultivable, they do not need mellowing. If you have in some way changed these natural traits of the soil you designate, they may be helped by lime. That you have to determine by a limited area of application and comparative observation of the behavior of the plants as compared with plants on the non-limed area. Presumably your soil needs no lime: it is up to you to prove the contrary.

Tender Garden "Sass" Out Late!

To the Editor: I have had poor luck with my garden this year; have never farmed in California before. My cucumber vines are covered with a green louse. Beans are turning white, as though they had been whitewashed, and are dying in spite of all care, watering and cultivating. Can you tell where I can get a book or information on this subject?—M. K., Stockton.

In your kind of a thermal belt it is now too late to care much what happens to your cucumbers and beans, for the frost will get them anyway very soon if it has not hit them already. Both for the cucumber aphis and for the red spider or thrips which turned your beans white it is necessary to spray much earlier in the season, at the first sight of the trouble, with a soap and tobacco insecticide. Our book on "California Vegetables" was written to cover just the elementary information you need about gardening.

Pumpkins for Fowls.

To the Editor: Are pumpkins good for chickens?—Subscriber, Escalon.

They surely are. If you want to see some fun, set out a pumpkin pie for them. Raw pumpkins are wholesome for them so far as they will eat them when otherwise properly fed. They are not good as a sole feed for starving fowls because they do not contain all that a fowl needs to be thrifty. Split open a pumpkin and let them take what they like. Do not be scared about the seeds, but do not try to make a sole feed of them. Pumpkins and milk are a good ration in connection with dry feeds.

Who Can Poison Rye?

To the Editor: I want to plant some rye and I do not want the blackbirds to pull it up. Can I poison the seed by soaking it in something or must I use my shotgun?—J. F., Fresno.

We know no practical way to do it. We should use a little heavier seeding and get the gun.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 19, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.83	6.56	6.89	64	42
Red Bluff	.70	10.83	4.12	66	38
Sacramento	.48	4.92	2.57	66	42
San Francisco	2.49	7.08	2.86	64	50
San Jose	.48	9.00	2.19	64	36
Fresno	.77	1.77	1.59	66	40
San Luis Obispo	2.44	4.19	2.67	72	44
Los Angeles	1.32	2.03	1.60	72	52
San Diego	1.08	2.31	.99	74	54

A Fruit Evaporator Embodying the Best in Its Line

Written for Pacific Rural Press by L. W. Parsons. Reprinted by request.

ALTHOUGH California summer conditions of adequate heat and dry air favor open-air evaporation to such an extent that nearly all our product of cured fruit is secured in that way, there are some parts of the State where artificial heat would be a safer recourse and there are late fruits which sometimes collide with early rains in a way to cause losses even in our best sun-curing regions. The present is one of the exceptional years where unseasonably early rains have caused heavy losses to our fruit growers, more especially the growers of prunes and grapes. These losses might have been in a measure avoided had the requisite drying facilities been on hand.

It is interesting, therefore, to describe a machine evaporator constructed upon true principles and having capacity sufficiently large to encourage its use. L. W. Parsons of Campbell, Santa Clara county, has given most of his life to the design and construction of fruit evaporators, and secured patents thereupon which have expired and are now public property. In the Pacific Rural Press of June 19 and 26, 1909, he gave his conclusions on the desirability of machine evaporation and a design for the construction of an evaporator which embodied all his best work in this line. The accompanying drawings and description are from Mr. Parson's writings]:

A fruit drying chamber capable of holding about two tons is about as large as one heater can well handle. Wire trays two feet wide by five feet long are as large as one strong man can conveniently handle; he might prefer them shorter; in fact, if the smaller tray would give a drier of sufficient capacity to meet the demands of the owner, he could make the trays two by four feet, with a narrower furnace, to correspond. Where two men are always available, trays three by six feet have been found to work well.

A drier five feet wide and twenty-four feet long, having ten trays in its length and twelve trays high, holds 120 trays 2 by 5 feet, or a total drying surface of 1200 square feet, which at the rate of 3 pounds per foot give a total of 3600 pounds at one time: that is, it would take that much gross weight of fruit before cutting to fill the trays. Large fruit would amount to more, and small fruit or culls might not go above two pounds to the foot.

By making the drier one or two trays longer and higher, and a foot or so wider, the capacity may be materially increased. But if much more capacity is desired, it would be better to build another drier, or several of them, alongside of it, which would work satisfactorily.

The fruit drying chamber rests on top of the hot air chamber, which is surrounded by brick or cement walls about 8 inches thick, and is as long and wide as the fruit chamber above. The height of these walls depends on the size and shape of the heater enclosed by them. The furnace is a very important factor; it must be strong, not easily burned out, smoke-tight in all its joints and flues, with caps or covers so placed to facilitate cleaning out soot and ashes. There must be room between the sides of the furnace and the side walls to allow for circulation of the air to be heated.

Fresh air enters this hot air chamber through openings about a foot square at the bottom in front between the furnace and the side walls; passes along on the sides and top of furnace and flues until it reaches the back end of the hot air chamber, where it passes up through an opening into the fruit chamber above.

The next, and perhaps the most critical, part in the construction, is the sheet iron floor which covers the furnace and flues and separates them from the fruit chamber above. This iron floor is made of either black or galvanized iron, not thinner than No. 24; thicker would be better. It rests on rods or bars of angle or T iron stretched from wall to wall, with ends built into the walls. These rods are spaced about two feet apart. The sheets of iron should be riveted or bolted together. The edges of this iron floor should project into and be imbedded in the brick walls in front and along the two side walls as far back as the floor goes to the other end of the drier. Cover this floor with an inch or so of sand or fine earth, so as to stop up all cracks. At the back end of drier this iron floor is cut short one foot, allowing an opening of one by about five feet to allow the hot air from the heater below the iron floor to pass up into the fruit chamber above. This floor must be made tight everywhere, so no hot air can possibly leak upward and scorch the fruit or the woodwork above.

The brick walls should be built about 18 inches above the iron floor, so that the wooden frame which rests on top will be safe from burning.

The furnace may be about 4 feet high by 3 feet wide, with an ash pit in the bottom part, and 6 or 8 or more feet long. This will handle 4-foot cordwood conveniently and make a liberal combustion chamber for the flames. It may be a cylinder or shaped like a boiler, or have brick walls, with a cast iron arch on top. Or it may be a big wrought iron box made of quarter-inch boiler iron, braced with angle iron to prevent warping.

A smoke pipe one foot in diameter connects with the back end of the furnace, passes horizontally to near the back end of the drier, then by a short elbow doubles back, coming to the front over the top of the furnace, and then, by an elbow, to right or left through the side brick wall to connect with the pipe inside of the ventilator shaft or flue.

If the furnace is 4 feet high and the pipe above it 1 foot thick, allow 6 inches space between the top of the furnace and the pipe and between the pipe and sheet-iron floor above it: then add the 18 inches of brick wall above the iron floor; we get a total height of 7½ feet from the ground to the top of wall.

But only the furnace needs to be as deep as this, and it can be placed in a pit at one end of the drier. The brick walls back of the furnace do not need to go so far down by perhaps two feet. The smoke pipe leaving the furnace close to its top can rest on a brick lying on top of the ground, so the part of the heating chamber holding the long flues may be shallower, thus saving some expense in masonry. The top of the brick wall should be level all the way around and even with the floor of the house, so the operator can easily handle the trays on the upper track. Do not insert woodwork of any kind into the brickwork.

Lay 2x4-inch sills on top of the brick walls all around the four sides. Cut your upright studding of 2x4 joists 6½ feet high, spaced 2 feet apart, and nail a 2x4 plate on top. This is for the two long sides. The ends of the drying chamber are to be supplied with close-fitting doors. Nail surfaced matched lumber on the inner face of the studding. These boards had better be of redwood, so as not to gum up the trays with pitch.

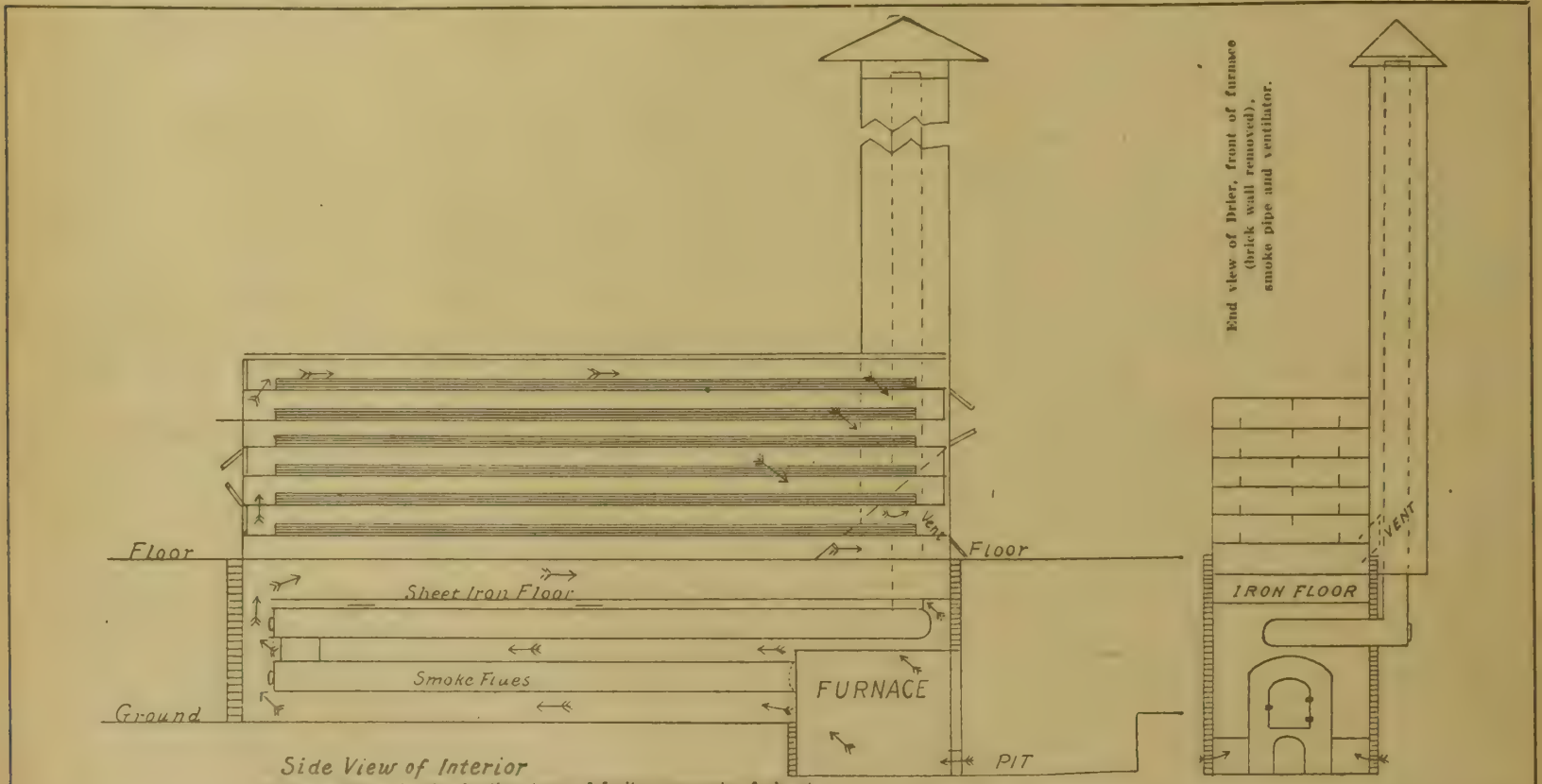
These two side walls should be perfectly straight, plumb and level and at equal distance apart at all points, so the trays will work true and not bind or slip off the tracks. Nail to these walls tracks or slides made of strips 1½ inches square. Fasten to these tracks wheels, known to the hardware men as "sash rollers," 1 inch in diameter and spaced 10 inches apart along the track. Cut a little notch in the edge of the track, so the wheel can turn freely, with the big side of the wheel upward. Put 12 of these tracks on each wall, spaced 6 inches apart, beginning 6 inches from the ceiling to the top of the first track, then 6 inches to the top of the next track, etc. One strong 16-penny wire nail driven into each stud will hold these tracks securely. Fasten the wheels with screws to the track on a work bench before nailing them to the walls.

Nail matched lumber on top of the plates from side to side for a ceiling. This wooden shell will have to be braced from the outside so it can stand up firmly with its load of fruit.

The ventilator or exhaust flue should be about 2 by 3 feet inside and extend about 20 feet above the top of the drier. Build it against the side of the drier, resting on top of the brick wall, close to the front end of the drier.

The smoke pipe must be carried by a suitable elbow from its position above the furnace through the side brick wall to a point under the center of the ventilator, thence up through it to the top. A sheet-iron weather cap on top should protect the ventilator and smoke pipe. Make the bottom of the ventilator where smoke pipe enters, air tight to insure good draft. Provide caps or covers at the elbows to facilitate cleaning out the soot.

On the side of the drying chamber, at the bottom, cut a hole into the ventilator for the passage of the damp air from the fruit into the ventilator. This opening should be



Section of Drier showing heating, trays of fruit, movements of air, etc.

the shape of a right angled triangle, in such position as though the bottom cover of the side wall were being cut off. The bottom and perpendicular side of opening are to be 3 feet long. The lower tracks go past this opening to carry trays to the door. Some kind of a small guide rail should be placed to prevent the corners of the trays from striking against the edge of opening. The trays are to be ½ inch shorter than the drier is wide inside, so as to move freely without danger of being bound. Two or three rods of ½-inch iron provided with screws and nuts should pass through from side to side of the drying chamber about half way from top to bottom, to prevent the walls of the drier from warping or bulging, or else the trays will drop off the tracks.

Make four sides of the trays of stuff 1½ inches square, notched at the corners of trays. Tack on No. 3 mesh galvanized wire cloth. Over this nail strips 1 inch thick by 1½ inches wide for runners to roll over the wheels. Nail a similar strip across the middle of the tray to prevent the wire cloth from sagging. From 25 to 50 extra trays will be found convenient in operating the drier. The wire cloth is 2 feet wide. Make the tray frames 2 feet 1 inch wide. With average prices for labor and material this drier can be built in a substantial manner for about $500.

To Operate the Drier.—Get started right by taking all day in gradually filling the drier, so that by night time the first trays will be within a few hours of being finished. Start a good fire before putting in the fruit, so as to burn out the oily smells of the new ironwork. Use the eight lower tracks for the fresh fruit. Put eight trays in at a time, one tray on each of the eight lower tracks about every 45 minutes, starting them at the front end over the furnace and pushing along. After ten lots have been so placed, the eight lower tracks will be full. Then take out one tray from each track at the back end, and put them in on the upper four tracks, two trays on a track, to be gradually pushed along from time to time, as often as fresh trays are put in at the front, until the machine is full and the driest trays will be at the front end of the upper four tracks. The fresh, wet fruit will in this way have its vapor drawn out through the ventilator close by, without wetting the fruit which is partly dry.

As the fruit gets drier it is moved into drier and warmer air at the back end. But this fresh air right from the heater below is 180 degrees hot and unsafe for fruit to finish in, so it is started back on the upper tracks to finish in a milder temperature, with enough vapor in the air to allow the fruit to finish gradually without danger of scorching, turning out the fruit in a soft and flexible condition, evenly cured and right in color. This process is peculiar to this evaporator and yields the best results in quality of work done.

If fruit is rushed too fast through the drier, it will get back to the front and top too soon and will be too wet to dry readily in the lower temperature.

If the beginner gets caught this way, it will be better, after waiting a little, to take it out, and, if still too wet, carry it back to the other end and put in on the upper four tracks again to gradually go forward again. After a little experience he will learn how and when to move the fruit.

As to variations of heat in different parts of the drier and the effects thereof, it may be added that the thermometer hanging in the current of air just as it strikes the fruit may register 190 degrees and do no harm, for the fruit at that end of the drier has enough moisture to save it. The air cools rapidly, and when it reaches the other end of the drier where the fruit on the top tracks is nearly dry, the temperature will be about 40 degrees cooler. This is one of the most valuable points in this evaporator, finishing the fruit in a lower temperature and yet with but little moisture in the air.

Wood or coal fires will fluctuate in heat, and a careless operator might allow the temperature to get to 200 or 210 degrees, but if it does not last more than a few minutes, and as the fruit is not too near being finished at the exposed end, no harm is done. A thermometer resting on the tray at the back end lying between the fruit will show about 10 degrees lower temperature than when hanging clear in the draft at that point.

While drying the trays should not touch the ends of the drier, but be pushed back about a foot and a half from the doors to allow room for free circulation of air at the back end of drier and down at the front end. It takes 16 to 24 hours to dry the fruit, according to kind and size. Apples are dried in six to eight hours.

The furnace may be made to use any fuel. An oil burner is the best, because the heat can be kept steadily at the maximum.

F. D. Fowler of Palermo, who has 40 acres of olives, said that his Manzanillos yielded a better crop than the Missions this year. He has also 50 acres of oranges and has 100 acres that will be planted to figs this year—a large undertaking.

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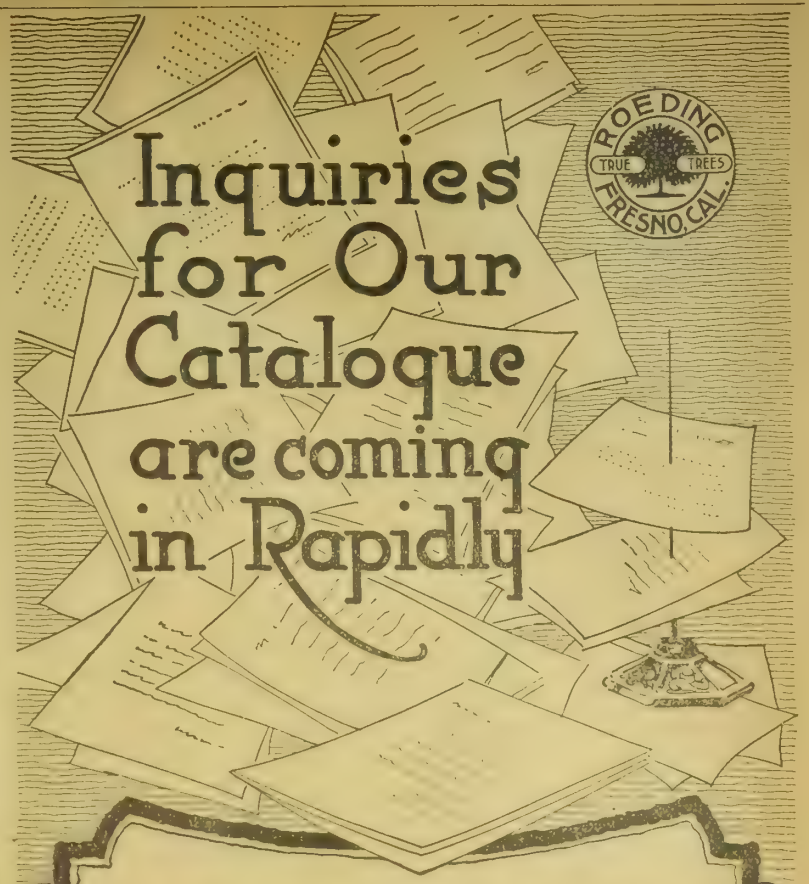

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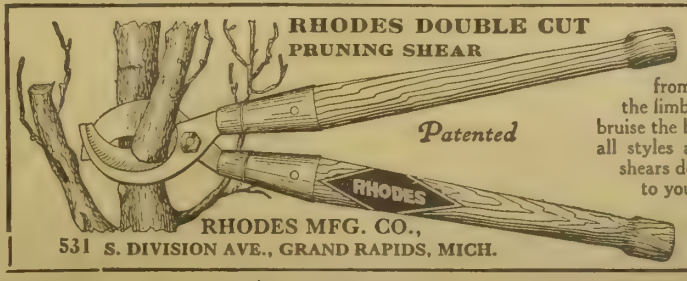

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Pointers on Pruning of the Cherry

Written for Pacific Rural Press by John J. Fox

THE TWO primary reasons for heading a cherry tree low are: (1) That it may protect itself from sunburn from its youth up, and (2) that it may be more easily and cheaply harvested—a matter of very great importance. The low-head performs another service which is not calculated on. It prevents plowing too close up to the tree trunk as the tree gets older, and this is a distinct advantage. For it saves the large roots or the bark from injury from the plow or cultivator, wherein the spores of a fungus or the germs of bacteria may enter, or suckering from an injured small root.

The tree may be headed then at 15 inches from the ground and three or more leaders selected for the head. Any other little shoots should be pinched back while they are young and tender to form fruit wood and especially to protect the young tender bark.

No definite rule can be applied as to cutting the second year, but about two-thirds of the growth may be cut off. During the next growing period any small laterals that appear should be pinched back while they are tender to keep the little tree filled up with fruit spores. The second year's growth can be taken back one-half or more, according to growth, always cutting to an outside bud, thinning out any crossing or undesirable branches in the summer time after pinching back the laterals for fruiting.

The above illustration shows a well-cared-for cherry orchard.

A DANGER PERIOD.

It has been the writer's experience that from the third to the sixth year is a danger period for the cherry on account of sap circulation going wrong. Sometimes it is profuse gumming. Sometimes a limb will go, or half the tree, by the trouble spreading and shutting off the flow of sap. These remarks do not apply to soursapping at the base (which may come from defective soil conditions). It has appeared to be worse where trees have been heavily cut and thinned at the fourth year and may have to do with an over-vigorous sap condition and insufficient wood to deal with it. It is for this reason, since no better is forthcoming, that we advocate going over the young orchard during the summer of the fourth year and pinching or cutting back leaders then, pinching back laterals for fruit wood as usual. After the fourth year no more winter pruning should be necessary. Any thinning out of limbs or crossing branches can be cut out after the crop is off.

ADVANTAGES OF SUMMER PRUNING.

The advantages of cutting the cherry at this time are (as in the apricot): The area of evaporation of moisture through foliage is reduced, by which means the tree is benefited and refreshed; secondly, the wound heals more rapidly, because of the ready flow of sap to the injury; and lastly, there is less danger of infection from fungus spores entering than during the moist weather.

From the fifth year, when a sprinkling of fruit may be expected, the efforts of the orchardist will be applied to getting all the fine wood he can and of keeping the tree as low and spreading as possible—no easy matter with upright growers like the Black Republican and Tartarian. When taking back a good-sized limb it should always be cut back to a leader anyway, and cut closely enough so that it will heal over.

An important reason for not having too many leaders at the point of heading is because by constriction at points of contact a ready flow of sap is checked. It is here that pockets of gum are often found in the fall of the year right in the crotch. Where the limbs are jammed up together they never unite, but are always divided by the layers of bark, as anyone knows who has ever chopped up an old cherry tree.

REPAIRING INJURY.

When pruning is being done, all gummed areas should be opened up to sound bark, scraped and painted. This applies to sunburned areas as well as those produced by gummosis or dried up for any other reason. Dried areas of bark are always found above a very large cut extending from the width of the cut at the base up to a point. These dried-up areas are also often found from the center of the crotch upwards. It is here that the infection of wood rot undoubtedly often enters and is a difficult matter to deal with. The bark may look sound but will be found lifeless by cutting into it. It would pay to plaster these over with a good coat of asphaltum after clearing off the bark, filling the pocket with a wad of it.

Old trees that have a lot of dead branches can be renovated by cutting back to sound wood if possible. Sometimes they can even be dehorned, a piece at a time, and be serviceable producers for some years, but they are never satisfactory. Besides occupying good ground and giving inadequate returns, a really decrepit old cherry tree is an eyesore and makes no demand for effort on the part of the owner. Under such circumstances it may become simply a breeding place for red spider and scale insects—a nest of iniquity. Let us burn it up and turn our attention to good, vigorous trees that are worth while.

California's Fruits "Over The Top" Despite Dry Year

The prophets who early in the season predicted a short fruit crop in California on account of the dry year must go in hiding. Out of a soil alleged to be desiccated by two successive years of short rainfall there bloomed this spring a fairyland of variegated blossoms which a few months of California sunshine transformed into a harvest of delicious fruits for the world's regalement valued at forty million dollars and over. There are still a few scattering shipments throughout the State to be finished up, but there are hardly fifty cars of grapes left to move, and probably five or ten cars of pears. The season can be considered as practically closed. We present below an itemized statement of shipments for 1918 (to date) compared with shipments for the years 1916 and 1917 (final).

These figures are furnished by the California Fruit Distributors, Sacramento:

	1916	1917	1918
Cherries	164	295	351
Apricots	289½	403	440¾
Peaches	1,909½	2,430¾	3,137
Plums	1,998½	2,650¾	2,483¼
Pears	3,701	4,789½	4,545½
Grapes	9,721	13,111½	16,238¼
Miscellaneous	106½	63½	70
	17,891	23,744	27,265¾

It is worthy of note that our grape shipments surpass in volume all others combined, and a few late varieties are still going forward.

MILDEW ON APPLES.

[Written for Pacific Rural Press.]

The best method of controlling mildew on apple trees, according to H. B. Hopkins, Horticultural Inspector in Santa Cruz county, is by winter clipping and the burning of all infected wood, followed by a dormant spray of crude oil emulsion and lime-sulphur alternate years, afterwards using 10 pounds of milled sulphur to the tank in April, with the arsenate of lead spray. A rather unaccountable feature presented itself this year in the apple orchards where mildew is rife: that rather less mildew was apparent where crude oil emulsion was used last winter than where lime-sulphur had been applied. Now is a good time to start in on those infected twigs—a lot of it can be done with the pole clipper, while the regular pruning can be done any time between now and spring.

Restriction on canning of beans is removed for November, December and January.

The War Is Won

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The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.

While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.

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OIL EMULSIONS FOR DORMANT SPRAY.

[Written for Pacific Rural Press.]

The time has come when we have to haul out the spray pump or engine and see that it is in good working order. For the dormant spray season is approaching when everybody will be at it—from the large 200-gallon tank and power machine down to the hand (force) pump and barrel on a sled. The man with only five acres of fruit must keep his trees as clean as the man with 500 acres, if he wants to be in the running with his trees and fruit.

Excepting for peach blight and shothole fungus, the various oil emulsions and miscible oils are perhaps the best early winter sprays, judging from their increasing use. They are second only in importance to lime-sulphur, which is also a fungicide. They are very valuable in the control of black scale, San Jose scale, Italian pear scale, greedy scale and leaf rotter, making a good killing of the armored scales so often hidden under the edges of cracks in the outer bark, where the oil sprays creep. The above scales can be found on prunes, pears, peaches, plums, apricots and cherries and a thorough spraying in early winter of crude oil emulsion, distillate emulsion or any of the miscible oils will be productive of good results. These oils and emulsions also seem to leave the bark in good condition. The system followed by some orchardists of using oil emulsions and lime-sulphur alternate years where annual spraying is necessary seems to be a sound one. Using a contact dormant spray every other year seems to be also a good practice, doing only half the orchard one year and the other half the next, as it does not then clear out the beneficial insects that serve to hold the red spider and aphis in check.

WET WINTER PROPHESIED.

As all signs, portents and prophecies (whatever they are worth) point to a wet winter, the clean-up spray should be carried out as early as possible. If we wait till all the pruning is done, first spraying is put off till pretty late and occasionally a wet spring puts it off altogether—especially on clay and adobe soils.

Labor being rather scarce and dear these war times, it is probable that the majority of growers will take a hand at the spray nozzles themselves and thus insure a thoroughly good job being done. For it cannot too often be repeated that the results of spraying depend not alone on the quality of the material used but quite as much on the thoroughness of its application.

Where contract spraying is done, unless by people you know are to be trusted, there is always the danger of skimping on material and time. Also it is not uncommon for a rancher to try to make his spray reach so many trees to the tank, no matter how unequal they may be in size. This leads to slovenly work. Many large trees get one or two gallons that ought to get five or six or more.

No portion of the tree should be missed—every twig must be wetted and the trunks and limbs drenched on all sides, as insects breed and fungous diseases develop so rapidly from any infested or infected portion left untreated. It is often very disagreeable to get around all sides of a tree if there is a light wind blowing, but it is something that has to be met. A good equipment is particularly necessary with oil emulsions to apply the mixture right—150 pounds pressure is desirable. Then if men are employed who are more concerned about the efficiency of their work than of their personal comfort good results are bound to follow.

Peat fires are mighty hard to control, yet on the peat soil of the delta islands it is the practice to break down the Indian corn stalks and burn them, according to J. D. Happy of the Brack tract in San Joaquin county. They are not burned until the soil is well wetted by rain, but even then, if piled up too much, they may set the peat on fire.

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HARDIE SPRAY HOSE IS THE SAFEST HOSE TO BUY.

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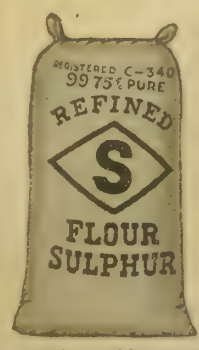
All city and county food administrators, women directors and food conservation speakers of California and Nevada will gather in conference in San Francisco next Friday at 10 o'clock at the Palace Hotel to plan in detail the part the two States will play in a nation-wide intensive food saving campaign to be launched the week of December 1-7.

The Beekeepers' Short Course at University Farm at Davis is to be conducted December 2 to 7. Any Californians interested may attend at a nominal cost.

SULPHUR



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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Fruits Grow Up Salinas Valley.

One does not expect to find fruit in the upper Salinas Valley, yet the Moon Bros. of Monterey county have a considerable orchard, including Tartarian, Royal Ann, sour, and other varieties of cherries; Skinner Seedling, Bellflower, and other kinds of apples, J. H. Hale peaches, a bearing orange tree, and some other fruits. The Hale peaches were set out a year ago and this season had magnificent peaches up to 12 inches in circumference. So many peaches set that they had to be thinned out. The ranch is high on the hillside overlooking the valley. Its air drainage keeps it warmer than the flat lands below. S. O. Pugh, with a similar location, has a considerable number of bearing oranges and other fruits.

Almonds in the South.

Tom Henry, ex-Horticultural Inspector at Paso Robles, is now superintendent of the White Sox Ranch, owned by Chas. A. Comiskey et al. He has set out 224 acres to almonds in a "safe" region, six miles east of San Miguel, and in spite of the dry season of last year (when they were planted) the young trees have come through with very little loss and they have made a good first year's growth. The soil is a good quality of adobe mixed with chalk rock, and Mr. Henry says that the peach root does not stand the chalky soil so well as the almond root, which thrives well on it. The varieties he planted are one-half Nonpareils and the other half Ne Plus Ultras and Drake's Seedlings.

A Fine Walnut.

Martin Slaughter of Carpinteria, in Santa Barbara county, has a walnut seedling 15 years old that has one of the best nuts we have seen. It is large and well filled. The shell is thin, smooth, well sealed and a light tan color. The tree has a dense foliage of very wide, large leaves and this year the tree bore over 100 pounds of nuts. E. S. Kellogg, Horticultural Commissioner of Santa Barbara county, considers it about the best seedling in his district. Mr. Kellogg is carrying out experiments with hybrids both in stocks and fruit nuts that will be watched with much interest by his growers.

Influenza and the Fruit Business.

A meeting of packers and canners was held in the office of A. W. Tate, Jr., at Watsonville to consider ways and means to combat influenza in their warehouses. To have closed down entirely would have occasioned serious losses to farmers and packers, but it was decided that employees should all be compelled to wear masks during working hours.

High Prices for Drying Apples.

Dried apple men are paying as high as $32 a ton for apples for the evaporator. The Newtown Pippin is the best apple to can, according to Horace R. Beesley, vice-president of the Geo. H. Hook Co. of Watsonville. Bellflowers cut away to waste too much, swell in the cooking and then shink away after cooling.

Pears for Pajaro Valley.

Watsonville section expects to plant more pears on her rich bottoms where the later varieties seem to do well. We recently saw a winter Bartlett that weighed 36 ounces, grown by Frank Crossetti near here.

Santa Cruz County Apple Shipments.

Last year 2,700,000 boxes of apples were shipped from Watsonville packing houses. This year there will be about 75 per cent of last year's crop and the fruit is of excellent quality.

Dead Bean Market Will Come to Life

(Continued from first page.)

the Orient at approximately 2,500,000 bushels. Kotenashis are only one of 21 distinct varieties imported to the United States from the Orient. The present price on the 1918 crop of Kotenashis for January or later delivery is 8½c to 9c f. o. b. San Francisco.

WHAT SHOULD THE PRICES BE?

The 1917 crop of small whites was commandeered by the Government and prices conceded to be fair both by the growers and by the Food Administration were paid. They were higher than any offered now, though the cost of production was less than in 1918 and the losses were negligible. In stating a fair price, consideration of previous years' losses should be given, as well as the present year's costs of production and losses. Otherwise, bean production will do what butter and egg production have already done for lack of profitable prices awhile back. Already the Sutter Basin Co. has decided to reduce its bean planting next year 10,000 acres below that of 1918. A fair living price as arrived at by the Government last winter, if it was fair with relation to costs of production, would indicate that the price of beans this year should be 10 to 20 per cent higher than last. Most growers would be glad to sell at last year's prices, because the market has been dead and the growers need money to pay their bills.

Looking at it from another angle, if the prices of 1915 were fair, this season's crop ought to bring at least as much as last season's crop, not allowing much for the losses and extra labor in 1918. H. L. Pabst of Rindge & Pabst, San Joaquin county, gives the following estimated increased costs since 1915: Labor, 75 to 100 per cent increase; board for men, about 50 per cent increase; hay for work stock, about 85 per cent increase; grain for stock, average about 50 per cent increase; threshing, 40 per cent increase; sacks, 300 per cent increase; twine, 100 per cent higher; transportation from the islands to Stockton, 50 per cent increase. Ed Powers of Southern San Joaquin county puts the cost of production this year at 40 per cent more than in 1917. Ranch laborers this year cost $3 or more and board; teamsters $3.50 to $4, sack sewers $6, separator men $8, tractor engine man $6. Threshing alone cost $1 per sack where the machine owner furnished all labor, wagons, and horses.

Whether growers should sell at lower prices than last year is a question for each to decide. The Bean Growers' Association maintains that a profitable demand will develop. Meanwhile, as President Geo. A. Turner says, most of the growers are able to borrow money on their warehouse receipts. Dealers are hardly yet in position to make offers, for they are not supposed to be allowed to hold stocks over sixty days, though this ruling is winked at on account of the present deadness of the market. The California Bean Dealers' Association, which sets the various bean grades each year and furnishes samples for comparison, has not yet set its grades. When it does, as soon as threshing is generally over, when the Government prices on what it is going to buy are known, and when exportation is opened unhampered to the world markets, we may expect beans to move and prices to be profitable.

The State Horticultural Commission has had its attention called to the introduction and establishment in California of an European snail, Helix pisana. This snail in southern Europe occasions much damage to both field and orchard crops, even attacking citrus trees.

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Dead Spots on Lawn

To the Editor: What ails the lawns? Most all the bluegrass lawns in my neighborhood are affected with ring worms. There first appears a round spot having the appearance of being dry; in a few days the grass has a distinct dead appearance and in a short time the place is bare, when other spots will appear until the lawn is completely ruined. What is the cause and what is the remedy?—Mrs. C. M. M., Chico.

[Answer by Prof. P. B. Kennedy, University of California.]

Your correspondent's description of her lawn trouble coincides so closely with my own experience that I am inclined to believe the same enemies are at work.

PERHAPS IT WAS CUTWORMS.

I discovered two insects playing havoc with a lawn that I thought ought to be well nigh perfect, from the early and late hours attention that it received in the way of watering, cultivating or fertilizing. Yet these brown spots would appear and for some time I was surely puzzled.

But one day, digging out dandelion roots, I unearthed an ugly worm in one of the spots. The dandelion was healthy and the grass was dead. Further probing proved to me that wherever there was a ring of dead grass there was one or more worms. The culprit proved to be the larva of the cutworm, well known to all who have to tend gardens. The mature insects, which are moths, lay their eggs preferably on grass blades. Hence the reason for the lawn injury. The larvae attack the grass and eat it so close to the ground that death results. Myriads of these larvae may be in the grass without one's being aware of their presence.

The worms become very juicy and fat and correspondingly ugly, dirty and greenish-black in color, and about an inch and a half long. Then each one transforms itself into a pupa—one of those things one frequently digs up in the soil that look something like a date seed but is capable of wiggling at one end only. After awhile a gray night-flying moth appears and the process of egg laying begins again.

While these interesting phenomena are taking place, your lawn just naturally goes from bad to worse and you finally dig it up and discover that most of the wretches have gone in search of "pastures new."

But you say, "Why didn't you spray the lawn with one pound of arsenate of lead to fifty gallons of water or feed them a genuine meal of bran and paris green and molasses?"

Well, just because there was always a fine lot of children around, both ours and the neighbors', and I thought more of them than the lawn. Then there was a pet riding horse, and a dog, and a cat, and a bevy of fowls, so why take any chances? So I just spaded up the lawn and picked out all the pupae I could find while they wiggled their tail and fed them to the chickens. The lawn was then dried out thoroughly and disturbed as much as possible to expose the insect life to all kinds of weather, which treatment they thoroughly disliked.

Finally it was spaded again, accompanied by a liberal dressing of barnyard manure and re-sown. A fine lawn was again secured and I forgot all my grass trouble until something else happened.

PERHAPS IT WAS WHITE GRUBS.

This time it was the back lawn. The same general conditions prevailed, except that much less water was applied. Depriving the lawn of water seemed to favor this particular trouble, as the injury was very rapid. Observing the brown condition of the lawn, I at first thought it was due to lack of water, so I gave it a good soaking. Although this checked the trouble, it was far from a cure. An insect was again to blame, the "white grub," one of the most uncanny looking creatures that it is the lot of the gardener to encounter. It lowers its large brown head and pushes forward much as we imagine a "tank" does on the battlefield, looking equally ferocious. Ordinarily I can handle worms and caterpillars and such like without batting an eye, but I draw the line at these fellows. They have the nerve to remain in this ugly condition, feeding and waxing fat, for three years before emerging as beetles, which during the months of May or June make life miserable for all who have their windows open and the lights on. It is the grubs that eat off the roots of the grass just below the surface of the ground, causing the brown areas. When the lawn is raked the entire grass is removed from the patches, leaving the ground bare.

What can be done in such a case? If the area is small and the damage slight, remove the sod and soil to the depth of a foot and replace with fresh soil. When the entire lawn is affected, dig it up and expose and worry the pupae which live in earth cases, which are destroyed by the process. Turn the chickens loose and the fun they have scrapping for the bugs is akin to a circus. Hogs and birds will also destroy them. Then keep the ground stirred and plant something else for a season, and when you re-sow trouble number two will be over and you will be ready to tackle the next one which is sure to come.

SEND FOR A DOCTOR.

Now, perhaps you may be able to discover which of these time-killers is playing havoc with your lawn, but then again you may not and we may be entirely wrong. If you still have trouble or cannot find any bugs, call in my friend Roland McKee of your own home town and if he cannot fathom the difficulty directly on the ground then you surely have just cause for an extended investigation.

Berkeley.

SEEDBED MADE OAT CROP.

A pretty good crop of black oats for last season, the dry one, was the 620 sacks raised by A. McCall in Santa Cruz county on 22 acres of rolling hill land. Some of the oats were so tall that a man could not reach their tops with his hand. It may be remembered that in many sections of the State many fields of grain were not harvested for lack of heads. Mr. McCall credits his success to thorough preparation of the seedbed before planting. When he plowed six inches deep before the rain, the bottom of the furrows was dry. A three-horse spike harrow was fitted with a seat on a heavy plank. The teeth were driven through to project about six inches. Five horses pulled this over the whole field twice with the teeth going full depth and Mr. McCall riding. This was followed by a "bulldozer" made by spacing three old railroad ties parallel and about three inches apart and driving drag teeth through two of them so they projected slantingly about three inches. Two weeks later there was moisture near the surface and the oats were drilled in as deep as possible with a disk drill. They received full benefit of all the rains.

BI-SULPHIDE FOR CORN-EAR WORMS.

Samuel Haigh of San Jose writes us that he failed to prevent corn-ear worms from entering the cob, although he dusted every ear twice (with lead arsenate powder?) about 10 days apart. A few were killed, but others managed to escape. He, therefore, resolved to try bi-sulphide of carbon. This effectually settled them and does no injury to the grain. He used a spring bottom oil can and squirted a few drops into each ear. This saved the corn.

A. H. Anderson of Winters has 20 acres of Royal apricots that look well for next year's crop. Mr. Anderson said that the early rains were a blessing to his district. Shothole fungus was very light this year.

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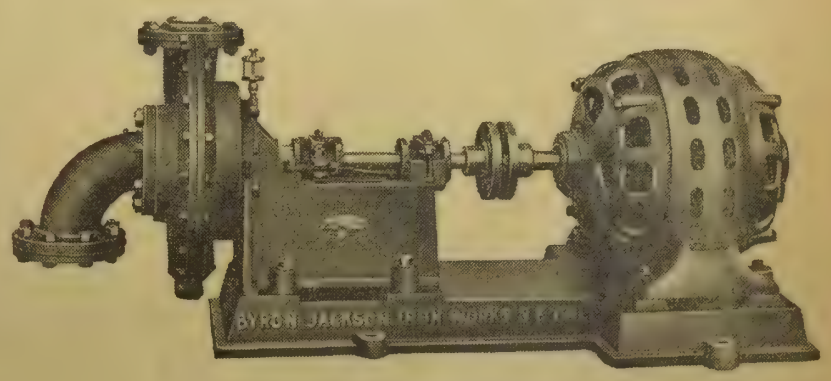

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Cost of Handling Grain Reduced

[Written for Pacific Rural Press.]

Reducing the cost of handling grain from thresher to mill to less than 25 per cent of the charges involved in shipping it in the old-fashioned sacks is the record made by a number of California wheat and barley growers this year who have installed metal grain-storage bins on their ranches and are handling their grain in bulk.

COSTS OF THE SACK METHOD.

In the five operations of handling the grain from the thresher to the mill the costs by the sack method of handling grain as outlined by George R. McLeod, manager of the grain department, Sperry Flour Company at Stockton, run about as follows: Sacking at the thresher, sewing, and picking up sacks in field and hauling to pile with a team costs about 50c per ton. Each of the remaining four operations of hauling the sacks from the pile to the warehouse, storage and handling in the warehouse and to the freight car, transferring from freight car or river barge to mill warehouse and from warehouse to binds of the flour mill average about 35c per ton per handling, making a total cost for the five handlings of between $1.90 and $2 per ton.

COSTS OF THE BULK METHOD.

In the bulk method of handling grain on the average wheat or barley ranch, the first operation from the thresher to the tank wagon and storage in a metal grain bin on the farmer's own place will cost about 20c per ton and each of the remaining four operations, namely, transferring from bin to wagon or truck and elevating into a grain car at the railroad siding; unloading car at tide water to barge or elevator; and transferring grain from warehouse or barge to mills will average not more than 6c per ton per handling, a total not exceeding 45c per ton for the entire handling at the highest cost.

In handling grain in bulk in a large way, as is done by the Moreing Brothers of Sacramento county on their 20,000-acre wheat ranch, the cost per ton by the bulk method has been lowered to approximately 35c. This is an indication of the results achieved by carefully planned organization and facilities to handle grain in bulk.

The contrast between the cost of $2 per ton in sacks and 45c per ton by the bulk method is an indication of the tremendous overhead cost added to every pound of wheat raised in California which is traceable to the antiquated methods of handling it, which dates back to the days of '49. These tremendous costs, aside from the 26c sack charge, are for labor, which, under the present conditions, is the farmers' greatest source of trouble. It could be used in more constructive work than "bucking" grain sacks on threshers, storage piles, freight cars, barges, and warehouses.

OTHER LOSSES INCIDENTAL TO SACKING GRAIN.

The above mentioned costs do not pretend to consider another phase of loss entailed through handling grain in sacks. The loss due to leaking sacks, weather exposure (and consequent deterioration of the quality of the grain), consumption and spoilage by rats, mice and other vermin, fire losses and theft are responsible for damage approximating 25 per cent of the grain raised in California.

Under the present conditions, where every grain of wheat is required to feed this country's military forces and allies, this is positively criminal. It is a condition that is almost totally eliminated through the storage of grain in metal grain bins and the bulk handling of grain in shipping it from farm to mill.

This loss of wheat by handling in sacks is illustrated in a shipment of 2500 tons from steamer to barge consigned to the Sperry flour mills at Stockton. There was an actual deficiency of 16 tons in this one transfer, which is a loss of .00625 or more than six-tenths of 1 per cent. Expressed in another way, this loss amounts to 12½ pounds per ton. Multiply this by five handlings and it becomes a matter of real concern to the grain raiser, shipper, and buyer; and this handling loss does not include inroads by rats, mice, and other vermin, weather damage, fire loss and theft.

On a shipment of 2500 tons of wheat in bulk made coincidently with 2500-ton lot in sacks to the Sperry Flour Company at Stockton, there was loss of only 1000 pounds, or less than ½ pound per ton; expressed in percentages by the decimal, .00025 per cent; or by the fraction, 25/1000 of 1 per cent.

METAL GRAIN BINS SUCCESSFUL.

Storage of grain in metal grain bins on the farmer's ranch is the beginning of the chain in the bulk handling system. These metal grain bins have been used successfully by wheat raisers throughout the Central and Eastern States, in the Pacific Northwest, and are beginning to come into their own on California ranches.

Metal grain bins are made in varying capacities from 600 to 5500 bushels and come in galvanized iron sheets, shaped and punched to fit. They are put together with stove bolts and two or three workmen can erect one in half a day. In case of need, they can easily be taken down and set up again in some other location.

How the Farmers Were Outvoted

To the Editor: Something seems to be necessary to complete your report of the recent conference on farm labor, called by the State Council of Defense.

The committee on resolutions reported in favor of introducing 25,000 Chinese farm laborers, for a term of four years, to be used in farm labor only, and to be repatriated at the end of the term. This resolution was beaten by a vote of 10 noes to 9 ayes. Seven of the ten noes were cast by salaried officials of the Federal and State Governments, employed in the labor bureaus, one no was cast by the Secretary of the State Labor Council. None were farmers or connected in any way with farming. The ayes were cast by actual farmers.

Just why a farmers' conference should admit these non-farming elements is not explained by the State Council of Defense. Farmers do not intrude upon meetings of union labor. If they did and outvoted organized labor in matters of policy, labor leaders would resent it.

It may be that farmers will get tired of being outvoted in their own conferences by labor intruders and their paid servants whom they support by taxation.—John P. Irish.

[Of course. Why farmers do not boycott these meetings and arrange their own assemblies, which will adequately represent the facts as they see them and declare the principles as they have to live and work with them, we cannot understand.—Editor.]

P. R. P. ITEM SAVED $20.

One item in the Pacific Rural Press made A. Anderson of Campbell $20 richer recently. Mr. Anderson has nine seedling English walnut trees along the roadside. A walnut buyer offered him 23c and actually bought his neighbor's nuts at that price. The neighbor does not read the Pacific Rural Press, but Mr. Anderson saw in its market report that the nuts were worth 25c. He shipped them and received a check for $231.25, which is $20 more than he would have received at the local buyer's price.

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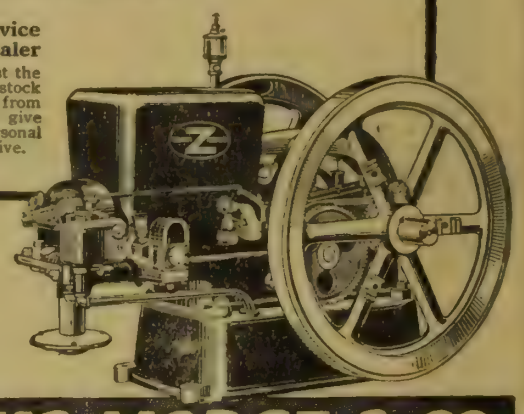

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THE WAR IS OVER

BUT THE FOOD SCARCITY IS GREATER THAN EVER

What will You Plant Next Year?

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BY E. J. WICKSON

The long winter evenings are with us—why not take the opportunity to study up the best way to grow and make the most out of your soil? Whether you wish to produce beans, beets, potatoes, celery, cucumbers, corn, melons, onions, tomatoes, rhubarb, squashes, turnips—or any garden or field crop—you need this book. It is a handsome volume of over 300 pages, well illustrated, bound in cloth, and will be sent to your address for $2 per copy postpaid.

Make yourself a Christmas present—you will get an enjoyable, an interesting and a practical book.

PACIFIC RURAL PRESS
525 Market Street, San Francisco

Will You Plant Barley or Wheat?

[Written for Pacific Rural Press.]

Stocks of barley reported on hand by 6352 firms in the United States aggregated 27,560,565 bushels. The Pacific Coast reported 14,389,282 bushels, of which 13,618,619 are in California. This is almost exactly half of that in the entire United States. Reports from 5360 firms October 1, 1917 and 1918, show that their stocks include nearly two and three-quarters million bushels more than a year ago, and the increased holdings on the Pacific Coast are nearly seven hundred thousand bushels. E. J. Luke, manager of the Sperry Flour Co. at Stockton, gives a summary of the barley situation about as follows: There is no demand for barley except what the Government takes occasionally. About the first of November, 1918, barley at Port Costa wouldn't bring two cents. In the middle of November the heavy 48-pound barley had raised to $2.35 due to Government buying, partly to ship to Scandinavia for human food. This buying has again ceased. With removal of the wheat-flour substitutes ruling, the barley-flour market is absolutely dead, with considerable stocks on hand. No more will be made for an indefinite time. Due to the motorization of farming and city transportation, the demand for rolled barley for feed is not over half what it was a year ago. (See Power Department of Pacific Rural Press.) The Stockton mills' sales of rolled barley in August, 1917, were over three million pounds. Their sales in August, 1918, were about one million pounds. Light feed barley, which comprises most of the California crop, can scarcely get any price. Dealers do not want it on account of the uncertainty of Food Administration regulations. The brewery demand is sleeping and may never wake up. The only hope for use of the crop seems to be in feeding it, chiefly to hogs. Here again barley has been losing out because "mill-run" feeds were cheaper per ton, if not per feed value. "If the Government continues buying, barley may stay about $2 to $2.25," says Mr. Luke. "If not, I can't see any future for it over $1.50."

What about wheat? A profitable price is fixed for all that will be sown this fall. The Government wants us to raise a big crop. This is especially true of California, which has always of recent years transported great quantities of wheat and wheat products hither from the East. The United States Department of Agriculture figures for stocks on hand October 1, as reported by 12,979 firms, total 195,997,839 bushels, of which, according to Norman F. D'Evelyn of the Sperry agricultural department, California has only 3,408,745 bushels, or about 1.7 per cent of the total.

Normal consumption of wheat in California is figured at 5.6 bushels per capita, 0.3 bushels above the average for the United States as a whole. On a population estimate of 3,119,412, and after deducting 10 per cent for the voluntary reduction from normal requirements, California consumption will this year be about 15,722,000 bushels plus about 780,000 bushels for seed. This year's production in California is figured at 6,240,000 bushels. About 10,262,000 bushels must be brought in from outside for our own consumption. Patriotism would demand that we should at least grow what we eat, and our pocketbooks surely demand the same thing for the year 1918-1919.

SUTTER BASIN BEANS.

Of the 30,000 acres of beans planted in 1918 on reclaimed land in Sutter Basin, 2000 acres were farmed by the Sutter Basin Co. and the rest by about 150 tenants, the company doing most of its plowing by tractors. The yield turned out only 60 per cent of what was expected, and that 60 per cent must be hand-picked. Ten thousand acres were on land that had never been farmed before, and this will be planted to grain or other crops than beans next year. The small growers are rather discouraged, especially on the higher lands, which do not produce so well as the lower areas. It was a dry year at the start; vines made pretty fair growth but set only a few beans. Then the September rain started them growing and they set a heavy crop, which was destroyed by four successive nights of frost in early November. The whole area has been singularly free from insect pests. A few thrips and red spiders appeared, but they were not serious on account of the lack of roadside weeds, where they ordinarily multiply. No weevils were found, probably due to the lateness of planting here.

RICE HARVEST WAGES.

Wages for the Princeton Ranch rice harvest are given us by J. H. Ryan, who was recently working there. Unskilled laborers received $3.50 to $4, teamsters $3.50 to $4, drivers for the rice binders $4.50 to $5, "trouble shooters" to take care of seven or eight auxiliary engines each on the rice binders $7 to $9, bundle pitchers $4, sack sewers $5 to $6, sack buckers $6, separator man $8. Board and lodging are furnished in addition. At that, one of the four threshers was laid up for lack of a crew.

The sweet potato business is on a thriving basis around Turlock.

It contains the signed statements of many ranchers who tell how they are becoming wealthy in the famous Santa Cruz Valley near Tucson, Arizona. About 80% of all products consumed in the valley are shipped in from California. The rich mining camps and the city of Tucson (25,000 population) pay fancy prices for all farm products Local farmers are getting rich. A very limited amount of land with water (suburban to Tucson) may be had at $150 an acre on long time terms. Best farming opportunity in America. Land selling fast.

Write for fully illustrated booklet today

Edwin R. Post Company
Tucson, Arizona

Water

Water is the one thing essential to the home—water when and where you want it—day or night—all the year 'round.

A Pacific Redwood Tank and Pipe Line is the essential thing to bring the water to the home. The cost for installation is less than you think, and the cost of upkeep is almost nothing.

Your home on the farm is not complete without water, convenient, for use as needed.

Tell us about your water supply, distances, heights, etc., and we'll give you an estimate for a tank and pipe line.

Our engineers are at your service.

Write us as soon as you read this.

PACIFIC TANK & PIPE CO.
THE STANDARD SINCE '88

15 Pine Street
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LOS ANGELES, CAL.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

FIGURING TRACTOR DEPRECIATION.

In the Middle West the life of a tractor averages around eight years In California five years is more nearly the average on account of our longer seasons, harder soils, more severe use, according to Prof. J. B. Davidson of the University Farm at Davis.

Supposing a man has $4,000 invested in a tractor, the interest might be figured at $280 and the annual depreciation at $800, making a total of $1,080 per year. Now if he works the machine 200 days in the year and keeps it in repair, depreciation may be charged at the rate of $5.40 per day. If he runs it only 70 days in the year, depreciation will have to be charged at the rate of $15.43 per day. The difference in favor of longer use of the machine is $10.03 per day of income-producing operation.

The daily running expenses of such a tractor would be about as follows:

Distillate, 30 gallons at 11c	$3.30
Lubricating oil	1.50
Repairs (estimated)	1.00
Engine driver (average for season)	5.00
Daily expense total	$10.80

The total daily cost of a 70-day run would be $26.23, including the depreciation. The total daily cost of a 200-day run would be $16.20, including depreciation. The 200-day run is actually $10.03 per day cheaper, all costs considered, than the 70-day run.

STEEL OR CHILLED IRON PLOWS.

A steel plow share costs four or five times as much as a chilled iron share, according to a representative of the Oliver Plow Co., which makes both. The steel share is best where a keen edge is required as in cutting alfalfa roots, etc. A chilled share is best where the soil is gritty or gravelly and the most wear occurs. It is made by pouring iron onto a cold surface, thus "chilling" it. This makes it so hard that it is almost brittle, but if excessive sudden shocks are avoided it does not break and it wears longer than a steel share. "Temper checks" on the surface show that it has been tempered as highly as possible. A chilled iron moldboard will scour after standing a winter in the ground, while a steel share would be pitted with rust on account of its carbon content. A "soft center" moldboard is made of three layers welded together, the wearing surface being tempered to the limit, the middle layer being soft to cushion the shocks which might otherwise break the hard surface. The under layer is harder than the center. A "crucible moldboard" is of a single layer. It may be identified by tapping with the point of a knife. The point will frequently stick on the surface of the crucible moldboard but will slip off from the others.

RENEWING AUTOMOBILE LICENSE.

To renew your automobile license, detach the upper half of the "Certificate of Registration" you have been carrying in a metal container in the driver's compartment of your car, sign it on the face only, and send it to the State Motor Vehicle Department at Sacramento only, with the same annual fee you paid last year. Detach the upper half along the line of perforations between it and the lower half (which is a "Notice of Transfer"). Do not cut it in two. Keep the lower half in the metal container. Do not ask the Department for a Certificate of Registration, as no such certificates are being mailed out for renewal of licenses.

TRUCKLOAD OF HOGS IN MOUNTAINS.

Sixty-eight hogs were better off riding in a motor truck 125 miles, including the San Benito Pass, than they would have been in the corrals near Coalinga in Kern county recently. N. P. Mascovich was moving his ranch equipment and stock to a ranch near Gilroy, using a five-ton truck. Eighty pigs and hogs were left in the corral on one trip recently, but coyote trapping has languished on account of the war and on the return of Mr. Mascovich he found coyotes had gotten twelve of the hogs, including a big boar. He loaded the sixty-eight onto his truck in the evening and got them across without loss during the night. A dozen of them weighed over 200 pounds each. The rest were small shoats. A double deck was built on the truck, both decks having solid beds and solidly enclosed sides 12 inches high. An open space of 4 inches was left above the sideboards of the lower deck. The shoats were stacked in outrageously, but owing to the coolness of the night none was lost. Mr. Mascovich recalls times when twenty hogs would be too much of a load on account of heat. He also notes that if you are hauling hogs in the summer and have engine trouble in one of the sunlit canyons, the hogs had better be turned loose at once than after an hour or two, because in the former case they will unload themselves while otherwise they would have to be unloaded by the truck driver. There is not much danger with reasonable loads so long as the truck keeps moving and creating a breeze over the hogs.

CORN HARVESTING MACHINERY.

One firm in Stockton sold 45 corn binders and nine corn shredders for the 1917 crop. They sold about eight binders and no shredders this year, though they have a considerable number in stock. This slump is due, according to the manager of this concern, partly to the attempt of users to make the machines do too much, and partly to the reluctance of workers to use machines at all. Asiatic laborers generally prefer hand methods of doing their work rather than machinery.

NO TRACTOR CORRESPONDENCE COURSE.

The item in our issue of November 2, "Gas Engine Machines Are Abused," has given the impression to many people that the University of California offers a correspondence course in tractors. The course mentioned is for automobiles; a charge of $7 is to be paid by each student. This covers the cost of text books.

Tractor Production Has Jumped Tremendously

A report as of June 30, 1918, from every tractor manufacturer in the United States was made in August to the office of Farm Equipment Control of the United States Department of Agriculture, pursuant to the Presidential proclamation of May 14, 1918. It shows that 29,670 tractors were manufactured in 1916; 62,742 in 1917; and 58,543 in the first half of 1918. The total tractors manufactured in the two and a half years was 150,955. Of these, 30,464 were sold to exporters in the past year and a half, more than half of that number having been sold in the six months ending June 30, 1918. More than half of the total two and a half years' production was sold to American users in 1916 and 1917.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

of the "Giant" Type

WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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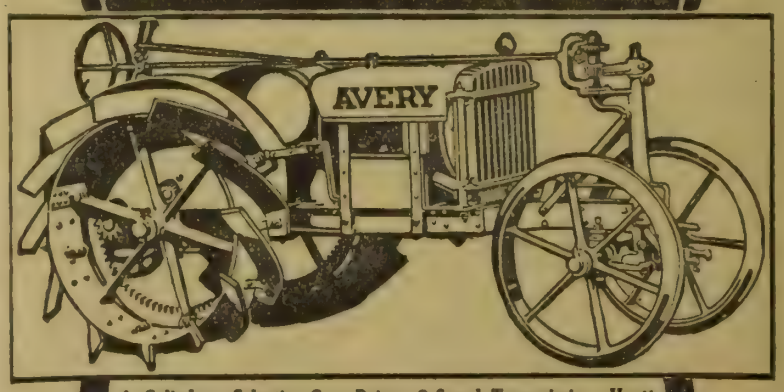
Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; and Schmeiser Portable Automatic Hay Derricks. We sell the Martin Ditcher and Grader.

THE SMALL FARM TRACTOR AT A SMALL PRICE

$650. HERE



4-Cylinders, Selective Gear Drive, 3-Speed Transmission. Hyatt Roller Bearings. Adjustable driver's seat and controls on the rear. Double exhaust piped to the Bull Gears, keeping them always clean. Built by the oldest and largest manufacturers of tractors in the United States.

Will do the work of four good horses and costs but 15c an hour to operate. No special implements to buy—uses your horse-drawn tools and works right up to the trees.

The Avery by reason of its patented California Lugs is guaranteed to work in Sand or Mud. It is the simplest tractor built—all parts in plain sight and get-at-able. Don't keep farming in the old way—save yourself and family a lot of hard work.

Get a 5-10 Avery—Now Only $650 Here.

Terms if desired—we can make immediate delivery if you order at once. Write and let us tell you how an Avery will enable you to get a bigger and better yield with less work at a smaller cost—

Address Department (P)

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Fred Poss, President

67-69 Beale Street, San Francisco

There is a Size Avery Tractor to Fit Every Size Farm

TRACTOR RUNS THRESHER.

A Yuba 12-20 tractor keeps sixteen men and four wagons busy on A. L. Roddick's Ventura bean thresher in Monterey county with ordinary beans. The thresher has a capacity of about a sack per minute of any variety of beans when they are in good threshing condition. The tractor was belted to it at a distance of about 45 feet when observed recently threshing rather moist Kentucky Wonder beans. The thresher truck wheels were set in holes in the ground, but no stakes or braces seemed necessary on it or the tractor to keep them from pulling toward each other.

ENGINES ON RICE BINDERS.

Auxiliary engines are being used on all rice binders on the Princeton Ranch in Colusa county to relieve the draft stock from the labor of operating the machines. Three or four horses keep a binder going all day even on soft ground, whereas more would be required without the engine, more slippage of the bull wheel would occur, more rice would be lost during such slippage; and on the first round in each check more rice would be knocked down by the additional horses or mules. Two men at a cost of $7 to $9 per day keep the sixteen binder engines in repair and busy.

CHARGE FOR TRACTOR PLOWING.

To the Editor: What does it cost to hire tractor plowing done?—Subscriber.

[It varies with size of field, size of job, kind of soil, condition of soil, time of year, and depth of plowing. With loamy soil in San Joaquin county, Ed Powers says $2 per acre for six inches deep to $2.50 for eight or nine inches deep is a common charge now.]

TRUCKS DELIVER PROMPTLY.

Owing to the present uncertain freight deliveries, the Daniel Hayes Company, H. J. Small, manager, of Chowchilla, has just ordered from the Killefer Manufacturing Company a shipment of heavy tractor chisels and cultivators weighing some six tons, to be delivered by auto truck from Los Angeles to Chowchilla at a charge of $220, as against a freight charge of $91.

ENGINE TROUBLES LOCATED.

The most concise and pointed statement of gas engine troubles and their causes that we have seen is a folded sheet issued by the Avery Co. of Peoria, Ill., entitled "One Hundred Questions and Answers to Tractor Troubles." Apparently it is printed to be distributed free to all applicants.

POWER NOTES.

A record has recently been kept by dealers in Haynes automobiles on the occupations of their customers. Of 1643 such customers, 331 were farmers—over 20 per cent. Every mile of improved highway such as California has in abundance adds to the market for high-class automobiles among farmers.

Have your spark plug porcelains been breaking unduly? It is probably because you screw their lock nuts down so tightly that when expanded by engine heat there is nothing for them to do but break.

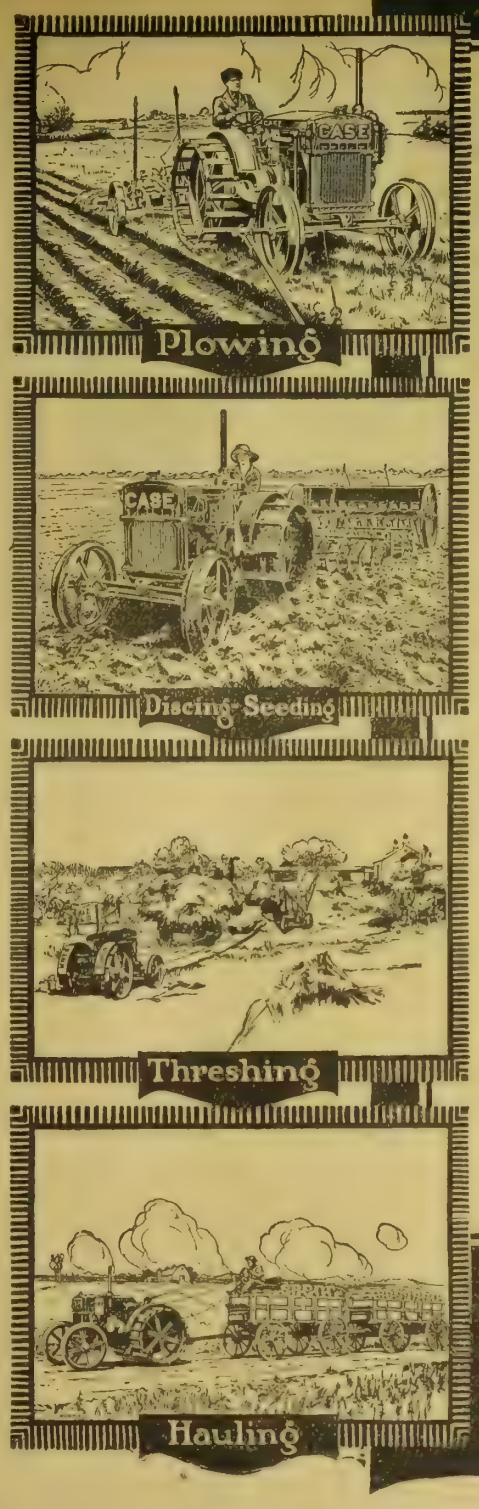
A Ford car recently observed was going very steadily by jerks. All monkeying with the spark plugs and coil boxes seemed of no avail. Kerosene dripped into the commutator lubricating cup cleared the dirt from contact surfaces and cut out the jerks.

About two things are responsible for all tractor grief — carelessness and dirt.

If the tractor costs anything, it costs too much to overload. Get a size that won't need to be overloaded.

Fifty per cent of disappointed tractor customers are disappointed because they did not know what they wanted and did not know what they were getting.

As a gas engine does not have the great reserve power that horses can occasionally exert, it is very desirable to have a low gear in the tractor by which we can pull slowly out of extra hard or extra soft places.



Why a Case Tractor Is More Profitable

THE number of working days for an advanced tractor like the Case 10-18 is rapidly increasing. Men thought of tractors principally for plowing twenty-six years ago, when we first began to build motor tractors.

In later years, with the introduction of our smaller sizes, men were satisfied with a maximum of 30 days' use per year.

But war-time conditions have brought about changes not only in the mechanical development of tractors, but in their adaptation for multiplied uses.

More Ways to Use Your Tractor

Our latest and best small tractor, the 10-18, is purposely designed for maximum use. It is adaptable for all kinds of work. It represents years of study in the field, dozens of extensive investigations.

The Case 10-18 is small and compact. It weighs little more than a team of horses. Its length is 102 inches, width 56 inches and height 54½ inches. It turns in a 22-foot circle, and can get around easily. It goes through a small gate or door and easily shares the road with other vehicles.

While rated at 10 horsepower on the drawbar, it develops nearly 14. While rated at 18 on the belt, it develops up to 24. This reserve power makes it ever ready for an emergency.

There are dozens of improvements in this Case 10-18. For instance, it has a one-piece main frame, with a four-cylinder engine mounted crosswise. This frame construction affords a dust-proof housing for the rear axle, bull pinion shaft, transmission and the bearings for these parts. It also provides a base for the motor.

This type of construction brings rigidity. It minimizes vibration and prevents disalignment of gears, which are all cut steel and fully enclosed. Thus we multiply strength, reduce weight and conserve power.

Another feature is its economical consumption of kerosene. It has a Case Sylphon Thermostat which controls the cooling system and insures complete combustion of kerosene. And it prevents raw fuel from passing by the pistons and diluting oil in the crank case.

An improved air-washer delivers clean air to the carburetor. No grit nor dust gets into the cylinders to minimize their efficiency and shorten their life.

Our illustrated booklet describes all the advanced ideas in the new Case 10-18.

We will gladly send a copy free. Or it may be obtained of a Case Dealer.

J. I. Case Threshing Machine Co., Inc. *Founded 1842*
1426 Erie Street, Racine, Wis., U. S. A. (311)

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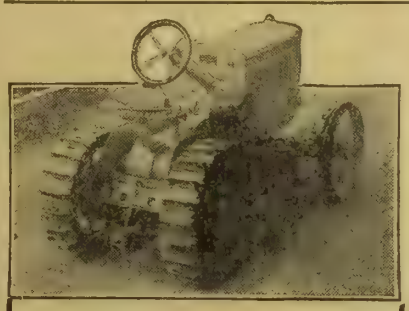
KEROSENE TRACTORS



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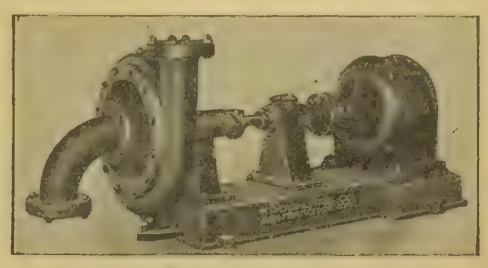
AWARDED PANAMA PACIFIC INTERNATIONAL EXPOSITION GOLD MEDAL AWARD RIBBON HIGHEST AWARD GIVEN



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KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever.
Also DEEP WELL TURBINE PUMPS for bored wells 10 inch diameter and up
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PIPE
For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped
New and Used Screw Casing
Fittings and Valves Special Fittings Made to Order
TESTED AND GUARANTEED.
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FARM BOOKS! Pacific Rural Press 535 Market Street San Francisco

General Agricultural Review

Field Crops.

Rice growers have been prohibited by the State Highway Commission from piling bags of rice along the highway.

The celery area in California for the season of 1918-19 is reported at 300 acres, as compared with 5500 acres for the season of 1917-18.

It is thought that it will not be possible for the threshing outfits in the vicinity of Manteca to handle the large tonnage of beans produced there this year.

The Sutter Basin in Sutter county is now entirely surrounded by adequate levees and will not be overflowed this year, according to Manager George F. Maddock.

Among people who are taking a most rational method of selling their barley are A. C. and S. Franscioni of Monterey county, who have bought a number of hogs to feed.

A number of sales of the 1918 crop of barley was recently made in Merced, it is reported, at $2 per cwt. net to the growers. The grain was shipped to Port Costa.

The cotton boll weevil is said to thrive best in countries where the cotton is watered by rain, as in the South. It is claimed that irrigated districts are comparatively immune.

The Manteca Canning Co. expected to finish its season's run this week, having packed 100,000 cases of tomatoes as the wind up of the season. The prices have been high.

An experiment has been successfully conducted on heavy adobe rice land near Winters which seems to demonstrate that broom corn can be utilized as a crop for rotation with rice.

Approximately 75,000 acres of wheat, said to be the largest single area of grain in California, is to be planted in the northern part of Tulare Lake Basin on the south side of King's River.

Word from Salt Lake says that the beet growers of the intermountain region received this year $7,000,000 for their output. It is estimated that 3,000,000 sacks of sugar were produced.

The acreage of cauliflower and broccoli in San Mateo and Los Angeles counties is estimated to be 4600 acres for the season 1918-19, as compared with 6400 acres for the season 1917-18.

The Spreckels Sugar Company advises growers of beets in the territory of the Manteca factory to begin preparing their land at once. Planting, it says, should be done in December and January.

Although the Gridley rice mill was greatly increased in capacity this year, it is unable to handle all the rice offered. No drop in the price of rice is expected because of the signing of the peace armistice.

A record for rice production was made by the Dodge Rice Company at Chico when 27,000 sacks were threshed and placed in the warehouse within 48 hours. The crop will amount to about 150,000 sacks.

The acreage of peas in the Imperial Valley will be nearly 600, the cantaloupe acreage about 10,000, and the lettuce acreage about 2500, according to the estimate made by Secretary Ozawa of the Japanese Farmers' Association of Brawley.

The first carload of this season's celery to leave Antioch went East this week via the Santa Fe. The season is later than last year. Prices are better at the beginning of the season; the price hitherto has been about 25c a dozen, reaching 40c by Christmas.

Beet growers are having difficulty in obtaining seed for next year's planting. It is announced that the plant of the Sacramento Valley Sugar Co., located at Hamilton City, cannot operate next year because of inability to get seed for planting and because of labor shortage.

There are lots of beans in the warehouses of southern San Joaquin county, according to Ed Powers of Manteca, and they are in good shape. They are about 40 per cent teparies, 30 per cent red Mexicans, 10 per cent Lady Washingtons, 10 per cent blackeyes, and the rest of other varieties.

The Government is taking all solid-packed canned tomatoes and a large quantity of extra standards and those packed in puree from whole tomatoes, according to H. Clay Miller, purchasing agent for the Food Administration. All canned tomatoes packed with puree from tomato trimmings have been released for civilian use.

Fifty per cent of the potato acreage of the State is found in the delta regions, where the yield has this year been good. Nevertheless, the yield per acre shows a falling off of 10 bushels from that of 1917. The percentage "grown for the market" is 80 per cent—a new determination by the U. S. Bureau of Crop Estimates.

It is worthy of note that the percentage of the corn crop of California cut for ensilage is now 53 per cent, as compared with 48 per cent last year. The yield per acre for grain shows an increase over last year of three bushels. The total production in the United States is 2,754,807,000 bushels, as against 3,159,494,000 in 1917.

For the wheat crop of 1917 the farmers of this country received an average price of $2.05 per bushel; for 1916, $1.44; for 1915, 98c; 1914, 99c; 1913, 79c, as estimated by the Bureau of Crop Estimates. In the past year State averages (excluding States producing less than 1,000,000 bushels) ranged from $1.83 per bushel in Utah to $2.66 in South Carolina.

Santa Maria has a five million dollar bean crop and Lompoc a three million one. The Pacific Rural Press correspondent noticed the threshers at work on Sunday as he passed through, as not a day could be spared in these times of harvest. In the bottoms lima beans did not set well this year for some reason, though they gave normal returns on the hills. One man in the Carpinteria district threshed 400 sacks of limas from 33 acres last year. This year he only harvested 58 sacks from the same acreage.

The prices paid for picking cotton this year average $1.18 in North Carolina, $0.99 in South Carolina, $1.05 in Georgia, $1.34 in Florida, $0.92 in Alabama, $0.96 in Mississippi, $1.04 in Louisiana, $1.25 in Texas, $1.28 in Arkansas, $1.31 in Tennessee, $1.57 in Oklahoma, and $2 in California. These prices are per 100 pounds of seed cotton, including short and long lint and sea island, and have been ascertained by the cotton crop specialist of the Bureau of Crop Estimates. In 1896 the United States average price for picking upland cotton was 44c.

Deciduous Fruits and Nuts.

A critical inspection of the orchards of Sutter county, recently made, shows the trees to be in excellent condition.

California's commercial crop of apples is estimated to be 3,337,000

EMBARGO ON RAISINS IS LIFTED

The embargo on raisins has been lifted by agreement between the War Trade Board and the United States Food Administration, it was announced here today. This action will release thousands of tons of California raisins for exportation to Canada and abroad.

Your Wife Should Be Considered

Mr. Farm Owner:

You may have fitted up your farms and out-buildings with electric, labor-saving devices, but have you considered the *lady of the house?*

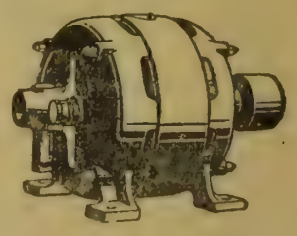
An electrically driven washer, mangle, vacuum cleaner and other household devices will greatly lessen her work and add to her comfort.

A few words to your lighting company suggesting as a preference G-E MOTORS will repay you for the trouble.

Ice Cream Freezer

Washing Machine

Vacuum Cleaner



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Sheldon Batch Type Mixer—Prices $11.50 to $120.00

The Sheldon was designed especially for the Ranch or Farm. Highly praised by users all over the Pacific Coast. Farmers everywhere call it the ideal mixer. Small enough to be easily moved—big enough to keep six men busy. Low in price. Build your own concrete irrigation ditches, laterals, tanks, troughs, floors foundations, walks, buildings, etc., with a Sheldon Batch Type Concrete Mixer. To make it easy for you to get a Sheldon Mixer we now have a

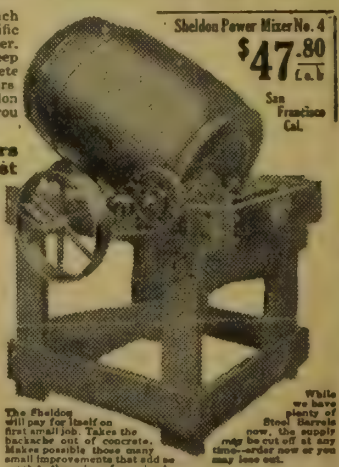
Big Stock of No. 4 Sheldon Mixers (like the picture) at the Pacific Coast Warehouse, and we can make

Quick Shipment From San Francisco

We paid the freight to San Francisco—you save time and freight expense if you buy now. Shipped set up ready for instant use. Sold direct to you on strong guarantee. Thirty days trial privilege. No other like it. Patented. Mixes 3 cubic feet a minute. One man can operate it, but it will keep six men busy. Continuous chain drive, tilting dump, clutch pulley, 13-gauge steel barrel, all parts guaranteed. Does work equal to 1400 mixers. Write for catalog now—shows all styles—hand and power, on legs, skids, and wheels, with or without engine.

Remember we paid the freight to San Francisco Send your order or request for catalog direct to the factory Write today.

Sheldon Power Mixer No. 4 $47.80 f.o.b. San Francisco Cal.



The Sheldon will pay for itself on first small job. Takes the backache out of concrete. Makes possible those many small improvements that add so much to the value of your land.

While we have plenty of Steel Barrels now, the supply may be cut off at any time—order now or you may lose out.

Sheldon Manufacturing Company Box 798 Nehawka, Neb.

Farmers and Fruit Growers, Attention!

Order your Trees NOW from the biggest and best nursery on the Pacific Coast. Reliability counts.

(*Fifty years in business—1000 acres in nursery.*)

After November 15 we will be shipping every day to California.

PEARS PAY. "Chester Ferguson, of Yakima, Washington, realized an average of $2,016 per acre for pears this year." PLANT PEARS.

Write for our big descriptive catalogue and prices for trees delivered to your nearest railway station, freight paid.

Agents wanted to represent us in each locality. Address

OREGON NURSERY COMPANY, Orenco, Oregon.

boxes, as against a production in 1917 of 3,530,000 boxes.

Great Britain's Food Controller has just announced that he is arranging for an early importation of apples from the United States and Canada.

Henry Markarian, president of the California Fig Growers' Association, a recognized expert on the fig industry, died at Fresno last week of influenza-pneumonia.

California's production of pears in 1918 is 84 per cent of normal, indicating a crop of about 3,600,000 bushels. The quality was not up to the average, being only 87; a high medium grade representing 100.

A Government inspector has condemned 50 per cent of the Anderson (Shasta county) prune crop on account of so much being damaged by the early fall rains that the Government would not receive them.

Through the efforts of the Chamber of Commerce, a fruit frost station will be established in Chico during the coming spring. The purpose of the service will be to warn orchardists of threatening frosts.

The nurseries of Nevada county are preparing for the 1919 season by announcing large stocks of young trees. Several nurseries are competing for the local business, and expect to make shipments to other points.

Government requirements in prunes have been practically taken care of, according to H. Clay Miller, purchasing agent of the Food Administration. It is expected soon that all prunes not actually taken by the Government will be released.

A considerable amount of pruning of prunes and apricots has been accomplished in the Santa Clara Valley, and fall irrigation started. The ground needs filling up and this operation will not be neglected because of the rain. Recent frosts have made it safe to go right ahead with the work.

The State Commissioner of Horticulture issued a warning to the prune and apricot growers of the State to prepare for a heavy infestation of pear thrips during the year 1919. During the past season the thrips have been more abundant than for many seasons past, and the early fall rains are favorable to its hibernation.

Citrus and Semi-Tropical.

Six to eight cents per box is being paid for orange picking in Tulare county.

Fig men will meet in Visalia for a three-day conference with Prof. I. J. Condit of the University of California, beginning December 12.

Help in the citrus belt of the Porterville district is very scarce. The fruit is ripening rapidly because of the cool nights, and the output is limited only by the amount of help available.

Navel orange sales on the Eastern market this season are much below the prices received for Valencias, and while indications are for much better returns than in former years, much depends on quality.

The citrus season on Tulare county's 55,000 acres is almost a continuous one. The gathering of the grapefruit followed the late Valencia crop, and now the navel harvest is under headway, this crop ripening from two to three weeks earlier than usual owing to the warm rains and bright sunshine of early October.

It is reported that some olive growers in the Porterville district who some time ago joined the California Olive Growers' Association have announced their intention of refusing to deliver their fruit to association plants, affirming that under the form of contract signed by them they are no longer members of the association. Local orchardists also say the injunction recently granted to the association was only temporary and that the validity of the contract is to be attacked in the courts.

Grapes.

The shipment of table grapes has practically ceased, the late rains and frost destroying what few remained.

The first car of Emperor grapes to leave Exeter brought $1,500 net in New York after express charges of $960 were paid on the shipment.

Miscellaneous.

The erection of a cottonseed oil mill at Bakersfield is being talked up.

The Kirkman Nurseries of Fresno are preparing another tract of land in Madera county for planting to nursery stock this winter.

Grain shippers must secure inspection of shelled corn and wheat sold, by Federal grades, for each interstate shipment from or to an inspection point.

The annual meeting of the Imperial Valley Beekeepers' Association was held at El Centro, November 12. The attendance was large and the organization bids fair to be most successful.

The campaign for rodent control is being vogorously prosecuted in the Santa Clara Valley. Ranchers and stockmen are co-operating with County Horticultural Commissioner George L. Wright.

The bill stopping liquor sales until the army demobilizes has gone to the President for signature. The bill would stop sales of distilled, malt, or vinous beverages June 30, 1919, and thereafter during the war and demobilization.

ALFALFA SEED

Common variety .....21c per lb.
Smooth Peruvian .....30c per lb.
Hairy Peruvian .....40c per lb.

SELECTED SEED

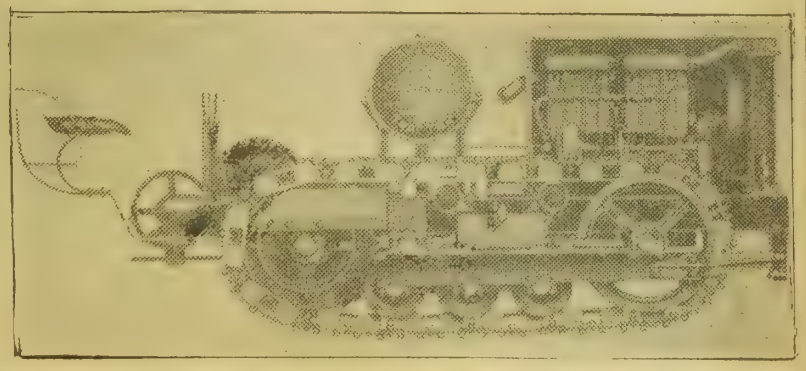
Delivery to you by prepaid Freight

Delay buying until you have compared my samples with seed others offer.

E. F. SANGUINETTI

YUMA ARIZONA

Announcement
Laughlin Tractor



THIS TRACTOR, THAT CREATED SUCH FAVORABLE COMMENT AT THE LOS ANGELES TRACTOR DEMONSTRATION IN SEPTEMBER, IS NOW READY FOR DELIVERY AND ORDERS ARE BEING BOOKED BY J. W. LEAVITT & CO., THE PIONEER AUTOMOBILE DEALERS OF THE PACIFIC COAST, WHO HAVE TAKEN OVER THE ENTIRE FACTORY PRODUCTION.

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$315.00 **Beeman Garden Tractor**

IT PLOWS, HARROWS, CULTIVATES AND DRIVES A PUMP

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Are you a farmer of Today or a farmer of Yesterday—

HORSES ARE GOOD BUT

The Cleveland Tractor

IS BETTER--

All farmers are going to make money the next three years, but some are going to make more than others—the difference is between the horse and tractor. Write to us and we will show the difference and tell you how the tractor will make money for you.

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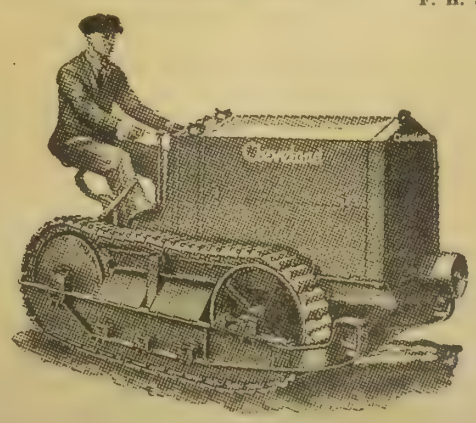

The wide range of uses to which the Cleveland Tractor is adapted is due to its many unique features. Among these are its great pulling power; its staunch, sturdy build; its ease of driving, ease of steering, and to the fact that it lays its own tracks and makes a complete turn inside of twelve feet.

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WILL WORK ON ALL KINDS OF GROUND.

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THIS IS
AMERICA'S GREATES

TAGUS RA
DECEMBER

750 High Class Breeding Animals
AT YOUR OWN PRICE

Including all the famous producers and prize winners in the herds. Animals that money could not buy from us in anything but a dispersal sale.

TUESDAY, DECEMBER 10th
WE WILL SELL
90 REGISTERED HOLSTEINS

For several years we have subjected our Holstein herd to the most severe culling, throwing out every single animal that did not measure up to our standard. As a result the herd that will greet you on sale day is one of which we may feel justly proud. The milking cows will show for themselves, through their many splendid official records, and the splendid families represented in their breeding.

Of our heifer herd, from calves up to bred heifers, we can conscientiously say that we believe no breeding farm with a herd of equal size can show better. Buyers wanting heifers from two-year-olds down should, in justice to themselves, make it a point to be at this sale.

Among the many splendid individuals to be sold are:

TWO 26-LB. THREE-YEAR-OLDS and five of their offspring.

34 COWS AND HEIFERS bred to King Sadie Vale Rose, son of King Korndyke Sadie Vale.

FOUR DAUGHTERS of King Segis Pontiac Jannek, two of them out of a 27.96-lb. senior three-year-old.

12 DAUGHTERS of King Sadie Vale Rose.

12 GRANDDAUGHTERS of Korndyke Queen De Kol's Prince, 91 A. R. O. daughters with records up to over 35 lbs. butter in 7 days and over 1000 lbs. in one year.

8 DAUGHTERS of Sir Holland Gamp, sire of the 25-lb. two-year-old, El Dorado Winifred.

2 DAUGHTERS of King Segis Pontiac Zella.

FIFTEEN OTHER COWS AND HEIFERS with records up to over 25 lbs. butter in 7 days.

KING SADIE VALE ROSE

will himself be sold, and his breeding and individuality entitle him to a place at the head of a high-class breeding herd. He is by King Korndyke Sadie Vale and out of a 27.98-lb. daughter of a 32.41-lb. cow, and has an average of 33.82 lbs. butter in 7 days for his three nearest dams.

A SPLENDID SELECTION OF YOUNG BULLS will include sons of "King" out of dams up to over 26 lbs.

EVERY ANIMAL POSITIVELY GUARANTEED TO BE A BREEDER.

NO ANIMAL TUBERCULIN TESTED

We Will Lease

in tracts of 20 acres and up, on liberal and attractive terms, to

SUCCESSFUL AND RESPONSIBLE PARTIES

the entire

TAGUS RANCH

The richest, most productive, best watered and equipped

6000-ACRE RANCH

in California. Located in Tulare county, five miles north of the city of Tulare, on the main cement State highway. Apply to

Pacific States Corporation

(Owners)

At office on ranch, or write P. O. Box D, Tulare, Cal.

WEDNESDAY, DEC. 11th

WE WILL SELL

200 REGISTERED DUROC JERSEY HOGS
200 HIGH GRADE POLLED ANGUS COWS
100 HIGH GRADE SHORTHORN COWS
15 REGISTERED ABERDEEN ANGUS BULLS
3 SHORTHORN BULLS

THE DUROCS offer a splendid selection of breeding and show animals of most highly approved blood lines, noteworthy for the great uniformity of breeding throughout the herd.

Twenty proven brood sows will be sold, every one of which we can recommend as the sort of sow that regularly farrows large litters of strong, uniform pigs, and every one of them will be a big money maker in the hands of the man fortunate enough to buy.

CALIFORNIA'S DEFENDER, the senior herd sire, is in the sale. As all Duroc breeders know, this famous boar was Junior Champion at Panama-Pacific International Exposition, and his worth as a breeding boar is fully up to his show ring performance. He is vigorous, a sure breeder, and a boar that any man might own with pride and profit.

More than 150 daughters and sons of California's Defender will be in this sale, making a wonderful opportunity for the securing of liberal drafts of this great blood. Those wishing to establish high-class breeding herds will find here the animals fit for the purpose.

THE POLLED ANGUS

The 200 cows in this sale represent the tops from several hundred head of our range breeding cows, those that we thought below the standard for this great sale now being on their way to the block. We feel safe in asserting that California stockmen have never before had such a grand opportunity to found range herds of these hardy and profitable cattle. The entire Angus breeding herd had an 85 per cent calving record last year, with not a single death from disease.

The 15 registered bulls are from the best Aberdeen Angus tribes, rugged, typey individuals, young but have already seen range service, and they are the pick of a larger number until recently in service.

THE SHORTHORN COWS

The 100 head of grade Shorthorns are mostly reds and roans, all young cows, and the pick from a very large number, the balance going to the fattening yards.

FOR THE BUYER OF A FEW HEAD

While most of these cows will be sold in car lots, we have made especial provision for the buyer who wants only a few head and will sell a substantial number of the cows individually.

OPPORTUNITY
YOURS!
FARM AUCTION SALE

CH TULARE, CALIFORNIA
11-12-13, 1918

$50,000 worth of the highest class farm equipment and implements for every kind of crop

In first-class condition, some of them not now obtainable new at any price.

THURSDAY, DEC. 12th
We Will Sell

17 REGISTERED PERCHERON AND BELGIAN MARES.
16 REGISTERED PERCHERON AND BELGIAN STALLIONS.
100 HIGH GRADE BROOD MARES, WORK HORSES, AND MULES.

We shall part with nothing more reluctantly than with our good horses, for they have been an especial pride with us. Our registered stallions and mares have been frequent and consistent winners on the show circuit wherever shown, and their breeding is of the highest excellence.

We confidently believe that we have both stallions and mares that are not excelled anywhere on the Pacific Coast, for our foundation stud was chosen only after thousands of miles of travel and inspection of a very large number of animals.

Our grade brood mares and work stock are high class, practical farmer's animals, that have proven their worth right on this ranch in our every-day operations.

We feel sure that this sale comes at a time when it will be particularly appreciated by those who wish to buy horses. Beyond the possibility of a doubt the draft horse business in the United States has now entered upon one of its most prosperous eras, but it is up to every raiser of horses to breed the sort that will meet the most desirable market demands. Buyers will find the right sort in this sale in wide selection.

ANNOUNCEMENT

For ten years the 6000-acre Tagus Ranch has been devoted to intensive agriculture and breeding of purebred livestock, producing only the best.

To the accomplishment of that end no expense or endeavor has been spared, and as a result the **TAGUS RANCH** occupies a position of undisputed primacy with respect to its **PUREBRED DAIRY CATTLE, BEEF BULLS, SWINE, STALLIONS** and **BROOD MARES,** and **MODERN FARM MACHINERY** and **EQUIPMENT.**

This development has reached its culmination under the direction of Mr. Hulett C. Merritt's son, Hulett C. Merritt, Jr., who, at the moment when the fulfillment of their ideals was being realized, answered the call of our country and is now en route overseas.

No one could be found to take his place, and Mr. Merritt was therefore confronted with two alternatives, and only two. He could try to keep matters in their present style until his son should return to take up his work again, or he could dispose of the stock and equipment which they had accumulated through their careful development.

Many reasons made it impossible for Mr. Merritt to give to the Ranch the careful and constant attention which its high standards required. To this problem Mr. Merritt could make but one answer.

At this time, when waste in any form increases the difficulties of accomplishing the common task, Mr. Merritt could not permit so much essential material to lie idle. Therefore he authorized me to conduct a complete dispersion sale.

In all my extended experience I have never known a sale which presented so many opportunities, which livestock breeders and farmers may turn to their own advantage, and made possible by careful, intelligent breeding and by unstinted expenditure.

C. L. HUGHES,
Sales Manager.

FRIDAY, DECEMBER 13th
WE WILL SELL

$50,000 WORTH OF HIGH CLASS FARM EQUIPMENT AND FARM IMPLEMENTS FOR EVERY KIND OF CROP.

Only the most modern equipment and implements of the best manufacture have ever found a place on Tagus Ranch, and our extensive and intensive farming operations have called for a very broad variety of implements.

All of the equipment and implements in this sale are of comparatively recent purchase, and they are in first-class condition. Many of the most useful items are still in the original crates and cases in which they came from the jobbers and manufacturers, so suddenly did we halt our farming operations when the decision was made to hold this sale.

The space of this announcement is entirely inadequate to give a complete list of the equipment and implements to be sold, but a few of the items are as follows:

30 Bain and Studebaker Wagons, most of them absolutely as good as new, and many of them, particularly the heavier Bains, not to be had new except from the very largest jobbing centers.
24 Plows, 3, 4, and 5-gang Plows, Disk Plows, Engine Plows, Road Plows, Special Purpose Plows, all of the very best makes.
Beet Implements, including **Drills and Beet Pullers.**
Hay Mowers, Bunch and Buck Rakes, Tedders, Loaders, Stackers.
Potato Cultivators, Diggers, and other special machinery.
A long list of cultivators, seed drills, gasoline engines, and other items.
5 15-35 h.p. Sandusky Tractors, in first-class condition, and ready to go right ahead the day you get them home. Also 2 Bull Tractors.

TAGUS RANCH is five miles north of the city of Tulare, Tulare County, California, on main cement State Highway. Tagus Switch, a shipping point, on the main line of the Southern Pacific, is right on the Ranch.

HOTEL ACCOMMODATIONS may be had at Hotel St. Maxon, Tulare; Hotel Johnson, Visalia; Hotel Kings, Hanford, all of which are within convenient distance by auto. Motor busses will leave Hotel St. Maxon and Hotel Johnson on days of sale.

CATALOGS IN PREPARATION. WRITE YOUR REQUESTS TO THE SALES MANAGER.

Owners: PACIFIC STATES CORPORATION

AUCTIONEERS:
Col. Ben A. Rhoades,
Harold B. Rhoades,
Los Angeles.

HULETT C. MERRITT, Pres. HULETT C. MERRITT, JR., Vice-Pres.
Tagus Ranch, Box D, Tulare, Cal.

SALES MANAGER:
C. L. Hughes,
211 Ochsner Bldg.,
Sacramento.

The Future of the Dairy Industry

[By R. N. Davis, Associate County Farm Adviser, Fresno.]

The dairyman has never been considered a diplomat, but he and his products will play an important part in the settlement of the war. The questions of food and foundation stock are going to be as important as territorial or indemnity problems. Dairy products will stand at the top of the list of foods needed from this country, and breeding stock will be required in large numbers to build up the depleted herds. The period of greatest prosperity for the dairyman is ahead of him.

The world war is working great changes which will materially affect American dairymen. The Department of Agriculture says: "The continental dairy countries imported much of their feed before the war. The war brought about a reduction of such shipments. There was not enough ocean tonnage to be spared for hay and concentrates because guns, powder and human food were the urgent military needs. At the same time armies and civilian population had to have more meat, so dairy cattle were killed to supply this demand because there was not feed enough to keep them alive.

"Because of this slaughter of dairy animals abroad and because of the decrease in European milk production per cow, the demand on this country for butter, cheese and condensed milk has grown by leaps and bounds and continues to grow. Our exports are limited apparently only by the available space in ships. Since the beginning of the war our dairy imports have decreased while our exports of butter have jumped 700 per cent, cheese 2600 per cent and condensed milk 1600 per cent."

PEACE WILL NOT CAUSE DEMAND TO CEASE.

As soon as the first crop is harvested after the war, foreign nations will be able to care for themselves as regards grain. "Not so with dairying," says the Department of Agriculture. "It takes a long time to develop dairy herds and a still longer time to increase the number of dairy herds so as to supply the world's needs."

There is not a country in Europe where the people have enough dairy products. In round numbers, the cattle of France had decreased from 14,800,000 on December 31, 1918, to 12,200,000 on December 31, 1917—a decrease of 2,600,000 head. With the possible exception of Great Britain, there is not the faintest doubt but that the decrease in cattle in the European countries that have been at war represents as big or a bigger percentage than that of France. To quote Carl Vrooman, Assistant Secretary of Agriculture, we have the following, written before peace was declared:

"The dairy herds of the old world are depleted to an appalling degree, and we shall find the world with a demand for dairy products two-fold, four-fold, ten-fold greater than the supply. Europe will come to us with outstretched hands and say,' We must have milk; give us canned milk; give us dry milk; give us butter; give us cheese; give us dairy cattle; give us animals to build up our dairy herds again.' And unless we have stimulated the production of dairy products and have increased our supply of dairy animals far beyond anything in the past, we will be utterly unable to supply this demand."

HOME CONSUMPTION WILL INCREASE.

It has been estimated that by the end of the present century there will be a density of population in the United States of about 200 people per square mile. At the present time it is about 16 people, and that of Europe is about 120 people. And it has been prophesied that by the middle of the present century there will be a wheat shortage of 400,000,000 bushels. One only has to think how the population of the United States has increased during the last decade and of the present wheat shortage to realize the possible accuracy of these estimates.

What has this to do with the dairy industry? Livestock consume feeds which are not fit for human consumption and convert them into indispensable human food. Although these inedible products may be converted into human food by other kinds of livestock, the dairy cow is the most efficient of them all and will produce larger amounts of human food in a given time. It is generally admitted that the beef cow cannot be profitably grown except where range or other cheap forage may be had, and therefore the cattle industry on the small farm must be confined to the dairy or dual purpose cow.

Owing to the by-products of the dairy being so very profitable when fed to hogs and the value of alfalfa as feed in the dairy and pig industry, the dairy cow, hog and alfalfa combination seems both feasible and profitable on the average California farm. By feeding the skim milk to the pigs and growing sorghums for silage, alfalfa being available, one can compound an excellent ration for the pig and dairy cow with only a limited amount of grain. The required grain can easily be produced along with the alfalfa and silage.

RETAINING THE SOIL FERTILITY.

The growing of grain or any other product of the soil suitable for human food rapidly decreases the fertility of the soil. The dairy cow and pig will return this fertility to the soil.

The grain, vineyard and orchard men cannot go on indefinitely growing crops which remove the fertility of the soil without replacing the fertility. It is true that expensive commercial fertilizers can be applied to the depleted soil, but this will not replenish the organic matter and humus which is so very essential for its physical condition. This can only be replaced by applying vegetable matter or manure. When farm products are fed to livestock, a large percentage of the fertility is returned to the soil. The person who advocates the shipping of California feeds to be fed to livestock in other States is not advocating good agricultural principles, to say the least.

OBSTACLES TO THE DAIRY INDUSTRY.

Forty-four per cent of the milk produced in the United States goes into the making of butter and 41 per cent is used on the farms for drink or sold as market milk. Thus 85 per cent of the entire milk production is marketed either in the form of butter or as milk for household use. In the market we find consumers warring with milk producers, some of our city newspapers and city chemists condemning the dairymen and exploiting the value of butter substitutes, while consumers curtail purchase of milk and butter with every small advance in price, though other food products may advance by leaps and bounds, without protest and without proportionate decrease in purchase.

Why this warring against dairy products? There are several reasons which may be assigned, viz.: the desire to economize, the methods used by oleo interests in advertising, and last but not least, the ignorance of the average consumer of the food value of dairy products.

During the present period of high cost of living there is a general tendency to economize where possible. The dairy industry has been pleading its case in the halls of Congress while the oleo industry has been shrewdly pleading its case before the court of public opinion.

PUBLIC MUST BE EDUCATED.

Oleomargarine is advertised as a good, wholesome product. The dairy industry has not publicly denied this. Therefore, the average consumer considers the food value of a pound of oleo equal to the food value of a pound of butter. This mistaken idea is doomed. As the consumption of oleo becomes more general in its use, its food value as compared to that of butter will be brought to the attention of the public. The doctors will soon be advising their patients to spend money for dairy products instead of medicine and doctor's fees. Dairy products contain an unknown substance called vitamines which have the ability to produce growth in young ani-

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Doing Necessary Work Every Day in the Year

Lalley-Light power performs essential farm work every day, and saves approximately 250 man-hours during the active farming season alone.

Eight years of practical farm use have shown Lalley-Light to be an economy and a necessity for the average farm.

The nearest Lalley-Light dealer can give you figures to convince you that it *is* a necessity on your own farm and will be an economy. Call on him and see the plant in operation.

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775 Bellevue Avenue Detroit, Mich.

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LALLEY-LIGHT

THE ELECTRIC LIGHT AND POWER FOR EVERY FARM

WE OFFER FOR SALE

5 Young Ayrshire Bulls

Preston Premier	Dropped	June 30, 1917
Preston Robinhood	"	Nov. 19, 1917
Preston Prince Bangles	"	Nov. 22, 1917
Preston Rannsdale	"	Feb. 19, 1918
Preston Lad	"	July 27, 1918

Prices and Pedigrees on Application

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H. A. HARPER, Secretary IONE, CALIFORNIA

ROSELAWN STOCK FARM

SHORTHORNS

Headed by Ringleader, by Ringmaster, three times Grand Champion at Chicago International.

Crescent Dale, by Whitehall Rosedale.

Roselawn Champion, by Eastlawn Champion.

Roselawn Champion, the Junior and Reserve Grand Champion, and his dam,

Mischief E. 3rd, Senior and Grand Champion at the California State Fair in 1918.

We have for sale a choice lot of young bulls, reds and roans, five ready for service now and eight more will be ready by spring. We can also spare a few females.

A VISIT WILL INTEREST YOU.

Roselawn Stock Farm **Woodland, Cal.**

Help for After-the-War Problems

"Let me kiss those tears away," he begged tenderly. She fell into his arms and he was busy for the next few minutes. And yet the tears flowed on. "Goodness, can nothing stop them?" he asked breathlessly. "No," she murmured, "it's hay fever, you know. But go on with the treatment."

While Billy-be-damned was trying to conquer the world, the farmer was confronted by many unusual problems, and we helped him solve every one. Now that Peace has shown her wings above the battle smoke he will have other problems to solve, and we are going to stay right with him and keep on with the treatment.

First of all, he wanted to know the effect of peace on ranching. So the minute the first peace rumor came in we sent up airships, chartered steamships, started submarines one way and automobiles another, kept cables at white heat, and as early as last week were able to answer the question in a general way.

In this issue Mr. Davis shows that there is a bright future for the dairy industry, and Mr. Whitten assures beef cattle, hog and sheep men that there are good times ahead for them. Be sure to read these articles; also the one by Mr. Hodges on the waking up of the bean market, the pointers on pruning the cherry by Mr. Fox, the article on the fruit evaporator, and the one on the reduced cost of handling grain.

With the coming of peace you are going to need the Rural Press more than ever before. Every day you will run up against some new problem that is a stunner, but you will find that we have published articles telling you just how to grapple with it. For, now that we have given you an idea of what the future has in store for you, we are going to help you get your share of the profits that will be made from ranching.

The paper will be chock full of practical articles. The greatest discoveries for growing record crops, the most approved methods of fertilizing the soil, the soundest principles for improving herds, the most profitable marketing plans—these and dozens of other subjects will be treated and you will be shown how to double and treble your profits. Don't miss a single issue.

mals. Animal and vegetable fats which are used in butter substitutes do not contain vitamines.

How many people know that a quart of milk is equal in energy producing value to 8 eggs, 2 pounds of chicken, .79 pound of sirloin steak, 7 oranges, or that one pound of butter, on energy basis, equals 11.6 pounds of potatoes, 40 pounds of lettuce, 3½ dozen eggs or 4 pounds of sirloin steak? The true food value of butter, besides its digestibility, lies in its palatability, its keeping qualities, and the vitamines which it contains. Oleomargarine may be used to a certain extent in the ration of the adult, but for growing children butterfat is essential. Experiments which have been carried out prove this, and it is safe to say there is no substitute for butterfat.

THE DAIRYMEN'S PART.

The dairymen must test their cows, because the Babcock tester and the scales are the only means of determining the merits of the dairy cow. The star boarders must be weeded out. Owing to the high cost of feed and labor, now as never before the dairymen can ill afford to keep inferior cows. The average dairyman of California should not keep a cow that will not produce at least 250 pounds of butterfat per year.

Recently a dairyman made the statement that there is no money in dairying. On being asked how much butterfat his cows produced, he replied: "They will average about 175 pounds per cow." He belongs to the Cow Testing Department of the Fresno County Farm Bureau and knew what each cow produced. Most assuredly there is no money in milking 175-pound cows.

The dairymen must educate the consumer as to the real food value of dairy products as compared to other foods, especially as to butter substitutes. They must inform the people that the 10c tax on butter substitutes which we hear so much about applies to that which is colored only. Until recently there was only one-quarter of a cent per pound tax on that which was not colored. The attention of the consumer must be called to the fact that it is cheaper to buy dairy products than it is to buy substitutes and pay doctor's fees, without considering the health of the children.

The dairymen must plead their case before the court of public opinion, from which there is no appeal.

To those who are thinking of building on their farms, whether dwelling, barn, stables, concrete work, etc., the new book, "The Farmer His Own Builder," by H. Armstrong Roberts, will be of interest. This book contains 300 pages, is well illustrated, is cloth bound and sells for $1.25 per copy by its publisher, David McKay, 608 South Washington Square, Philadelphia.

Great Auction Sale

At the Mills Orchard Corp., one mile west of Hamilton City, Cal.

Saturday, Nov. 30

210 HEAD OF CATTLE, 147 HEAD OF HOGS, FARM IMPLEMENTS.

Sale called at 10 a. m. Big free lunch at noon.

One of the biggest sales ever held in Northern California.

COL. H. GARRISON
Auctioneer.

Are You a Member?

The Holstein-Friesian Association of America—the organized breeders of cattle of that name, was organized in 1885, then having 275 life members. Today it has nearly 12,000 members, and is recording 80,000 Holstein-Friesian cattle per year, giving employment to 150 clerks, and has a reserve fund of nearly a quarter of a million dollars. It spends nearly $50,000 per year for publicity and extension work, promoting the interests of its membership. The Holsteins are prosperous and popular.

If interested in
HOLSTEIN CATTLE
Send for our booklets—they contain much valuable information.
The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

TRAP FURS MAKE BIG MONEY

Free illustrated book tells how **BIG DEMAND IN DENVER** for all your western raw furs--**Coyotes, Skunks, Muskrats, Wildcats** bring big money here. Denver closest and best market on earth for Western Trappers and Fur Shippers. **STEPHENS of Denver** is the largest exclusive buyer of Western Raw Furs in the world --charges no commission--saves you 50c to $10 on express or parcel post, and you get your money back 2 to 10 days quicker. Every shipment personally graded and priced by a member of the firm.

Traps at Factory Prices

STEPHENS sells traps, animal baits and all trappers' supplies at **rock bottom prices.** Write today for Big Illustrated Trap Catalog, Trappers' Guide, Fur Price List, and Shipping Tags---**ALL FREE.**
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TRAPPERS' GUIDE AND TRAP CATALOG FREE

Important!

JERSEY milk contains the vital elements, in the highest degree, essential to maintain human health and physical vigor. Jerseys produce it at the least cost for feed. Dairymen and farmers also realize today that they must have a business profit—Jerseys insure it. The facts about Jerseys are a revelation—more important now than ever in the history of farming. Write to Breeders for pedigrees and prices and let us send you a Jersey Book that is an eye-opener.
The American Jersey Cattle Club
388 West 23rd Street
New York City
JERSEYS

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited

A. A. JENKINS, R. D. 1, Tulare, Cal.

N. H. LOCKE CO.
Lockeford, Cal.
Choice young bulls of King's Valet Blood, backed by Records.
Call at the ranch and make selection.

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and they are certainly beauties. They not only inherit his type—extraordinary length, depth and splendid vigor—but also the wonderful production breeding that is behind him. Their dams also contribute great producing blood. Most of them are daughters of our senior herd sire, Prince Riverside Walker. It is not too early to begin to figure with us on one of the young sons of King Korndyke Pontiac 20th for your herd.

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OUR ENTIRE HERD IS TUBERCULIN TESTED.

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Keep the Beef Herds Growing

[Written for Pacific Rural Press by E. H. Whitten.]

Peace will mean no setback to the American farmer, and particularly to the livestock raiser. It was clearly shown in last week's issue that for several years yet he will have the allies, the belligerents and many neutral countries to feed, and his resources will be taxed to the limit.

That's all right for livestock raising in general, but let's see how it affects beef cattle raising in particular, for the latter industry has problems of its own which must be taken into consideration in making an analysis of the situation.

First of all, considering the country at large, we find that not to exceed 60 per cent of last year's crop of cattle will be put in feed lots during the present winter season. High-priced feedstuffs and the extra hazard incident to war conditions kept many men out of the business—temporarily at least. Also the Government demands and requirements have been such that the packers have taken practically all of the weighty feeder cattle for slaughter at a price that virtually has prohibited the conservative feeder from getting into the game.

On the side of production we find that a widespread drought has seriously depleted the breeding herds of the West, and authorities estimate that the calf crop this year is one million short, and that because of unusual liquidation now the crop next year will be two million less than normal.

From the standpoint of consumption we have shown in a previous article that the foreign demand for beef will be heavy for years to come. And here at home it is bound to continue good because even before the war began the production of beef cattle was not keeping pace with the increase in population. We must increase our herds to meet the home demand alone, and if we are to keep the people of the foreign nations from starving we must produce to the utmost.

WHAT DETERMINES THE PROFITS?

But will the prices continue high enough to justify raising beef cattle to the limit? I asked one man this question and his answer was that it depended more upon the weather than upon any other factor. He said that the beef cattle industry here in California differs from dairying or hog raising in that nearly all steers are grass fed, and very little grain or even alfalfa is used. Consequently, his opinion was that while the profits from dairying or hog raising are determined largely by the price of grain, those from beef cattle raising are regulated by the rainfall. If we have a wet winter and there is abundant pasturage profits are good; if we have a dry year profits are poor.

I was not satisfied with this answer, for it did not seem to me that the progressive, resourceful beef cattlemen of California would allow themselves to be kept at the mercy of the Fates, so I put the matter up to Prof. Gordon H. True of the University Farm. Because of his connection with the Livestock Commission of the Food Administration, I believe that he is in closer touch with real conditions than any other man in the State. And I know that his judgment is sound, for many times I have asked his opinion about livestock matters and always things have turned out just about as he said they would.

DROUGHT HAS TAUGHT LESSONS.

"Don't you believe that statement for a minute," he said when I related what had been told me. "As hard as the drought has been on our beef cattlemen, it has proved a blessing in disguise, for it has taught them to prepare for the dry years. They have learned many valuable lessons that prosperity never would have taught them, and the result of one alone is that over 800 silos are to be built in this State for feeding beef cattle."

As I listened to Prof. True I thought of a story I once heard. In Pennsylvania dwelt the descendants of an ancient German settler. The farm had gone for generations from father to son, and the original customs had been faithfuly adhered to. But a youth was born into the family who was inclined toward more modern ideas.

One day this boy, Johannes, was told to take some grist to the mill. It had always been the custom to place the grist in one end of a bag and a large stone in the other end to balance it, and then throw it across the horse's back. But Johannes managed to get the grist divided between the two ends of the bag so that there was no need of the stone and he called to his father, "Oh, daddy, come and see. There ain't no use for the stone."

The old gentleman calmly surveyed the device and, with a severely reproachful attitude, said to his exulting son: "Johannes, your fader, your grandfader und your great-grandfader all went to der mill mid der stone in one end of der bag, und you, a mere boy, sets yourself up to know more as dey do. Yust put dat stone in der bag und never lets me hear no more of such foolishness as dat."

There are beef cattlemen of this type in this State today. They and their ancestors have been operating along primitive lines for years. They have taken no steps to improve upon nature's ways, and their profits have been regulated entirely by conditions over which they have assumed no control. Unless they change their ways they will always live from hand to mouth. They will never know where they are at; will never be able to get their business on a stable basis; will never be assured of a steady year-to-year income.

For profit's sake keep good stock like this. Swat the scrub!

PROGRESSIVE METHODS INSURE PROFITS

But there is another class who won't have to worry about dry years or unfavorable conditions, for they will establish their operations upon such a sound basis that they will not be at the mercy of the Fates.

First, they will protect themselves against shortage of feed in dry years by building silos, raising silage crops, developing water wherever possible and raising other forage crops.

SHORTHORN BULLS AND COWS

TOP NOTCH REGISTERED SCOTCH COWS AND HEIFERS

also one hundred head of unregistered Heifers.

FINE LOT OF REGISTERED BULLS

One to Three Years Old

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Second, they will breed up, realizing that from a marketing standpoint alone more profit can be made from a few high-class animals that have been bred for fast-growing, easy-fleshing qualities than from twice as many of the ordinary sort.

Third, they will combine into selling organizations so as to market their stock collectively and in large quantities direct to the packers, and thus save for themselves the commission which now goes to the itinerant buyer.

Necessity is indeed the mother of invention. She has given the beef cattlemen of California an opportunity to learn some valuable lessons. And the only ones who will not succeed are those who will not profit by her teachings.

The future never was brighter. Play the game along sound lines and you can bank upon a sure profit.

Feeding and Watering Stock at Terminals

[Written for Pacific Rural Press.]

Herbert Hoover, U. S. Food Administrator, recently expressed himself as dissatisfied with what he calls wastefulness in the present method of feeding livestock before going over the scales to slaughter. The Bureau of Markets of the Department of Agriculture is working on this matter and before long farmers may expect to hear of a modification of the rules which now permit livestock to be fed and watered before being weighed in at terminals.

Come to think of it, doesn't it seem ridiculous to stuff an animal full and be paid meat prices for grain? To eliminate this method does not mean that the farmer will receive less for his livestock. Under the present method the packer has to dock a certain amount to cover the feed and water consumed by the animal before being weighed in. He strikes an average which works out unfairly. One breeder gets his animals to consume a great deal at the last moment and is paid more than some other fellow who is not wise to these methods or is not skillful in getting his stock to consume a large amount of feed and water.

If the method is eliminated and animals are weighed without being filled, packers can afford to pay a higher price per pound. Each man will receive exactly what he should for his stock and the plan will work out more satisfactorily to all concerned. At least this is our idea. What do you think about it? The whole question is fraught with interesting possibilities and should receive the careful attention of livestock raisers. We shall be glad to know what our readers think about the plan.

Livestock Queries

Cow Has Digestive Troubles.

To the Editor: My cow suddenly went off her feed and would eat nothing offered her. Since then she has been eating a little but not very much, and she is giving very little milk.—A. G. M., Armona.

[Answered by Livestock Editor.]

The symptoms point to some digestive disorder. There may be inflammation of some portion of the animal's stomach. This is often caused by some irregularity in the diet, change of feed, indigestible feed, etc., and is especially noticeable at this time of the year when so many cows in California are changed from green to dry feed. However, in such a case there is always danger that the animal may have swallowed some foreign body, such as a nail or piece of wire. Such objects stick into the wall of the stomach and even pass through into some adjacent part of the body, causing more or less inflammation, often resulting in death. For treatment, the animal should be given green feed, if possible, or, if this cannot be done, the bowels should be kept relaxed with Epsom salts or linseed oil. A dose of the former is a pound dissolved in a quart or two of water and given as a drench. A dose of the latter is one quart. They may be repeated if necessary. If the diet is carefully looked after and the bowels kept active, improvement should take place unless there is something incurable. A tonic might prove beneficial and for this a teaspoonful of fluid extract of nux vomica diluted in a pint of water and given twice daily as a drench is recommended.

Feed in Proportion to Weight.

To the Editor: How much feed per day will growing pigs eat?—L. H. W., Orland.

[Answered by Livestock Editor.]

The proportion of feed to the weight of a pig will depend upon both size and condition. A very young pig will eat as much as 6 per cent, or 6 pounds of feed for every 100 pounds of his live weight, whereas an old, mature sow that is in good condition will not eat over 1½ per cent. A real lean hog weighing 200 pounds will eat as much as 12 pounds per day, which would mean 6 per cent of his weight, but he can keep it up only a short time. When he weighs 300 pounds he will not eat more than 8 pounds per day, which would mean only a little more than 2½ per cent. Generally speaking, pigs from weaning time to 250 pounds eat about 4 per cent when on full feed, 3 per cent when on three-quarters feed, and 2 per cent when on half feed, which would be a mere maintenance ration.

Growing Hair on a Cut.

To the Editor: What can I do to bring the hair back on a cut on the front leg of my horse which was caused by barbed wire? If possible, I want the hair to come back in its natural color.—M. B., Loomis.

[Answered by Livestock Editor.]

If your horse recently received this injury, you can restore the hair over the cut in its natural color by simply using pure lard. If the cut is of long standing and a hairless scar has been formed, it will be necessary for you to blister this with a Spanish fly blister, which should be prepared as follows: 2 drams cantharides (Russian), 1 dram euphorbia, 1½ ounces benzonated lard. Clip the hair near the spot and rub this blister in thoroughly for ten or fifteen minutes. Wait until after it has exhausted itself, then wash the spot with hot water and soap and apply lard daily to bring the hair back.

Gathering in Ear.

To the Editor: What treatment can I use for a dog that has a gathering in his ear? It has been troubling him for a month, although at times for a year he has evidently had pain, causing him to shake his head violently. His ear runs and the discharge has a bad odor.—C. C. C., Soulsbyville.

[Answered by Dr. E. J. Creely, San Francisco.]

Your dog has canker of the ear caused by a barley beard or wild oats. Medicine is useless unless the foreign body is removed, which probably will have to be done by a veterinarian. The following wash should be used before and after removal, when it will readily heal: 8 ounces saturated solution boric acid, 2 drams pulo alum, 1 dram zinc sulphate. Mix and inject once daily after washing.

Age for Vealing Calves.

To the Editor: At what age should calves be vealed?—M. G. C., Merced.

[Answered by Livestock Editor.]

Reports from the Chicago stock market show that in 1917 the average live weight of veal calves received was 137 pounds. However, we judge that you have dairy cows and veal the bull calves, and it should be added that the range in weights of veals from dairy districts was from 90 to 130 pounds. This may be taken as an indication of the weights at which dairy farmers consider it the most profitable to market their veals.

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Never Defeated Grand Champion Wherever Shown.

We won Grand Champion on carload of females at Denver the last two years. We have stock for sale at all times. Glad to answer questions and explain anything. Look us up at the fairs—we are here on the Coast for that purpose. We have calves from these herd headers with us in our show herd:

HERD SIRES

Wyoming Fairfax, Grand Champion at Denver in 1918.
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Gold Dust, first in two-year-old class at Denver, 1917.

We have 3 yearling bulls in our show herd for sale—Ready for service.

The Hereford Corporation of Wyoming

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CHEYENNE, WYOMING.

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KING LANCASTER.

Shorthorn Cattle

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I have used more grand champion bulls in my range herd than any other California breeder has used in his foundation.

My offering of range-raised bulls for the coming season is exceptionally good.

T. S. GLIDE, Prop. — Davis, Cal.

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Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

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EVERY ANIMAL POSITIVELY GUARANTEED

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REDWOOD CITY, CAL.

Draft Horses Still Necessary

[Written for Pacific Rural Press.]

The day of the small horse has gone, but the draft animal will always be in demand. In 1914, at the outbreak of the war, the United States had a vast surplus of horses, ranging from 1000 to 1500 pounds, but that surplus is now exhausted. Farmers sold themselves short of horses and are now searching for teams to do their work. As a result, prices are going up again and a steady increase may be expected for several years.

Another reason for this, besides the heavy demand for horses, is the fact that comparatively few mares have been bred recently. Failure to breed mares makes a short horse crop, but the effects are not noticeable within a few months, as is the case with ordinary farm crops. The shortage in horses does not become manifest until four or five years later.

In 1916 and 1917 less than 40 per cent of the mares of breeding age, excluding registered draft mares, were bred. And it is estimated that yearling colts have decreased from 1,732,000 in 1910 to approximately 1,000,000 for the spring of 1918, and this decrease will be felt most acutely in 1920 and 1921.

The greatest obstacle to improvement is the small horse. Such animals are not marketable; neither are they profitable to farmers. The man who owns and works horses under 1100 pounds is standing in the way of his own financial betterment. If he cannot dispose of them and buy mares that are in excess of 1200, his only chance is to breed better stock.

Doing this from a foundation of small mares is a rather slow process, but it may be hastened by breeding to a very prepotent, heavy-boned stallion that is 16½ to 17 hands high and weighs over 1900 pounds in breeding condition. The half-bloods from such a stallion will, if properly developed, mature at 1400 pounds or better. The small mares carrying some draft blood have produced progeny from such crosses that closely approximated real draft size and character.

More rapid progress will be made by selling very small mares at whatever they will bring and buying good grade or purebred draft mares. If mares weighing from 1200 to 1500 pounds are bred to selected draft stallions, their offspring will mature at 1600 pounds or over, and the man who breeds along this line will reap a good harvest, for, aside from our own farm and city needs, foreign countries will be heavy buyers of draft horses in American markets for several years. The governments are already seeking to obtain horses over 1500 pounds, and are especially desirous of getting all the heavy mares they can secure.

But we cannot spare them. We need them here at home. The man who sells mares of this kind will pay good prices for work animals in the future and will regret that he failed to grasp the opportunity now before him.

WHAT FARM HOMES OF COMFORTABLE MEANS SHOULD HAVE.

1. A keen interest in making brains and machinery perform the physical labor of the household.
2. A good water system that works when needed.
3. A good lighting system that works when needed.
4. A good heating system that works when needed.
5. Cold storage.
6. Sewing machine.
7. Modern laundry conveniences.
8. Fireless cooker.
9. Good range.
10. Oil stove.
11. Plenty of fuel.
12. Warm, comfortable floors.
13. Convenient kitchen.
14. Plenty of good cooking utensils.
15. Plenty of shelf and closet room.
16. Canning outfit.
17. Windows that raise and lower easily.
21. A good garden.
22. Flowers and flower garden.
23. A cow.
24. Modern dairy utensils.
18. Screens.
19. Comfortable beds.
20. Pretty but simple furniture and furnishings.
25. Plenty of reading material.
26. Musical instruments. —Ex.

The Farm Bureau of Armour & Company has issued a 60-page booklet entitled "Progressive Sheep Raising," the keynote of which is "back to the farm with sheep raising." It contains many helpful articles on the breeding, feeding and care of sheep, and is well illustrated. Free copies may be obtained by addressing the Armour Farm Bureau, Chicago.

The headquarters of the California International Livestock Show have been moved from the Exchange Building to the show grounds at Twelfth and Market streets, San Francisco.

CLEAN YOUR BARN

The Louden Way

One man with a **Louden Litter Carrier** on Louden overhead steel track system can clean the barns in half the time that two men would take without it. **That's** Louden economy. On **every** up-to-date farm—**your** farm—the **Louden Litter Carrier** and steel track system will earn its cost many times a year.

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Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The plan of holding a Guaranty Holstein sale at Sacramento, December 5, has been abandoned owing to the difficulty of obtaining sufficient animals of high enough quality.

Twelve grade Holstein cows were recently sold in San Luis Obispo county at $150 each by Clark & Marzorini. These prices show the results of years of breeding to registered bulls.

A. W. Morris & Sons of Woodland have sold to the Durham Land Settlement Colony Livestock Association the young bull, King Morco Alcartra 13th. He is a grandson of Tilly Alcartra and is an unusually well-bred animal.

The Holstein-Friesian Association reports 161 public sales for the first six months of the year, covering the entire United States. In all, 8635 animals were sold for an average of $296.92. No getting around it—purebred stock does pay.

Spring Farm Pontiac Maid 2nd, senior four-year-old Holstein owned by the Bridgford Company, Knightsen, is on official test and is expected to make a record of 37 pounds in seven days. She already has made one seven-day record of 34.4 pounds.

Miss M. Holdridge, owner of the Creamcup herd of Holsteins, San Jose, reports the demand for high-class stock very good and says that the Rural Press has sent many buyers. Perhaps so, but then Miss Holdridge has excellent stock, and that counts too.

Two 30-pound butter records have recently been made at the James J. Jeffries Holstein ranch at Burbank. Novelty Pauline 2nd made 30.94 pounds of butter in seven days, Phebe Canary De Kol, a senior three-year-old, made 30.61 pounds. Four other cows made records above 20 pounds.

Gerben Abbekerk Maid, owned by Stalder Bros., Rosamaines Rancho, Riverside, has crossed the 30-pound mark three times. As a four-year-old she made 30.1 pounds butter, as a five-year-old 34.21 pounds, and 34.36 pounds as a seven-year-old. One of her daughters has a record of 25.77 pounds as a senior three-year-old.

Beef Cattle.

L. B. Crabb of Colusa has just brought in 450 head of beef cattle from Arizona to fatten in the Colusa county foothills.

T. T. Miller, the Shorthorn breeder of Los Angeles, plans to move his noted herd to a new ranch that he has acquired near Hollister.

Thirty thousand head of steers for feeding soldiers have been purchased by the Government during the past few weeks in the vicinity of Sacramento. The price paid was 22c per pound for partly dressed steers.

Miller & Lux have purchased from Robert H. Hazlett of El Dorado, Kan., for their Los Banos ranch, the two-year-old Hereford bull, Rialto 2nd, one of the winners of the Pereda trophy when shown as senior calf.

Harris & Son, owners of the Model Farm, Harris, Mo., one of the largest Hereford breeding establishments in the United States, are establishing a herd of 100 head of Repeater stock at Hayward for distribution over the Coast and Hawaii.

W. M. Carruthers of Live Oak has received a flattering offer for his grand champion Shorthorn bull, Count Glory, from Carpenter & Ross, Mansfield, Ohio. These breeders recently lost their show bull, Maxwelton's Revolution, and wanted Count Glory to head their show herd at Chicago. But Mr. Carruthers knows the value of his bull and says that he will not sell.

Swine and Swinemen.

E. R. Eichner, Selma, has recently sold to A. Buckland & Son, Fresno, three young Poland-China boars sired by King's Big Bone Leader and Young Jumbo, out of the sows Pride of King's and Han's Rosebud 2nd.

As the Western Berkshire Congress has abandoned its plan to hold a sale and meeting at the Liberty Fair, it is now proposed to have a sale and the annual meeting in connection with the San Francisco show opening February 9.

H. E. Boudier of Napa reports that the Rural Press continues to bring good results and that he has recently made sales of Durocs as follows: One boar to Cordel Bros.; one sow to P. Adams; two sows and one boar to A. Pacchelli; one sow to J. H. Bowman.

A. B. Humphrey of Grapewild Farm, Escalon, has purchased from Butte City Ranch the Berkshire boar, Onward Prince, a grandson of the Gossard boar, Epochal. He is out of Escalon Fashion Princess, a $500 sow which topped the Berkshire Congress Sale at the University Farm two years ago.

E. H. Whiting, proprietor of River Garden Farm, Ukiah, has sold since the first of November two bred Berkshire sows to Hunter & Brown, Ukiah; one bred gilt to D. M. Beldon, Calpella; one weanling boar pig to Clifford Bishop, Ft. Bragg; one weanling sow to Everett Warren, Coulterville.

Bert Potter of Edelstein, Ill., recently sold at public auction a litter of seven Poland-China pigs for $5,910—the highest price ever paid for a litter of this breed. He bought the sow last March for $1,550, the highest price ever paid for an untried sow, but the first pig sold practically replaced the original investment.

Joseph E. Steely of Clements reports the sales of registered Poland-China pigs for Corp. Clarence A. Reasoner, with the A. E. F. in France, out of his fine sow, Wonder's Miss Bess, sired by Big Bone Bob, as follows: C. R. Wells, Fourth Crossing, one boar pig; Chas. Smith, Bellota, one boar pig; L. F. Schmitt, Clements, one boar pig; Young & Clark, Lodi, four fine gilts.

Sheep.

Sheep are arriving in the Imperial Valley by the thousands for winter feeding.

Four thousand sheep have been placed on California farms in the campaign recently conducted by the farm bureaus.

Scab is reported among the sheep of Tehama county for the first time in six years. Several flocks are already affected, but precautionary methods are being taken so that the disease will not spread.

E. C. Spear of St. Helena writes that he has received splendid results from his ads in the Rural Press. He says that the numerous inquiries he has received show that many California farmers are becoming interested in sheep.

Livestock Miscellaneous.

Last year members of the boys and girls' club raised 10,583 pigs, 415 beef calves, 599 dairy calves, 178 sheep and 106,358 chickens.

Jos. E. Painter, manager of the California International Livestock Show, left last week for the East to attend the Royal and International Stock Shows. While East he will secure more entries of stock for the San Francisco show next February.

Peace Demands Greater than War Demands

Exports of pork products during July, August and September of this year were almost three times as great as during the same months of 1917, and those of beef and dairy products were nearly double. Here are the figures in pounds:

	1917	1918
Beef	93,962,477	171,986,147
Pork	196,256,750	538,602,400
Dairy	130,071,165	161,245,029

As staggering as these figures are, Food Administrator Hoover states that we must ship 20,000,000 tons of food overseas by July 1, 1919, which is 75 per cent more than we shipped last year. "It should be the aim of every farmer," says he, "to see that our herds are maintained and improved, for now our burden will be greater than ever if the world is to recover from the enormous destruction of animals without even greater hardship than that endured during the war."

It's a whale of a job to meet this foreign demand for meat, fats and dairy products, but we can and must put it over. California farmers will certainly do their part.

Warranted to Give Satisfaction.

Gombault's

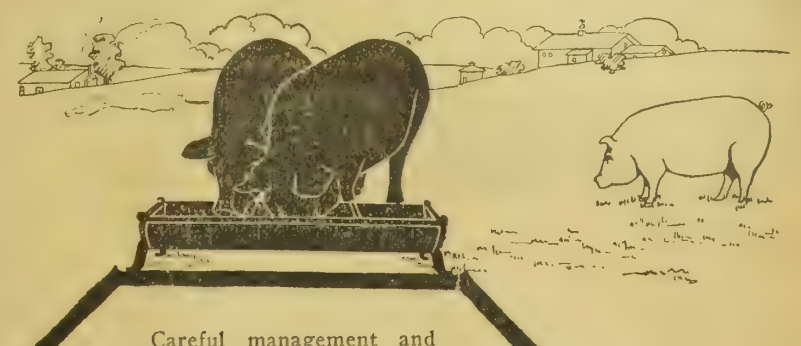
Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.



Careful management and feeding brooding sows and pigs is the wise hog grower's road to profit. Sanitary troughs are essential to prevent disease.

Calco Sanitary Hog Troughs have smooth metal sides, round bottoms—feed conserving—and are made of Armco rust-resisting iron They are durable, strong and economical.

Calco Troughs are made in many sizes, which include:—

Size.	Depth.	Length.	Price.
10¼-inch	5 5/16-inch	40-inch	$3.70
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14 -inch	7 5/16-inch	24-inch	4.55
14 -inch	7 5/16-inch	60-inch	6.55

Other models from 24 to 120 inches in length, from $2.95 up. Order today.

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ORDER BY MAIL

Mail orders, with your check or money order, promptly filled. Write plainly.

Calco Hog Troughs

Sanitary-Strong-Light Troughs for Healthy Hogs

California Hog Book

By W. S. Guilford

Book Worthy of a Large Sale

"I wish to congratulate you on the manner in which you have handled the subject. You have given our California farmers a comprehensive, practical discussion of the subject of hog raising, and I hope that your labors will be rewarded by a very large sale."—F. W. Woll, Prof. of Animal Nutrition, Davis.

Appeals to All Breeders

"I wish to congratulate you on the great hog book you have turned out. It is very interesting and instructive from cover to cover and has the dope that appeals in the proper way to the advanced breeder and beginner alike."—Frank B. Stetson.

Raise More Swine in California

This book will help you. It contains over 250 pages of practical information. Is well illustrated and sells for $2 per copy postpaid.

PACIFIC RURAL PRESS, 525 Market St., San Francisco

Hogs Convert Barley into Bank Accounts

Ha, ha! I got the laff on you fellers who're worrin' about the poor market for barley. Last season, when the price was high you figgered you could make more sellin' grain than feedin' it, so you got rid of lots of your hogs. But now, gosh-ding it, when there ain't nobody wants your barley you ain't got enuf hogs to feed it to.

Mebbe you made more money out of your barley last year than I did out of my hogs, but I'm havin' my innin' this year, and I'll bet dollars to donuts my profit over several years by stickin' to livestock is a heap bigger'n yours by sellin' grain.

Ain't no use cryin' over spilt milk, but don't keep on spillin' it. Don't sell off any more stock. Don't even be satisfied with what you got. Buy more! Take it from me, if you want to make money off'n your barley after this you got to market it thru stock. They tell me shipments across the pond are light and the market back East is low. Breweries ain't buyin' none no more, and autos and tractors have cut the demand for feed barley, never again to return.

Discouragin'? Not a bit. Why, folks, if we had a few million more head of stock in this state it would make the best kind of a market for our barley crop and—listen—it would make barley one of the big payin' crops of the state.

Just think! Before the war speculators bought our barley, shipped it way over to Denmark and sold it to the farmers. They fed it to their hogs, made the best pork in all the world, and sold it in England for more than our fancy, corn-fed pork from the Corn Belt brought. Enough to make us ashamed of ourselves, don't you think?. And I can't see why in Sam Hill more of our California barley growers don't raise hogs when 5 pounds of barley will bring them 18 cents when properly fed, and besides the fertilizer is left on the farm. Figger it out yourselves. That's at the rate of $72 a ton, by heck!

Scared by peace comin' on? Shucks, that's all flapdoodle. Why, Mr. Food Administrator himself says now that the Huns have caught the Haig-fever and we have brought the kaiser to his sneeze, we have a bigger feedin' job on our hands than ever. Look at Bulgary. She don't bulge no more. She's got 4,000,000 people hollerin' to us for grub, and besides them there's 180,000,000 people in Poland, the Balkans, and other parts of Europe darn near starvin'. We haven't been able to send 'em a pig's foot to save our blamed necks, but now that the scrap is over it's up to us to feed 'em. Then there's the Allies—300,000,000 people in all to look after—not to say nuthin' about our friends the enemies who love fat so much, and whose supply is plum gone.

Doggone it, the change from war to peace don't add no pork to our supply. There will be an awfuller demand for it than ever, and it will keep up for an awful long time, too. There ain't hardly enny foundation stock left over in them countries, and it's going to take years for 'em to raise enuf to fill their own tummies.

Mebbe I can't write a skolarly article like some of them editers up in the Rooral Press do, but I know how to give you the korrect dope. You see the smile on my face, don't you? Well, that's the smile of prosperity. And you see my bank book? That means a whale of a big deposit—all money made by marketin' barley thru hogs.

Take the tip from me. Feed your hogs a full ration of barley and you won't have to dine on half rations yourself. You'll have a big fat bank account like I got.

I. B. WISE.

Liberty Fair Now Victory Fair

[Written for Pacific Rural Press]

Our compliments to the fellow who conceived the idea of changing the name of the great show at Los Angeles from Liberty Fair to Victory Fair. He has proved himself a worthy member of the Brotherhood of Brains.

And just as the new name is infinitely better than the old, so the fair itself, after being postponed several times, will be much better than if it had been held on the original dates.

Unless another postponement is made necessary at the last minute, the fair will be "on" when this paper is received, as the opening was announced for Friday, November 21. It will continue for ten days, and there will be something doing every minute—military spectacles, harness races, horse show, pageants, fireworks, and special Thanksgiving features. And these in addition to the wonderful educational exhibits of agricultural and horticultural products, fine arts, farm machinery and livestock.

Livestock will be weighed in Friday morning, November 22, and Saturday at 1:30 p. m. there will be a livestock parade. Judging will begin Monday morning and will continue until completed.

Of course you are going. Everybody is. The fair will be a humdinger. It will make your blood tingle. Take the folks along. They'll all enjoy it.

INSPECTION OF DAIRY COWS.

To the Editor: I have a family cow and want to sell milk to my neighbors. Must I have the cow tuberculin tested, and if so what steps should I take?—C. E. M., Walnut.

[Answered by Livestock Editor.]

According to the State law, milk cannot be sold from cows that have not been tuberculin tested unless it is pasteurized. You would not want to put in a pasturizing plant for just one cow, so it will be necessary for you to have her tested. Simply notify the State Veterinarian at Sacramento, and from that time until he sends a deputy to test your cow you can go ahead and sell the milk. There is so much of this testing to be done that often it is months before the officials get around, but if there is a delay you need not worry, as you will have done your part.

The University of California will make a good showing at the International Livestock Exposition at Chicago, November 30 to December 7. They will take along fat steers, wethers and barrows and hope to even excel their former excellent winnings.

THE YATES KIND
Big Type Poland Chinas
Prize Winners Money Makers
Won at Orland Fair:
ALL GRAND CHAMPIONSHIPS
SENIOR CHAMPIONSHIPS
5 FIRSTS AND 6 OTHER PRIZES
FOR SALE:
GILTS, BRED FOR SPRING
Farrow to Grand Champion Boar, Long Jumbo, Yates Big Orphan, and Long's Hadley. Boars farrowed in March and to above sires.
Pigs—Tops from fall litters sired by Long Jumbo, Superbus Wonder, and Long Chief out of sows of Big Orphan, Defender, and A Wonder breeding. This stock will surely please you.
WRITE OR CALL.
R. J. YATES Orland, Cal.

DIRECTOR JUNIOR, Grand Champion.
BOQUET CANYON HERD
HAMPSHIRES
Won Grand Champion on a six-months-old pig—something unusual. Also Reserve Senior Champion Sow, Junior Champion Boar and Reserve Junior Champion Sow.
7 FIRSTS, 6 SECONDS, 4 THIRDS.
We offer choice bred sows and open March gilts that we will breed to any boar in our herd. Also brothers and half-brothers to our Grand Champion boar, Director Junior.
EVERY HOG GUARANTEED TO PLEASE.
L. A. DENKER - - Saugus, Cal.

THE POPLARS RANCH
Registered Hampshire Swine
A limited number of three-months-old weanlings for sale. Am booking orders for future delivery of youngsters by Gen. Tipton. Have a few young boars sired by Duke's Allen, Grand Champion, 1917, Sacramento.
C. J. GILBERT, Lancaster, Cal.

OAK KNOLL FARM
LAKEPORT CALIFORNIA
We have sold all our young boars and are now booking orders for March delivery. Highlander, the $1,000 Grand Champion Boar, heads our herd of
CHESTER WHITES
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

REGISTERED JERSEY CATTLE
DUROC JERSEY HOGS
Look up my winnings at the fairs. Stock for sale at reasonable prices.
J. E. THORP Lockeford, Cal.

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Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Hopland Stock Farm
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Fifty Berkshire Suckling Pigs eligible to registry, sired by Iowana Rival Majestic 194736, Son of Rival's Champion 112500, and sons of Iowana Rival Majestic, at $12.50 weaned.
Registered Sows, Gilts and Boars fore sale.
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226 Southern Pacific Building

SWEETWATER DUROCS
California's Most Popular Big Type Sire.
GREAT MODEL
(By Great Wonder and Model Lady 4th)
M. C. Allen Winsor Ranch. Peters-Lamson
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I AM WORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM.
W. O. Pearson, Prop. Woodland, Cal.

Sheep Raising Still Profitable

[Written for Pacific Rural Press by R. H. Whitten.]

"The United States does not produce enough wool to make a bathing suit for each inhabitant." This was the amusing and impressive statement on a sign which Prof. Miller had on the wall of his little "office" in the sheep barn at the State Fair this year.

It was impressive at that time, when the war was on, but it is almost as impressive now, for even after demobilization has been completed and wool is no longer necessary for uniforms, the need for more sheep will be imperative.

The United States consumes under normal conditions 900,000,000 pounds of wool, yet we are only producing 270,000,000 pounds. Think of it—consumption more than three times the total of our production! Sheep in this country decreased from 51,000,000 in 1913 to 46,000,000 in 1917 in the face of an increased population and an increased demand.

The principal sheep countries of the world were not increasing their production before the war, and seemed to have reached their limit. In our own country the big ranges are being cut up and the supplies of wool must come chiefly from farm flocks hereafter. Also there is a constantly increasing demand for lamb, and the farmer is always sure of having a good market for his fat lambs, as the quality of the frozen lamb from the Antipodes or the Argentines practically prevents it from competing with fresh American meat.

CONVERT WASTE INTO PROFIT.

Sheep, in proportion to the value of their products, are produced more economically than any other livestock. They get much of their subsistence from rough forage, weeds and grass that would not support other stock. Only about 50 per cent of the plants called weeds are eaten by horses and cattle, while 90 per cent are eaten by sheep. They can utilize materials that otherwise would be wasted; they can be maintained on lost grain in stubble fields and on voluntary growth too scanty for other stock. They can be kept on the average farm without entailing a reduction of other livestock, without interfering with any other agricultural plans, and without making it necessary to hire more help.

Sheep add materially to the farm revenue but add almost nothing to the expense. The lambs are marketed when about five months old, and this year the prevailing price has been from $9 to $10.50 per head. Twins are common among sheep, and under farm conditions the increase should always be over 100 per cent.

Average farm sheep shear about eight pounds of wool annually, which at present is worth about 50c per pound, making a total of $4 for the wool. Adding the price of a lamb, the gross returns per ewe are from $13 to $14.50. Ewes can be purchased within these figures, so it may be said that an ewe will return her purchase price the first year. This is gross, but the feed bill will be light, for her lamb will be finished on its mother's milk and grass, while the ewe will be run on pasture or stubble most of the year, with not more than three pounds of alfalfa a day in the winter.

BUY BRED EWES NOW.

As early lambs are desired in California, ewes are bred the latter part of July or early in August. The period of gestation is 145 days—not quite five months—so the ewes lamb late in December and during January.

Consequently, you can make a quick start at this time of the year, for when you buy an ewe you really buy two or three animals, counting the lambs that she will deliver very soon.

The inexperienced farmer should begin with good grade ewes and a registered ram. Merino ewes mated to a mutton type of ram, such as the Shropshire or Hampshire, will give good results. Have all of the ewes of one breed, for not only will they look better but their fleeces will be more alike and their lambs will be more uniform than from a mixed bunch.

Discard ewes with small bodies, narrow chests and small heart girths, also those with crooked or club feet that will catch and hold filth between the toes. Sheep that have long, thin, "goose" necks usually have weak constitutions and are poor feeders. Select upheaded, vigorous ewes with straight, broad backs, roomy bodies and plump hind quarters.

The price of young ewes is so high at present as to be almost prohibitive. Often you can do well by buying broken-mouthed ewes if you have good feed. These are ewes that have lost some of their teeth as a result of age and cannot pick up a living on the range, yet would be good for two or three more lambs on the farm, after which they could be fattened on alfalfa pasture and sold to the butcher.

These older ewes produce more twins and triplets than those that have never lambed, but in buying them be sure to examine the udders to see that they are free from lumps that would prevent them from being good milkers. Also be sure that the ends of the teats have not been clipped off in shearing.

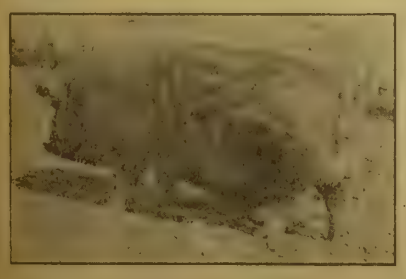
DON'T RUSH INTO IT.

If you are inexperienced with sheep, start with just a few. You can acquire experience rapidly with ten or a dozen, and by keeping all of the ewe lambs you will soon have a good sized flock. However, as a rule it is not advisable to start at all with sheep unless you can eventually keep at least thirty ewes, and if possible fifty or sixty, as the larger flock can be cared for with very little extra labor or expense, and consequently will return a greater net profit per head.

Remember, no animal approaches the sheep in converting weeds and waste into wool and mutton. There is a wealth of food and raiment in the wasted grass and weeds of corrals, fields and roadsides.

For some time an effort has been made to obtain consideration in Congress for a measure to place a Federal tax on all dogs in the United States as an item for war revenue. This would be largely effective in eliminating useless dogs, but it seems necessary to awaken Congressmen to the necessity for such legislation, and all sheepmen are urged to write letters to the members of Congress generally, and to the members of the Ways and Means committee especially, urging their support of this measure. Don't leave this to others. Do your part.

Grand Champion
BERKSHIRES



AMES RIVAL 70TH

We have in our herd the Grand Champion Boar, Grand Champion Sow and First Prize Senior Herd at State Fair.

Forty-three litters this year averaged ten to the litter. Let us supply you with foundation sows and boars to head your herd.

JAMES MILLS CO.
Hamilton City : : California

Imported and American Bred Stallions
Percherons - Belgians - Shires

My Fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.

The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.

Correspondence invited and visitors always welcome.

N. W. THOMPSON, Patterson, Stanislaus County, California

Champion Ram, P P I E

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.
Individuals or Carload Lots.

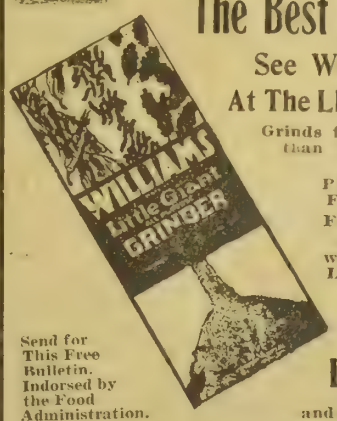
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

The Sheep that bring the Big Prices
are the kind to buy
RAMBOUILLETS

I purchased at the Salt Lake sale 31 head of the best (Butterfield, Quealy and Bullard strains) to head my breeding ewes. I have about 100 big, smooth, heavy-wooled rams for sale.

J. BIDEGARAY FRESNO, CAL.

The Best Grinder Made
See What It Does
At The LIBERTY FAIR



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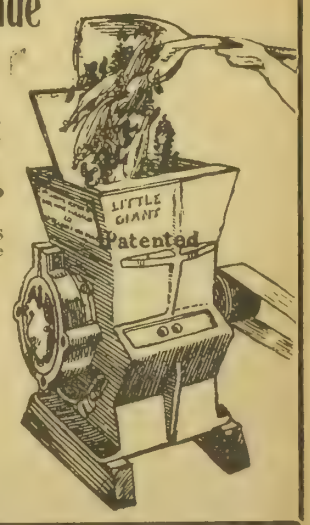
Provides FRESH FULL - FLAVORED FEED in a jiffy.

And the SAVINGS will soon pay for the LITTLE GIANT.



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Liberty Fair
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Your Live Stock Needs Help NOW

Keep your working and producing animals vigorous and healthy. This is the very foundation of stock profits. The changing season is a trying time for stock of all kinds. Protect your horses, cattle, sheep and swine. Prevent them from becoming diseased or "run down" by regularly using

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The Original Guaranteed Stock Tonic and Conditioner

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Write for big Stock Book—FREE

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

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Pratts

CONSERVATION OF SHIPPING SPACE.

A commission has been appointed to co-operate with the Chicago packers in experiments which may save up to 40 per cent of the tremendous cargo space now required for shipping fresh beef. The experiments contemplate not only the conservation of shipping space but also the problem of having the packages small enough to be handled by the class of labor available at unloading ports overseas and the quick and convenient issue at supply depots in France. They range from the mere cutting of the carcass into more convenient sizes and shapes to the entire boning of the carcass to be packed in boxes. Since fresh beef constitutes a considerable part of some 350,000,000 pounds of beef and pork products now sent monthly to allied countries, the saving by the new method may prove to be considerable if found practical. The bones and surplus fats salvaged by the operation will be converted into various by-products.

What is said to have been the largest shipment of hogs ever marketed was received at Chicago recently from Darlington, Ind. Three shippers sent 34 carloads, which were bought by Armour & Co. for $105,166.95. The hogs averaged 256 pounds and brought $18.50 straight—a record price for large shipments.

LIVESTOCK DIRECTORY.

Rate in this directory 3c. per word each issue.

SWINE.

Poland-Chinas.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength and quality, everything that goes to make the **Profit Producing Hog.** Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

BIG, SMOOTH POLAND-CHINAS—One April boar by Grand Champion Kings Big Bone Leader. One 12-month-old boar by Smooth Progress; April, May, June, and July gilts. Everything guaranteed. A. Buckland & Son, Rt. E. Box 126, Fresno.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale T. Marsh, Modesto, Cal.

GATEWOOD'S BIG POLANDS—The offering for our February bred sow sale is comprised almost entirely of sows and gilts by eastern-bred sires and bred to King Big Bone Leader, the California champion. Chas. Gatewood & Son, Route G, Fresno.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

A FEW EXTRA GOOD POLAND-CHINA boars, ready for service. Prices reasonable. Write for description and breeding. E. Miner, Lodi, Cal.

ELDERSLY FARM—Big type Poland Chinas with quality. Young stock from the breed's best big type sires for sale at reasonable prices. J. H. Ware, Live Oak, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
906 K St., Sacramento.
In charge of Natomas Land sales.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

RIVER GARDEN FARM BERKSHIRES—A few fine weanlings and some bred sows and gilts. E. H. Whiting, Ukiah, Cal.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Pas Robles, California.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application, Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

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THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

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MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

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[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SMALL CHICKS AND WINTER CARE.

Those having fall baby chicks should see to it that these cold nights are offset by extra heat. The general run of brooder houses are made of such thin lumber that every change of climate is registered in them to the discomfort of the chicks. When the nights are extra cold a little extra care is needed to see that the chicks are all protected. Crowding two hundred chicks under a one hundred chick brooder is poor policy. Some of those chicks will get chilled one night, but the day's warmth will revive them; the next night another lot will get chilled, and so on until the whole batch is weakened. Then they commence to drop off—a few each night—and the careless caretaker says: "Fall chicks are no good; they die off!"

The fact is they have been killed on the installment plan, which is much worse than leaving them out one night and letting them freeze. Since lumbermen began slicing lumber about on a par with an economic housewife spreading 70c butter, raising chicks in brooder houses has been quite a problem.

During the daytime the house is overheated and in the night it is difficult to hold the temperature at all even, for it fluctuates with the outside temperature in spite of all one can do. The only thing we can guard against is overcrowding. Leave plenty of room for the chicks to get under the hoover and see that all draft is shut out of the house. Also see that the water dishes are all empty at night; then there is no danger of chicks getting wet or drowning, or chilling from drinking very cold water.

These chicks will be worth money in spring if you give them the right care. On the other hand, if neglected, they will just eat lots of feed and never amount to anything.

AN INDISPENSABLE POULTRY BOOK.

"California Poultry Practice" is traveling around in widening circles. Last week a copy was sent to Toronto, Canada, and one to New York, while a professor of Spanish at the Louisiana State University has sent in inquiries about the book. Every reader of the Pacific Rural Press who is interested in poultry ought to include 50c with his subscription for a copy. The price of the book separately is $1. Then when anything ails his flock, nine times out of ten the remedy will be found in its pages. Of course, we learn more every day, or at least we ought to, and in caring for poultry, or any kind of livestock, every bit of knowledge is needed to score a success, and the latest knowledge sometimes fits the times just a bit better. In main, however, the general knowledge we get early always seems to come in handy and is never very far wrong.

POULTRYMEN GAINING COURAGE

The Eastern poultry journals are picking up in news of what poultrymen are doing in the East and Middle States. They report more unity among the producers—fewer quitters; in fact, they say there are no more getting cold feet, such as there were a year ago, when whole localities went out of business. Here on this Coast we have not fully realized the enormous losses sustained by Eastern poultrymen, in spite of the fact that their land is cheap and they are nearer to grain centers than we are. Nevertheless, hundreds of poultrymen were forced to sell their flocks and take up something more profitable.

With a possibility of obtaining damaged wheat for chicken feed next spring, everybody should now plan to hatch or buy spring chicks so as to be ready for the opportunity offered those who are ready to take it. It certainly is not the time to get discouraged, for there is great need of poultry and eggs, and peace does not curtail the demands but rather increases them. Our allies, who have had men in Germany who have been half-starved so long they are weak and emaciated, will need fresh eggs; our own sick and wounded will need them in greater quantities than ever; so everybody should brace up like the Easterners and take a fresh grip.

ELIMINATING THE MITE PEST.

To the Editor: Please tell me the best method of getting rid of chicken mites. They have simply taken possession of our ranch.—Mrs. J. E. B., Vacaville.

[The best, cheapest and surest method of eliminating mites in such a bad case is to spray every day for a week, or, if this is not possible, every other day for two weeks, if needed, with the following: Take a pound of common laundry soap (the yellow resinous kind is best), cut it up in the wash boiler and put on fire to dissolve in about two gallons of water. When it has dissolved, take from fire and take out doors and add, gradually, stirring all the time, three gallons of distillate or coal oil, whichever you can get cheapest; and to finish, add one gallon of crude carbolic acid. Keep stirring until quite cold—it will not hurt the wash boiler. When cold it will or should look like dark soft soap, but there should be no oil floating on it. All should be thoroughly mixed. A gallon of this mixture may be mixed in four gallons of warm water and it will be strong enough to destroy all mites it comes in contact with. Spray the ground around where they are and if you can find their breeding place burn it out.]

CLEANLINESS ALL ESSENTIAL.

"Cleanliness" and "sanitation" are different words, but with one real meaning, so if the poultry house is kept clean it may be said to be sanitary. And every man or woman who keeps poultry owes it to their customers to have clean houses, clean nests for the hens to lay in, because, next to milk, eggs are the most porous article of food we have; so you can readily see if the nests are dirty the egg will absorb the filth.

SCALE ON THE LEGS.

To the Editor: Please advise me how to treat chickens that are bothered with scale on the legs. When eating they cannot stand up—feathers stick up.—Subscriber, Sebastopol.

[It will be no use doing anything to the scale until you clean up your poultry house and yards and spade the ground up. Then if you doctor the scale you may hope for results, but treating such a bad case is quite a job and needs perseverance. First, if there are not too many of them, a good washing with soap and warm water softens the skin and opens the pores so that other treatment will penetrate better, but if there are a number of chickens in this condition it is too big a task. Now mix dry flowers of sulphur in lard and coal oil, and after the washing rub this well in. After three days rub in more sulphur ointment. About three or four treatments will cure if you keep things clean around them.]

KEEP THE FEET OF LEGHORNS WARM.

This is the most essential thing in keeping Leghorn hens fit during winter. They positively will not do their best unless they are kept dry and warm underfoot. Plenty of scratch material sends the blood circulating more quickly than running around can ever do. It is the only right way for hens to get exercise and still not run the flesh off them. Too much running around outdoors takes energy that should go to egg production, but gentle scratching, when the hens can pick up a grain or a seed, no matter how small, is building up. Hens must have a surplus of vitality and that comes from a well-nourished body. If ill fed and improperly nourished, the laying will be spasmodic, lasting only as long as the hen feels good. It is the poultryman's business to keep her up to the top notch.

TURKEYS HAVE SORE HEADS.

To the Editor: Your articles in the Rural Press are splendid, so also is the paper as a whole. Now I need some advice with respect to treating my turkeys for sore head. Some of the birds go blind. A kind of a kernel or growth forms in the eyes, heads swell up and are covered with sores like the chicken pox. We take them away from the others and have been using a solution of sheep dip to wash the sores, then vaseline afterwards. Have to feed some of the turkeys to keep them from starving to death.—W. B. W., Maxwell.

[Sheep dip is too hard on the eyes. Wash them in Creolin and water, a teaspoonful to a pint. Dry, then rub carbolated vaseline on and give ten drops of tincture of iron on sugar for full-size turk. Do this about three days, clean up yards and find out how they are getting their colds and apply the proper remedy.]

Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

BABY CHICKS—We want your business on this basis:—Reasonable prices—exceptional quality—truthfulness—keeping of promises. Big, and ofttimes false, claims of enormous egg yields, "the largest," "the finest," are not adjectives we use. Promises unfulfilled, humbug, bluff, are not our stock-in-trade. It takes common sense to succeed in poultry—use it in buying stock. We hatch and sell Rhode Island Reds, Barred and White Rocks, Black Minorcas, White, Brown and Buff Leghorns—up to our capacity (12,000 chicks weekly), and would like you to send for our circular and get acquainted. No matter how small or large your needs, we will try to please you. Will you risk a card? The Mission Hatchery, Box 17, Campbell, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks, Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

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BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

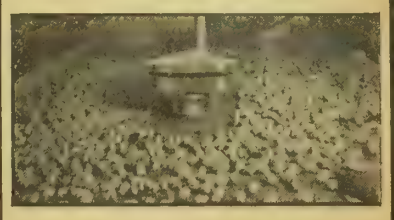
BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

BOURBON RED TURKEYS—Order now and we'll reserve them until January 1st. Mrs. Geo. F. Smith, Hardwick, Cal.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

FOR SALE—Golden Bronze turkeys. Big boned breeding toms of America's best strain. Eggs in season. M. M. Reiman, Planada, Cal.

WHITE CHINA GEESE, PUREBRED—For quick sale, $15 a trio. In city limits so must sell. Susan Swaysgood, Pomona, Cal.



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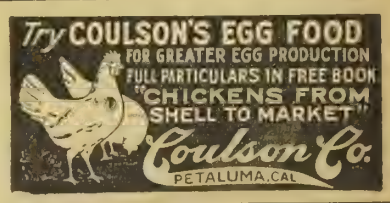

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PACIFIC RURAL PRESS

525 Market St. San Francisco, Cal.

Save One Million Pounds of Turkey

In order to increase available food supplies and to discourage the wasteful practice of killing immature turkeys for the Thanksgiving market, the United States Food Administration has requested all growers, dealers and the public not to sell, buy or use birds of immature growth prior to December 7. Poultry licensees are specifically requested not to buy hen turkeys weighing less than eight pounds, nor gobblers weighing less than twelve pounds, prior to that date. Observance of this request, Food Administration Officials pointed out, would save millions of pounds of matured turkeys for the great Christmas demand.

THE HOME CIRCLE

Ode to a Gobbler

All hail! All hail! Oh, rare and antique bird
That lately on the venerable tree
Rolled in a ball of sleep, the chill winds heard
Moaning in mournful gusts thine elegy!
No more the sun will gild thy red cravat
Or ripple on thy wing,
For time hath caught thee, even as the cat
Catches the gray and agile whiskered rat,
And now thy praise we sing,
Gathered about the board, serene and gay,
Upon Thanksgiving Day.

With joy we see thee lying on thy back,
Thy chaste, lush drumsticks sticking in the air;
Thy wings in sweet peace folded and, alack,
The incense of thy stuffing, pungent rare,
Filling our souls with heavenly melody,
The while with fork and knife
Thy dark meat and thy white meat fondly we
Suffuse with gravy in our revelry
And then, with pleasure rife,
Each dainty morsel neatly tuck away
Upon Thanksgiving Day.

Thou'rt nobler than the canvasback or goose,
The lordly shanghai or the ortolan
Or any other minstrel that is loose
From Tuscaloosa to Cape Mary Ann.
Compared with thee the woodcock is a mere
Delusion—all in all;
The upland plover ne'er can be thy peer,
Beside thee to the epicure and seer
The prairie hen is small;
Thou art the bird of freedom anyway
Upon Thanksgiving Day.

—R. K. Munkittrick in New York Press.

A Thanksgiving Story

"What are we to do about Thanks-giving dinner.

Her mother looked up from the book she was reading. Her sister Lucy dropped her fancy work as a tribute to the interest of the question. And Leslie, the cousin who was living with them, making herself useful in return for her home, bent her head that the rising tears might not be seen.

"Eat turkey, I suppose," replied Lucy, flippantly.

"Whose?" persisted May.

"I don't think you need worry, children," said Mrs. Rogers. "Your uncle is sure to ask you there, as usual."

"Their table is going to be very crowded," suggested May, with a glance at Leslie. "They've four school friends of Dick and Ruth this year. Dick told me so."

Leslie's cheeks burned under the tears that had fallen. She knew that she herself was a problem when it came to festivities. No one wanted her. She was poor and plainly dressed. Her cousins, both here and at Bonniebrae, where Ruth and Dick lived, did not think her an adjunct of any value.

Making a big effort—a really courageous effort—she went on with the tiny buttonholes she was putting into Lucy's new shirtwaist. No one must guess that she realized her own loneliness.

A week went by, and no invitation came from Uncle Ben. Evidently he had decided that the Rogers's household was too large to be added to his own for the Thanksgiving dinner.

"Let's have a beautiful Thanksgiving of our own," suggested Leslie one afternoon, when her cousins were fretting. "We are four."

"And they are twelve," cried May. "They will have games and singing, and such a fine time! I don't want any Thanksgiving at all!"

Leslie had been feeling very much that way herself. But she had made a definite promise to her mother, far away in an Eastern sanitarium, to be brave, cheerful, and never to give way to moodiness or fretting.

The next day she went with a proposal to her aunt.

"It's very sweet of you, Leslie," replied Mrs. Rogers, patting the dark head with more kindliness than she had yet shown her not very well understood niece. "Just do what you like."

On the strength of this permission Leslie laid her plans. Lucy and May had declared firmly that they wanted no Thanksgiving at home. If they could not be with the merry party at Bonniebrae, they would mope at home—but they would not be thankful!

But Leslie knew that, when the day came, it would be very dull if no festivity marked it from the days preceding and to follow! So she made pies and cakes, dressed a turkey, secretly imported, and saw to it that the cranberry sauce was beautiful to sight and taste.

May and Lucy fretted openly. They knew nothing of the preparations going on, nothing of the branches of maple leaves and old man's beard that their cousin had risen so early to secure, and on Thanksgiving eve they went to bed almost in tears!

Just before supper a telegram came. It was addressed to May:

"Will it be convenient for me to have dinner with you tomorrow?" Am passing your home. Emily Gaites."

"Emily Gaites?" inquired Mrs. Rogers.

"She was in the class above mine at school," said May, impatiently. "Of course she can't come. I'll wire and put her off."

"Oh," cried Leslie, her hospitable instincts outraged. "Wasn't she the girl who was so kind to you?"

"Being kind at school doesn't give her the right to invite herself here," said Lucy, fretting. "It was a long time ago, anyway."

"We can't put her off," said Mrs. Rogers, decidedly.

"And we haven't even a turkey," wailed Lucy.

Leslie made a sign to Mrs. Rogers to keep silence. She wanted to give her cousins a big surprise.

"I'm going to the store," she said. "Shall I send the telegram?"

Luckily they left the wording to her, or it might not have been a very gracious one, and, when Leslie returned, her cousins had retired for the night.

Leslie's eyes sparkled when she found herself free to work openly. Mrs. Rogers admired her handiwork as she hung her clusters of crimson leaves and feathery beard on the picture frames, and laid the dining-room table with the best china and glass.

"They must know, early in the morning, that we're going to keep Thanksgiving," said Leslie to her aunt; "and why should not the breakfast table be beautiful?"

She was very late that night. Even Mrs. Rogers had grown tired, and left her to finish alone. When the last touch had been added, the girl smiled a little wistfully.

"If only someone were coming to see me!" she thought. "A friend of my very own! What a Thanksgiving I would have!"

The tears would rise, partly because she was very tired, but she dashed them away.

"Next year, perhaps, I'll be with mother again," she thought, "and it will be easy enough to be thankful! Now that it isn't easy, I'll try all the harder."

So she went to sleep with peace at her heart, after all; and, though she was quite tired and achey after her hard work, she was up early. She wanted to hear what May and Lucy said to the dining-room!

But she never did. Before they were down, Dick, her cousin from Bonniebrae, came over on his wheel.

"Why, aren't you coming?" he called out to May, who had looked from her window. "Father says he said 'breakfast.'"

"What?" almost shrieked Lucy and May together. Mrs. Rogers and Lelie went out on the porch.

"He never asked you!" said the boy, indignantly. "I mailed the letter myself two weeks ago. He thought it odd you didn't answer. Katie supposed you knew he knew you'd come!"

Katie was Uncle Ben's housekeeper. Dick and Ruth were motherless, and at boarding school for the greater part of the time.

"Hurry up!" he went on, impatiently. "They are waiting breakfast."

The girls assured him that they would be down and on their bicycles in ten minutes.

"My dears," said Mrs. Rogers, reprovingly, "remember your guest!"

"I didn't want her asked!" cried May.. "I don't admit that she's my guest."

"Well, she certainly isn't mine!" retorted Lucy. "I decline to stay at home for her!"

"You can go to breakfast," suggested Leslie, soothingly. "She won't be here for some time."

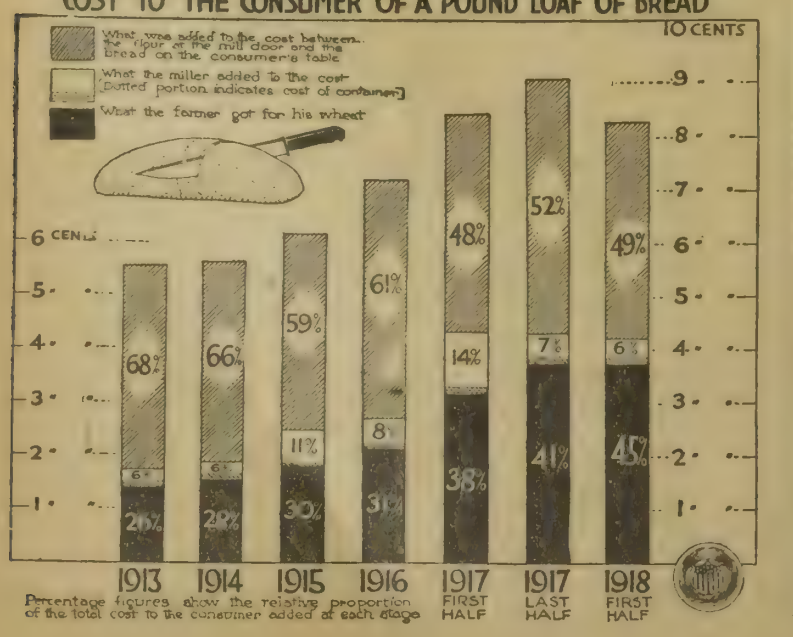
Consoled, they hurried over their dressing and were soon on their wheels and far away. They had never even entered the dining-room. Though Leslie had Mrs. Rogers's company at breakfast, it was a rather sad meal. She knew her aunt wanted to be at Bonniebrae.

"I'm afraid you and I will have to entertain Emily Gaites," observed Mrs. Rogers, with a sigh. "They'll never come back!" And they did not; but Leslie, seeing how wistfully her aunt's eyes strayed over the lawn to the gate, said:

"After all, Emily Gaites is only here for her own convenience! Suppose I entertain her, and give her dinner, and you go to Bonniebrae!"

Mrs. Rogers made one or two rather faintly conscientious protests, but Leslie soon overruled them. Before noon she saw her aunt go away and realized that her Thanksgiving dinner would be eaten alone, except for the presence of a stranger for whom she did not care in the least. Again she remembered her promise, and spurred herself to her task, putting on her prettiest dress and lighting the fire in the dining-room.

The dinner, all cooked by her own well-trained hands, was quite ready when she heard the sound of an au-



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tomobile outside the gate. She ran to the window. Could that be Emily Gaites? Leslie had expected a girl like May or Lucy, but the only adult, except the chauffeur, was a young lady of about twenty. The only adult! But there were three children! They clambered out, almost before the car stopped moving.

The lady — Leslie was charmed with her sweet face and graceful figure — came up the steps, surrounded by her flock. Leslie ran to the door to meet them.

"Are you—Emily Gaites?" she asked.

The lady smiled.

"I am," she answered, "and I've come to apologize for not keeping my engagement to dinner!"

"What a day of broken engagements!" thought Leslie. Aloud she said—

"I'm very sorry."

"So am I," replied Emily Gaites. "But these children have to be hurried away—from measles! So I'm taking them to their grandmother's."

"But why not have dinner first?" cried Leslie.

Emily smiled.

"I can't inflict four uninvited guests on my friends," she explained. "We've come two miles out of our way to apologize and explain."

Leslie looked at the two little boys and their sister. They were delightful children, standing now in well bred but not easily maintained silence.

"Oh, do!" she cried. "Come in, all of you! I'm all alone—for—for"—she stammered her apology. "There was some mistake—about a lost invitation—and May and Lucy had to go!"

Emily flushed a little.

"I'm afraid I inconvenienced them," she began, but Leslie interrupted.

"I'm all alone — with dinner enough for six! You, and 'you-all,'" she smiled as she flung the Southern phrase at the silent, smiling children, "and—him," she glanced at the man at the wheel.

"My brother," explained Emily. She turned to him. "Jim, come here!"

An hour later the dining-room, so prettily decorated, was the scene of a delightful dinner party! Leslie felt like a bird set free from a cage. Emily seemed to open a new world to her. She had traveled, and could talk of her travels charmingly. "Jim," who had fought—or, rather, been ready to fight—in the Philippines, added his full quota of fun to the entertainment, and the children were as fascinating as only well-brought-up children can be.

Leslie enjoyed playing hostess thoroughly. All too soon the journey had to be resumed, that the children might be in bed betimes.

When Emily stood on the doorstep — the children were already tucked away in the car—she took Leslie's hands.

"We're going to be friends, you and I," she said.

"Well, did she come?"

May, rather tired and cross, asked the question as the Bonniebrae party came home.

"We had a beautiful time," Leslie said, her eyes shining. They listened to her recountal in surprise.

"You had a better time than we did," pouted Lucy. "I wasn't happy about Emily—she used to be so good to me—and I didn't care a bit about Ruth's friends, after all!"

Leslie went very happy to bed. How glad she was that she had fought down her own inclination to sulk because things did not look as if they would be what she wanted them to be! A quaint little phrase of her mother's came back to her mind, just before sleep engulfed her:

"Go along the path of Do-as-You-Ought if you would have the blossoms of the What-I-Want-Tree!"—Frances Harmer.

Ten-year-old James takes his father as a delightful joke, and does not always mind him promptly. One day his mother listened at the top of the stairs. "James," said the father's voice, "do what I tell you!" The boy looked up and grinned. His mother smiled and awaited the outcome. "Jim," said the father, solemnly, "you do what I told you, or"—he lowered his voice—"I'll sick your mother onto you!" As Mrs. Harrod put her apron over her head to stifle her mirth, she had a fleeting glimpse of Jim junior flying to do what his father had ordered.

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Agricultural Summary

Imperial Cantaloupe Outlook.

There is considerable interest in the cantaloupe industry down in Imperial Valley, and a strong movement is on foot to increase the planting to 15,000 acres, as against 11,000 acres this last year. Growers, however, are demanding certain guarantees from shippers before proceeding with these plans. For instance, they demand an assurance of receiving $1 a crate, also that the crates themselves be furnished at not more than 20c each, and that certain concessions in freight charges be made. It seems to be the custom for shippers to finance the growers, and so certain money advances are also demanded. It is reported that these conditions are being met by the larger shippers, as a good year for the cantaloupe industry is anticipated.

Butter Market Firm East and West.

The San Francisco butter market continues firm and prices have attracted Eastern buyers. Two cars left November 19. Jobbing business is reported good. The market has shown a much healthier condition the last ten days and accumulations on the street are becoming lighter, indicating a better movement of goods. Street stocks are lighter now than they have been for a month. The Eastern butter market remained firm during the past week, with the higher grades in best demand. There is an increased demand also for medium grades. Last week's closing prices at the four principal Eastern markets were: New York and Philadelphia, 63c; Chicago and Boston, 61½c.

Future of Cattle Market Uncertain.

There has been some uncertainty in the minds of cattlemen as to the effects of the armistice upon the livestock market, more especially as this will make the markets of South America and Australia readily accessible. However, there are no alarming signs of weakness up to this writing. What little depression in prices has been felt is due to the lack of adequate killing facilities owing to the draft on labor and the influenza, rather than to the lack of a market for the output. Some skepticism, however, as to the maintenance of current values, with the prospect of peace, is more or less general.

Scramble for California Nuts.

California's almond crop is moving out to centers of distribution very rapidly. There is almost a famine in Eastern markets for these nuts. Nearly all of the better grades have gone to supply the holiday season. While prices are high, there are indications that they may go still higher, the demand is so insistent. The Santa Ana Walnut Growers' Association reports that a carload of No. 1 soft shell walnuts, containing 600 bags and weighing 30 tons, shipped to Ohio, brought the growers $16,800. Generally speaking, the nut situation this year is the best ever recorded in the history of the industry.

Expansion of Hog Exports Expected.

It has been arranged that the November minimum of $17.50 for hogs, under which Eastern packers are filling Government contracts for 200,000,000 pounds of hog products, will be continued through December. A broad expansion of our exports of hog products is looked for when peace conditions open up the ports of Germany and Austria, as our Government is already planning relief along this line to famine-stricken Europe.

Horse Buying Declines.

There is a decided diminution in the buying of horses for war purposes since the armistice was signed. The American and Italian Governments have ceased inspections altogether, and it is reported that the Italians will take but a fraction of the stock now contracted for. The British are still in the market for good horse stock and it is said they will continue to be indefinitely.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO

San Francisco, November 20, 1918.

WHEAT.

The following are Government prices per bushel for wheat in bulk at San Francisco. The quotation for recleaned is the price per hundred and the charges are strictly regulated by the Government. Per carload the quotation is $4.15. Less than carload lots is $4.25.

Per bushel—
No. 1 hard $2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1 .... 2.16
do, No. 2 .... 2.13
do, No. 2 .... 2.09

Recleaned for seed, per ctl.—
California Bluestem .... $4.15@4.25
Early Baart .... 4.15@4.25

BARLEY.

Barley is still being shipped from Port Costa, but the available shipping tonnage is too small to handle much of the crop. There is practically no demand in San Francisco and dealers say that $2.17½ is the top price that can be secured.
Choice feed, per ctl .... $2.10@2.17½

OATS.

There is no movement in oats. A sale of some oats of off standard is reported at $2.60.
Red feed, per ctl .... $2.30@2.50
Red for seed .... 2.80@3.00
Black for seed .... 2.80@3.00
Recleaned Red or Black for seed 3.35@3.50

CORN.

The corn market continues dead. A sale of a small amount of yellow Eastern is reported at $3.50, but there is not enough movement of any grades to establish market quotations.

HAY.

Receipts of hay for the past week were 496 tons, compared with 815 for last week. This decrease is probably due to the time lost in the celebration of the armistice in Europe. Most of the arrivals were by water, as has been the case for several weeks, and consisted mostly of alfalfa hay that was more or less damaged by rain. Damaged alfalfa has been moving fairly well and the alfalfa that was sound is being firmly held. The Government was in the market for about 6000 tons of hay, a contract for most of which is expected to go to San Francisco bidders.
Wheat No. 1 .... $25.00@27.00
do, No. 2 .... 20.00@24.00
Choice tame oat .... 25.00@27.50
Wild oat .... 20.00@22.00
Barley .... 20.00@22.00
Alfalfa .... 18.00@22.00
Stock .... 18.00@21.00
Barley straw .... .50@ .80

FEEDSTUFFS.

Feedstuffs were somewhat firmer this week on account of Government purchases. Prices were maintained.
New alfalfa meal, per ton .... $35.00@36.00
Coconut cake or meal .... Nominal
Cracked corn .... $86.00@88.00
Oilcake .... 77.00@78.00
Rolled barley .... 45.00@47.00
Rolled oats .... 55.00@57.00

POTATOES, ONIONS, ETC.

Owing to the growers being unable to get diggers the latter part of last week, the potato market was forced up for a few days. Potatoes are now coming in in a normal way again. Buyers are conservative and are taking only their daily needs. There is no speculation at the present time. Onions are somewhat stronger temporarily. No more East Bay cucumbers are coming in now and the hothouse description are the only ones on the market. These are selling for $2 to $2.25 for a box of thirty cucumbers. Eggplant is higher and not so plentiful. Celery is now coming in mostly in crates, which sell at $3. The tomato season is nearly over, apparently, and Monday's rain has greatly injured the supply now coming in.
String beans .... 5@7c
Wax beans, per lb .... 5@7c
Pole beans .... 5@7c
Carrots, per sack .... 85c@$1.00
Rhubarb, San Jose, per box .... $1.00@1.25
Pumpkins .... 75@90c
Cucumbers, hothouse, box of 30 .. $2.00@2.25
Eggplant, per box .... 1.25@1.50
Livingston $1.25
Lettuce, Sacramento, doz .... 25@40c
Celery, bunch .... 20@25c
do, crate $3.00
Tomatoes, per crate—
Bay .... $1.50@2.25
Potatoes—
Garnet, Chile, on street .... None
Fancy whites .... $2.10@2.20
Choice .... 1.75@2.00
Sweets, per sack .... 3.00@3.25
Onions—
River Reds .... None
Yellows .... 90c@$1.10
Australian Browns .... 90c@$1.10
Fancy .... $1.00@1.15
Garlic, new .... 15@20c
Green corn, Alameda, per sack .... Nominal
Okra, box .... $1.00@1.50

BEANS.

The market seems to be shrouded in doubt, but most of the local dealers are not hopeful of higher prices.
Bayos, per ctl. .... $7.25@7.50
Blackeyes, new crop .... 5.50@5.75
Cranberry beans .... 8.50@8.75
Limas (south, recleaned), new crop $10.25
Pinks .... $6.60@6.80
Mexican Reds .... $6.75@7.00
Tepary beans .... 5.00@5.50
Garbanzos .... 8.00@8.75
Large whites, new crop .... 8.10@8.25
Small whites, new crop .... 9.40@9.60

POULTRY.

Hens and roosters showed a decline this week on account of an oversupply from the East. Five cars arrived and several more are expected within the next few days. Live turkeys were somewhat stronger while the dressed bird was weaker. The differential between the two is now regarded as more nearly a reasonable figure than that of last week. Ducks and geese were higher.
Turkeys, live, young spring, lb 35c
do, old 33c
do, dressed, old .... 40@43c
Broilers, 1½ to 2 lbs .... 39@42c
do, 1¼ lbs 45c
do, ¾ to 1¼ lbs. 48c
Fryers 38c
Hens, extra, per lb., colored 35c
do, Leghorn 35c
Smooth young roosters, per lb. (3 lbs. and over) .... 34@35c
Old roosters, colored, per lb 24c
Geese, young, per lb .... 28@30c
do, old, per lb 28c
Squabs, per lb .... 55@60c
Ducks .... 30@32c
do, old .... 27@30c
Belgian hares .... 22@23c
Jack rabbits .... $3.00@3.50

BUTTER.

The butter market continued firm this week and last Monday's quotation was repeated this Monday as the price for the week. In San Francisco the receipts were heavier than the previous week, and more butter went into storage than was taken out for immediate sale.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	61	61	61	61	61	61
Prime first	59	59	59	Nom.	..	..
Firsts	58	58	58	Nom.	..	..

EGGS.

Extra eggs on the San Francisco Produce Exchange continue to be the feature. With the exception of Monday of this week extras have been quoted below the 80c standard. The reason for the jump of 5c over Sunday was stated to be to the small arrivals on Monday on account of the rain and also to the fact that the rain had dirtied many eggs to a degree that they could not be classed as extras. The Eastern markets continue strong and steady and the irregularity of the San Francisco quotations was entirely local. This week's quotations of extras below 80c is the first time they have reached a price below that figure since October 18, when the price was 76½c. Pullets followed the market leader throughout the week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	75½	75½	77	82	78½	75
Extra 1sts			Nominal			
Firsts			Nominal			
Extra pullets	59½	60½	62	64	62½	63

CHEESE.

The cheese market continued quiet this week, with a half cent lower price for fancy California flats and a cent less for Oregon triplets fancy.
California Cheddar, flats, fancy 32c
Fancy California flats, per lb 32c
First California flats, per lb .... Nominal
California Y. A. fancy .... Nominal
Oregon triplets, fancy 34½c
Oregon Y. A. fancy .... Nominal
Monterey cheese .... 22@25c

FRESH FRUITS.

Apples continue in good demand, with somewhat higher prices on some descriptions. Berries are scarce on account of the rain and strawberries were sold as high as $15. Grapes are no longer coming in in lugs and sell at from $1 to $1.50 per crate. Alligator pears are selling much higher, with very little of the California description in the market.

Apples—	3½-tier	4-tier	4½-tier
Jonathan	$1.75@2.00	$1.50@1.75	
Newtown Pippin	$1.60@1.75	$1.40@1.60	$1.25@1.35
Bellfleur	1.50	1.60@1.75	1.50
Baldwin		1.25@1.50	1.00@1.25
R. I. Greenings		1.25@1.50	1.00@1.25
Wagner		1.50@1.75	1.25@1.50
Hoover		1.50@1.75	1.25@1.50

	Extra Fancy	Fancy
Spitzenberg (N.W.)	$3.00@3.75	$2.75@2.90
Jonathan (N. W.)	2.50@2.75	2.25@2.50
Baldwin (N. W.)	2.25@2.50	2.00@2.25
Winesap (N. W.)	2.50@2.75	....

Other Fruit.
Peaches, 4-box crate .... None
Figs, black, per box .... None
do, double layer .... None
do, Single Row Whites .... None
Strawberries, per chest .... $14.00@15.00
Blackberries, per chest .... None
Raspberries, per chest .... $9.00@12.00
Plums .... None
Cantaloupes, flats .... None
do, ponies .... None
do, standard .... None
Watermelons, per lb. .... None
Pears, Bartlett, per box .... None
Winter pears .... $2.00@3.00
Grapes, Tokay, crate .... $1.00@1.50
Persimmons .... 1.00@1.50
Alligator pears .... $6.00@7.00
Cal. .... 3.00@4.00
Pomegranates, small box .... None
do, large box .... $1.75@2.00

CITRUS FRUIT.

Citrus fruits are going down all along the line. Valencias are practically off the market and navels are selling from $7 to $9. Lemons have taken a decided tumble, due to the better supply.
Oranges .... Nominal
, Navels .... $7.00@9.00
Mandarins .... 2.50@2.75
Lemons, fancy .... 5.50@6.50
do, choice .... 5.00@5.50
do, standard .... 4.00@4.50
Grapefruit .... Nominal
Grapefruit, new .... $2.00@3.00

HONEY.

Honey is weaker due to the taking off of some of the sugar restrictions. However, prices for the present are maintained unchanged.

DRIED FRUITS.

The lifting of the embargo on raisins is announced by the War Trade Board and the United States Food Administration. This will release thousands of tons of California raisins for export. Otherwise there is no change in the dried fruit market and prices remain firm.

RICE.

Paddy rice, 1918 crop $4.32
Clear No. 1, 1918 crop, at mill 7.00

LOS ANGELES

Los Angeles, November 19, 1918.

BUTTER.

Los Angeles, November 19, 1918.

There was a firm tone to the market the past week. Receipts of fresh were again light, only 256,460 pounds, against 262,200 pounds the same week last year. At the prevailing prices there was a very good demand from the consuming trade. It not only took all the fresh arrivals, but there was withdrawn from cold storage during the week 35,748 pounds, while the same week last year there was taken into cold storage 73,388 pounds. The cold storage holdings now are only 135,748 pounds (and much of this sweet butter), against 237,085 pounds the same week last year.

We quote—
California fresh extra creamery 58½c
California fresh prime first 56½c
California fresh first 55½c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	57	57	57	57	57	58½
1917—						
Extra	42	42	42	41½	41	41

EGGS.

This market is sharply lower than a week ago. While the receipts were the best for some weeks, they included a car of cold storage. The receipts by rail for the week were 637 cars, including a car of cold storage, against 505 cars the same week last year. The truck receipts continue to run much heavier than the arrivals by rail. The estimated supply for the week was 2000 cases, against 2500 cases the same week last year. There was withdrawn from cold storage during the week 2064 cases, against 7291 cases the same week last year. The cold storage holdings now are 37,634 cases, against 23,032 cases this time last year. At the fancy prices of last week for fresh ranch eggs consumers held back and the trade encouraged the consumption of cold storage. This, with more pullets laying and the fact that the moulting season with many hens is drawing to a close, all had a tendency to lower prices.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	77	75	70	70	70	70
Case count	70	70	65	65	60	60
Pullets	66	60	60	55	55	57
1917—						
Extra	58	57	56	55	55	55
Case count	53	53	51	51	51	51
Pullets	52	51	50	48	48	48

VEGETABLES.

There are few changes to note in this market from a week ago. Offerings were only fair and prices showed an upward tendency in some cases. Bell peppers are higher and in fair demand. String and lima beans also advanced. Potatoes and onions were steady. Onions were firm. Sweet potatoes are higher, but slow sale. Cabbage is dull and lower. Celery steady and in fair demand. Tomatoes are getting scarcer. Cauliflower is more plentiful and meets with a fair demand.

We quote from growers:
Bell peppers, per lb .... 5@6c
Chile peppers, per lb .... 4½@5c
String beans, per lb .... 7@8c
Lima beans .... 5@6c
Potatoes, northern, per cwt .... $2.25@2.50
do, Idaho Russets, per cwt .... 2.25@2.40
Sweet potatoes, per cwt .... 2.00@2.25
Garlic, per lb 20c
Onions—
Australian Brown, per cwt .... $1.40@1.50
White Globe, per cwt .... 2.50@2.85
Cabbage, per 100 lbs .... .90@1.00
Celery, crate .... 3.50@4.00
Tomatoes, No. 1, lug .... 80@90c
do, No. 2, lug .... 25@35c
Cauliflower, standard crate .... $1.75@2.00

POULTRY.

Local receipts were only fair, but there were two cars of Eastern poultry in for the Thanksgiving trade. While there was more life to the market, prices showed few changes. Hens were a little stronger and geese higher.

The following prices were agreed upon last Friday, November 1, and hold good until the coming Friday:
Broilers, 1@1¼ lbs 37c
Broilers, 1½@1¾ lbs 41c
Fryers, 2@3 lbs 33c
Roasters (soft bone), 3 lbs. and up 30c
Stags and old roosters, per lb 20c
Hens .... 28@32c
Tom turkeys .... 31@34c
Ducks .... 22@28c
Geese 28c

BEANS.

The past week was another dull one in this market. Now that the war is about over, the Government will want fewer beans. With this knowledge before them, the trade is holding back and only taking

such lots as needed for immediate use. Prices are quotably unchanged.

We quote from growers—

Limas, per cwt.	$10.00
Large white, per cwt.	9.00
Small white, per cwt.	8.00
Pink, per cwt.	6.50
Tepary, per cwt.	4.50
Blackeyes, per cwt.	5.00

FRUITS.

Grapes have stopped coming from the country. There is little being received aside from apples. They met with a good market and showed firmness. Japanese persimmons are also selling fairly well. Pomegranates are on the market.

We quote from growers:

Figs, Black Spanish, per lb.	10@12c
do, White, per lb.	10@12c
Apples—	
King Davids, 4-tier	$2.75@3.00
Black Twigs, 4-tier	2.75
Baldwins, 4-tier	2.00@2.25
Red Pearmains, 4-tier	1.75
White Pearmains, 4-tier	2.00
Rhode Island Greenings, 4-tier	1.50
Yellow Newtown Pippins, 4-tier	1.75
Apples, Bellefleur, 4-tier	$1.75@2.00
do, 3½-tier	1.70@1.80
do, Gravenstein, 4-tier	2.25
Japanese persimmons, per lb.	5@8c
Pomegranates, per lb.	5@7c

WALNUTS.

The market is hardly so firm this week. Independent growers, however, are holding for quotations. The association is still working on its contracts, though the bulk have been filled. Their shipments last week averaged about 15 cars a day.

We quote f. o. b. California points:

	1918	1917
Fancy budded	34½c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

HAY.

Market is dull. Receipts were light and so was the demand. Dairy people were buying some little alfalfa. Little else was moving.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$23.00@24.00
Oat hay, per ton	25.00@27.00
Alfalfa, northern, per ton	20.00@21.00
Alfalfa, local, per ton	21.00@23.00
Straw, per ton	9.00@10.00

COTTON.

There was fairly active trading the past week and at times sharp fluctuations in prices. Our review week opened sharply lower, with Liverpool a free seller, but Thursday of last week under the official announcement that the export shipments are likely to exceed last year's by 2,000,000 bales caused a rush of buying and prices were forced up 200 points. Monday of the current week there was a disposition to take profits by a number of holders and the market eased off a little from Saturday's high point. In New York December closed at 28.65c and January at 28.10c. In New Orleans December closed at 26.35c and January at 26.35c.

WEEKLY BUTTER AVERAGES.
Cents per pound for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
April	3	37.91	43.16	36.33	42.16
"	10	39.33	39.25	37.00	39.50
"	17	39.58	39.00	38.00	36.83
"	24	35.56	40.50	36.50	38.16
May	1	33.08	40.83	33.00	39.00
"	8	34.05	40.66	33.20	39.00
"	15	35.50	40.46	34.16	39.00
"	22	36.30	44.33	35.16	41.00
"	29	36.60	42.30	37.33	39.00
June	5	36.30	43.90	37.66	41.58
"	12	36.50	44.92	38.00	40.58
"	19	36.00	46.50	37.50	41.75
"	26	35.06	47.42	37.00	43.00
July	3	35.06	48.08	37.00	46.00
"	10	36.41	48.90	37.16	47.50
"	17	37.83	50.83	38.66	48.66
"	24	40.25	52.66	42.58	45.16
"	31	42.82	52.16	44.00	51.00
August	7	43.00	52.16	43.00	50.83
"	14	41.66	51.66	42.00	49.00
"	21	41.50	52.25	42.00	49.58
"	28	41.91	53.00	42.00	50.00
Sept.	4	42.10	53.00	41.33	50.00
"	11	42.00	54.90	41.00	50.33
"	18	45.00	57.80	43.00	51.67
"	25	45.00	61.33	45.50	56.17
October	2	44.90	64.75	45.91	58.00
"	9	44.00	64.50	46.33	59.33
"	16	46.25	62.50	47.00	60.00
"	23	45.41	61.75	46.50	60.00
"	30	43.50	60.50	44.83	59.50
Nov.	6	41.41	59.60	42.00	58.83
"	13	40.83	60.00	41.33	57.00
"	20	40.83	61.00	42.22	57.25

WEEKLY EGG AVERAGES.
Cents per dozen for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
April	3	28.58	38.91	29.25	38.33
"	10	29.66	37.58	30.41	36.33
"	17	32.33	39.16	32.08	36.83
"	24	32.91	40.50	32.83	39.66
May	1	32.00	41.66	31.83	39.33
"	8	33.75	40.08	32.00	37.00
"	15	34.20	39.16	32.50	38.83
"	22	33.40	40.50	34.00	39.00
"	29	33.80	38.66	33.50	37.41
June	5	33.20	40.80	34.66	38.83
"	12	31.16	41.00	33.00	33.75
"	19	31.41	43.33	33.10	33.00
"	26	30.16	44.32	32.16	39.08
July	3	31.90	44.91	34.25	41.75
"	10	33.50	48.30	36.00	45.00
"	17	33.66	47.66	34.41	45.50
"	24	35.25	47.91	36.91	45.16
"	31	38.00	48.83	40.16	46.56
August	7	42.58	49.50	37.08	46.58
"	14	41.41	52.08	42.25	48.00
"	21	43.33	56.33	42.25	50.17
"	28	53.50	59.20	43.50	53.00
Sept.	4	43.80	62.40	43.58	56.33
"	11	45.08	63.70	44.91	58.67
"	18	47.83	61.30	47.83	59.00
"	25	47.58	60.17	49.50	55.67
October	2	47.00	65.42	50.83	59.75
"	9	47.10	65.08	51.50	60.00
"	16	52.59	71.30	54.50	62.66
"	23	54.83	78.88	56.16	70.33
"	30	56.16	86.41	58.00	79.33
Nov.	6	57.41	87.90	57.80	78.00
"	13	56.25	86.00	55.16	78.00
"	20	56.25	77.25	54.36	72.00

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, November 18, 1918.

Owing to the fact that last week's deliveries in most of the markets were in rather unsound condition, insofar as the grapes were concerned, the demand was somewhat sluggish and prices receded from the week before. Firm stock, however, was disposed of to good advantage and met with a ready sale. The arrivals were light and though a good proportion of the fruit was weak there was no difficulty experienced in disposing of it.

Practically all the wine grapes have been delivered, which is fortunate for the shippers, as the demand during the past week has been very inactive, owing to the cold weather.

New York: Grapes—Malaga, crates $1.92, lugs $1.58; Tokays, $1.31; Cornichons, $1.84; Emperors, crates $1.45, lugs $1.33, drums $4.58, kegs $3.50; Muscat, $1.22; Alicante Bouchet, $1.90. Pears—W. Nelis, $3.24; B. Clairgeau, $3.82; E. Buerre, $3.22.

Chicago: Grapes—Emperor, $2.07; Cornichon, $2.26; Tokay, $1.56; Malaga, $2.50.

Boston: Grapes—Malaga, $2.00; Tokay, $1.74; Cornichon, $2.14; Emperor, crates $1.97, kegs $2.78, lugs $1.79, drums $3.40. Pears—Glout Morceau, $3.95; E. Buerre, $3.27; Winter Nelis, $2.80.

Shipments from November 9 to 14, inclusive: 155 grapes, 21 pears. Shipments to date, 1918: 24,783 cars (incomplete). Shipments to date, 1917: 23,988 cars.

Special Citrus Market Report

Los Angeles, November 18, 1918.

While shipments from Central and Northern California are taking place about two weeks earlier than usual, the quantities moved are not large. The rainfall at the beginning of the week has retarded movement and slightly reduced the sugar to acid ratio. The fruit, however, still tests out high—as much as 13 to 1 and 14 to 1. Quotations on navels this week range from $6.50 to $7.50 per box f. o. b. Florida oranges, which are being offered at $3.50 shipping point, are now reaching Pacific Northwest and Canadian markets. A forecast of Central California's citrus production is placed at 1500 cars of navels and 1200 cars of Valencias.

The lemon market is well supplied, and prices show a downward tendency. The advent of cooler weather and the subsidence of the influenza epidemic are lessening demand. It is estimated that the lemon crop this year will be in the neighborhood of 10,000 cars.

Special Livestock Market Report

San Francisco, November 20, 1918.

CATTLE—The cattle market is strong, with an upward tendency of prices. Cattle of good quality and good weight are getting scarcer even than in the near past and command a premium.

Grass Steers—	
No. 1, weighing 1000@1200 lbs.	12¼@12½c
do, weighing 1200@1400 lbs.	12@12¼c
do, second quality	10½@11c
do, thin	8@9c
Cows and heifers—	
No. 1	8@8¼c
do, second quality	7@7½c
do, common to thin	5@6c
Bulls and stags—	
Good	6@7c
Fair	5@6c
Thin	4@5c
Calves—	
Lightweight	11c
Medium	10c
Heavy	8@8½c

SHEEP—There is practically no change in the mutton sheep and and lamb market. Most of the supplies are coming out of the feed lots. Prices stand.

Lambs—	
Yearlings	12@12½c
Milk	14@14½c
Sheep—	
Wethers	11½@12c
Ewes	9@9¼c

HOGS—Hogs are in plentiful supply and are of good weight and quality. Speculation as to the probable effects of the peace era being ushered in is that hog values will hold their own and may advance. There is no change in prices this week.

Hard, grain-fed, 100@140	16c
do, do, 140@250	16½c
do, do, 250@325	15½c

Los Angeles, November 19, 1918.

CATTLE—There were more good cattle offered the past week than for some time. The tone of the market in consequence was hardly so firm, though prices were not quotably changed.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs.	$9.00@12.00
Prime cows and heifers	8.00@ 9.00
Good cows and heifers	7.00@ 7.50
Canners, per cwt.	5.50@ 6.00
Calves, per cwt.	8.50@10.00

HOGS—A good supply of hogs was had the past week. Demand fair and prices were steady at last week's decline.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs.	$14.00@15.00
Mixed, 225@275 lbs.	15.00@15.56
Light, 175@220 lbs.	15.00@16.00

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—There were a few more to be had the past week, but killers had to reach out to get them. Receipts coming from California, Utah and as far away as Idaho. Prices steady.

Per cwt. f. o. b. Los Angeles—

Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	15.00@16.00

North Portland, November 18, 1918.

CATTLE—Another rather liberal run of cattle came forward for today's market, 1700 head being in the pens this morning. The market opened fairly active, especially on cow stuff, which all cleaned up at steady to strong prices. The demand for lightweight feeders as well as good fleshy kind continues excellent at steady to strong prices. Thin off grade cows and light steers all found a ready sale to both butchers and packers. The extreme top of the steer market was $12.75, one bunch of choice 1350-pound steers getting this figure. Two other loads sold at $12.50, with a scattering of the strictly good steers from $12 up. A very good kind of steer sold on a $11 to $12 range, with fairly good killers getting from $10.25 to $10.75. Strictly good quality fleshy feeders are selling from $9.50 to $10.25 to both killers and to fill country orders. Thinner kind of off grade stuff sold on a $6.50 to $8 range, one load of extra choice lightweight heifers sold at $9.50, with a load of weighty 1100-pound cows bringing $9.20.

HOGS—Around 2500 head of hogs were on the market today, demand was fairly good and we had an active market at steady prices. Strictly good hogs sold up to $17.50, which was the day's top. The bulk of the sales ranged from $17 to $17.15. Pigs are finding a good outlet at steady prices, selling mostly two cents under top.

SHEEP—There were 1700 head of sheep all told here today, including 500 direct to packers. The demand for both sheep and lambs continues slow, although there is a marked improvement over two weeks ago. Strictly good lambs are selling around $12.50, with heavy stuff getting from $8 to $10. Yearlings are selling from $10 to $11, with a fairly good call, while ewes are bringing from $8 to $9.

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ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

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FOR SALE—One light tractor Sanders four-disc plow. Price $200. Address, P. O. Box 111, Minden, Nevada.

WANTED TO BUY—Second-hand 8-inch pipe mold of standard make in at least fair condition. A. E. Lindstrom, Orland, Cal.

COUNTRY LANDS.

TO LEASE—20-acre irrigated farm, good 4-room house, windmill and tankhouse, good barn. Berkeley Securities Company, 218 First National Bank Building, Berkeley, Cal.

FOR EXCHANGE—I have a fine seven-room two-story house, nice residence section of Berkeley, with large sleeping deck, fireplace, hardwood floor in living room, kitchen finished in white enamel, fine bathroom, clinker brick exterior finish, and in yard there is garage, workshop, children's playhouse. Street work, sidewalks, sewer, macadamized street, gas and electricity are in. Two blocks from Key Route and S. P. electric trains to San Francisco and street car to Oakland. I will exchange above house for an improved ranch. Neil E. Munro, Berkeley, California.

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BUDDED AVOCADOS—Fuerte, Sharpless, Lyon, Dickinson, Blakeman, Spinks, Taft, Linda, Rey, Queen, Knight, and many others. A fine stock of field-grown trees. $2.50 for one. $2.00 each by the 100. Better order now. Newbery-Sherlock, R. D. No. 2, Pasadena. Nursery, Rose, and Palm, Altadena, Cal.

SUDAN GRASS SEED WANTED—We are in the market for Sudan Grass seed that is free of Johnson Grass, Morning Glory, and other noxious weeds. Send samples and state quantities of seed you have to sell. Bomberger Seed Co., Desk B, Modesto, Cal.

TO THE TRADE—Buy almond trees from an almond specialist. 100,000 almond trees on bitter almond roots, standard varieties. Car load lots solicited. Write for prices. W. T. Hohenshell, Le Grand Nurseries, Le Grand, Cal.

FOR SALE—Black oats for seed, direct from grower. Prices on application. Werner Bros., Watsonville.

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The Hog Marketing Problem—Its Solution

Written for Pacific Rural Press by R. H. Whitten

THE SOLUTION of this problem, discussed on other pages of this issue, requires action along three different lines:

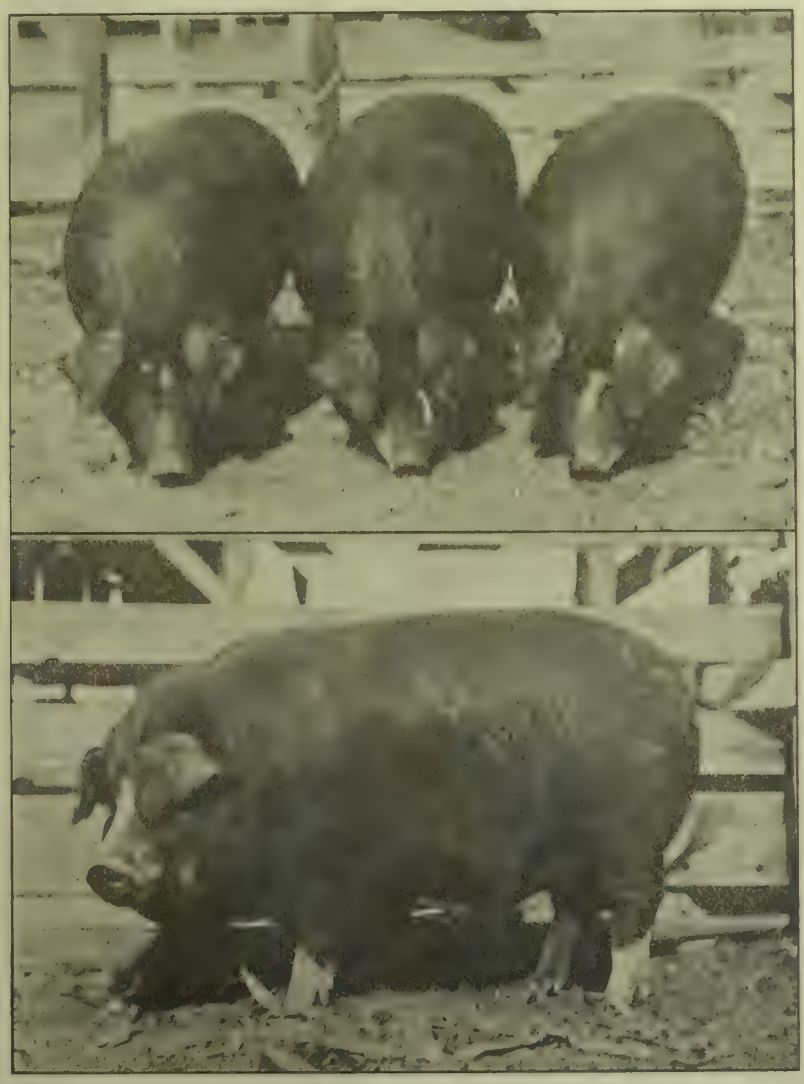
First—Eliminate Tuberculosis.

Then the packers will not be obliged to stand such heavy losses from condemnation. At present a heavy percentage of hogs received from the dairy districts where skim milk is fed are found to be tuberculous, and as no satisfactory way has yet been found to charge the condemnation back to the individual hog raisers, except in the case of carload shipments, the packers are obliged to pay a lower price to all. So either dairy herds should be tested and farmers should know positively that their cows are free from tuberculosis, or else the milk should be pasteurized before it is used as feed for the hogs.

Second—Finish Off the Hogs Better.

Many farmers don't seem to know what a properly finished hog is. Some think that their hogs are ready for market when really they are just ready for the fattening pen. Others have their hogs fat, but they are soft and flabby, and shrink heavily both in shipping and in dressing. It cannot be expected that hogs run on alfalfa and fed grain for only thirty or sixty days before they are marketed will command the same price as is paid for those that have received a little grain every day from their babyhood. The dressing percentage of the former is not as high, and in the end it is the dressing percentage that counts.

Just at the time when the farmers who consigned to the Napa County Farm Bureau sale (see page 598) received 13 cents for their hogs, Mark Bassett, the veteran Poland-China breeder of Hanford, shipped a carload of 58 fat hogs to the Western Meat Company at San Francisco. They had received a limited grain ration from the time they were weaned, and were finished off on a heavier grain ration. They were spring pigs; they averaged 246 pounds, and their flesh was hard. And that the packers want top-notch stuff and are willing to pay for it is proved by the fact that Mr. Bassett was paid 20 cents per pound for the entire carlot. This netted him better than 19 cents at Hanford, and it paid him handsomely to finish off his hogs so well. He was able to get a high price for his grain.



Barrows from a carload sold by M. Bassett for the record price of 20 cents per pound.

Third—Establish Stockyards.

But the average farmer does not have a carload of hogs to market at a time. Most of the hogs marketed in this State come from farmers who raise hogs as a side issue and have only six, or a dozen, or twenty to market at one time. They are the men who must be protected if the industry is to be put on a stable basis, and the establishing of stockyards is the only solution of the problem. The farm bureau sales were a step in the right direction, but often only two or three carloads of hogs were offered—not enough to induce competitive bidding from the larger packers. Consequently, the markets were localized and prices were demoralized. But at last

The Stockyards Are Coming.

A group of stockmen of Fresno, Kings, Tulare and Kern counties have organized under the leadership of W. E. Packard, California farm agent, and are looking about for a suitable site in Los Angeles. The Government is lending its support in the person of F. P. Allen, in charge of the livestock division of the Bureau of Markets. He endorses the need for such an establishment and is to meet Mr. Packard and make a tour with him to look over the available site. At first the stockyards will be devoted to hogs alone, as the hog marketing problem seems to be the most serious at the present time. Under the plan now in vogue, the growers assemble their stock at central points within the four counties and auction sales are held. At these sales the only opposition the representative assigned from one of the packing houses encounters is from local butchers, whose requirements are quickly met. Sometimes there is no bidding at all, and in such cases the stock is shipped to Los Angeles or San Francisco, where it takes its chances on the open market.

But with the establishment of stockyards in Los Angeles all hogs will be shipped there, where they will be properly graded, and then bidding will become really competitive. The hog raisers will receive better prices and the whole swine industry will be put on a stable basis.

At first probably not more than from four to six carloads a day will be handled at the Los Angeles stockyards, but Mr. Allen is of the opinion that before long the stockyards will become an important factor and will handle from 25 to 30 carloads of hogs alone. Later, cattle and sheep will be included; a shipping and export trade will be developed, and Los Angeles will become a real livestock center.

Los Angeles Market to Be an Open Market.

The business of the new stockyards will not be limited to shipments from the four counties mentioned. It will be an open market, and already Imperial and other southern counties have manifested interest in the proposition. The yards will be under State and Federal control, but their immediate management will devolve upon the Farm Bureau Associations. Unlike earlier attempts along similar lines, the movement will be devoid of promotion or real estate propaganda. It will be a straight business proposition—by the breeders and for the breeders.

San Francisco Also Should Have Stockyards.

Let the hogmen of the counties for which San Francisco is the logical marketing point organize and establish stockyards there, and the problem will just about be solved. Organization and co-operation are the keynote of progress in every line nowadays. The farm bureau sales are conducted along co-operative lines, and while the results of recent sales have been disappointing, this cannot be charged against co-operation. The principle is sound, but the work must be conducted on a larger scale. The packers cannot be forced to send buyers to small county sales. But they can be induced to bid on large quantities of hogs shipped to terminal points, and the sooner stockyards are in operation at both San Francisco and Los Angeles the quicker the farmers of California will get their full measure of profit from hog raising.

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R. E. HODGES - - - Assistant Editor
R. H. WHITTEN - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

THE HOG IS NOT TO BLAME.

IF THIS issue does not sell pigs it will not be for lack of trying! Why should we thus exalt a beast which Pope condemns:

"The hog that plows not nor obeys thy call," but "Lives on the labors of this lord of all"?

Obviously our purpose is to promote a better relation between the hog and his lord—to the end that the hog may plow for his own barley and alfalfa and be obedient to the call to contribute to his lord's prosperity and not to live idly upon his labors. And we discern that it is not the fault of the hog that he is too often a slacker in the midst of the comfort and abundance which California affords him. It is the fault of man who, through lack of energy or failure to apply his intelligence and exercise his reasoning power, makes the capable hog a gluttonous loafer in the agricultural scheme of things. As the hog, when well bred and fed in California, is really not idle nor unresponsive nor disposed to seek an unrequited living, we have naught for him but a good back-scratching which evokes jolly, staccato music, and we address our homily to him who prevents the hog from attaining the efficiency which creative design requires of him. What a responsibility must that man assumes who not only fails of his own objective but makes it impossible for a hog to come through with his job!

But all is not yet lost. On the preceding page Mr. Whitten, who has a passion to deal with facts, describes the latest hopeful things. Ours is the philosophy, perhaps the reader may think, the sophistry of the situation.

LITTLE PIGS THAT STAYED AT HOME!

THERE may be found on another page of this issue a notable contribution from Farm Adviser Baade of Napa county describing in detail a pig-marketing proposition that failed to come through. The reader may perhaps think at first that there is too much local detail in it because local details in different counties must vary, but it seems to us that every detail is necessary to the picture which Mr. Baade paints for us and contributes to the real significance, and when the mind of the reader catches that significance he can substitute his own local details without losing it. The general significance is the inadequacy of any local effort at produce selling when it is looked upon as complete in itself. Some are prone to think that assembling produce, providing handling arrangements and inviting buyers will overcome all the wrongs and difficulties which now exist. They have in certain instances gone a long way in that direction, it is true, and in all cases they are fundamental to satisfactory trading—but they are only the beginning and not the end of things needful to insurance of the growers' interests.

In one way the attitude of the Napa co-operating pig-sellers reminds us of the Germans. They put up a fight: they invited the allies to make peace in their way and they became mightily peeved when they refused to do so. The Napa people got themselves together, they put up arrangements for competitive buying, they invited the buyers to come up and cut each others' throats to get their pigs, and when they did not promise to come they called upon all the gods of the Food Administration to make them come! If they had wanted pigs very much, they might have come—just as the allies might have accepted a German peace if the Teutons had blown up the Tower of London, destroyed the British fleet, captured all the French ports from Calais to Bordeaux and pushed the Italians off the heel of their boot into Scylla and Charybdis! But the Teutons never did this and never could do it, and so the allies stood pat. By the same sign the Napa pig-growers could not by themselves put the pig-buyers into similar desperate straits and so the latter stood pat. In fact, the buyers probably looked upon the whole frame-up of the producers as comedy, not tragedy, and their reply was in effect: We will not play on your cellar door! There is a much prettier little girl in the next block!

WHAT IS THE LESSON OF IT?

MR. BAADE has it clearly in mind and so the significance of all his details is embodied in the closing sentences of his letter to the Pacific Rural Press which suggest the need of a broader and more compelling organization than a county farm bureau. We continue that idea by following Mr. Baade's writing with an account of what is now being done by an affiliation of farm bureaus in the San Joaquin Valley. All farm bureau people should take up that idea and test it out. We were favorably impressed with it when it was advanced at a pig-growers assembly in this city last March and we have promoted it on several occasions—particularly in our issues of March 16 and June 1. It seems directly pertinent to give the idea a strong push in connection with the debacle at the Napa pig sale and so we have added the latest facts about its progress to Mr. Baade's communication. We do not know that this is the real answer to his question nor that it is the solution of the problem, but in this matter of satisfactory sale of produce to yield the producer his full share of the market value there must be agitation and experiment until the right thing to do is demonstrated. To our mind the thing to be done is very simple and clear, though the best way to do it is now obscure. The way to compel packers to get hogs in the way which is right to the growers is to make it impossible for them to get them in any other way. We do not believe in organization for co-operative packing in competition with corporate packing because that has been tried out and results indicate that it is impracticable. There is a whole lot more in packing economically and disposing of the product profitably than merely having hogs and when packers get hogs fairly to the growers it is well to let them have all the rest of the fun in the packing game. If they play it too hard, the consumers, the distributors and the Government can have cards dealt to them and take a hand in it. The hog-grower can play his end by making it sure that the packers get no hogs except at a fair profit to him and he can do that by having no tight fence-corners into which local buyers can drive his hogs. The hog-grower must have runways connected up in some way with all the places where hogs are sold and it must not be possible for buyers to enclose his product with the portable fencing which they have been in the habit of carrying around with them in the past. This is the answer to all the squealing which is being heard from Napa. The only way to make packers buy hogs at fair prices and when they are offered is to make it impossible for them to get hogs any other way. How to do that by co-operation is up to the producers to find out.

STANISLAUS PLAN PROCEEDING?

AS WE write on Tuesday the press dispatches tell of meetings at Merced, Madera, etc., at which the proposal emanating some months ago from Modesto is being promoted at other points in the San Joaquin Valley. It was that subscription among local merchants and other public spirited people should provide funds which were to be loaned to farmers who had no bank credit to enable them to increase production and it received wide approval as the "Stanislaus plan"—for making the wheels go 'round on land which could not be soaked as security for the loan. What we would like to know now is whether there is anything in the plan but hot air. We believe the bankers in the district are lending money on what they consider good risks to help people put in crops—that is what they are bankers for. Should money be loaned to those whom the banks do not recognize as being good risks? We are not arguing now that it should be. We are not sure that there is now any adequate reason why crops should be raised by assisted farming to endanger the profitability of crops which other farmers can stake themselves for. Considering the fact that it is still a question whether growers of several crops which were stimulated last year will pay the growers what they cost, we doubt if it is wise to undertake general crop boosting. But that is not what we are chiefly thinking of—possibly all the pushing is being done on wheat and that, we presume, is safe enough if growers get the wheat. What we are wondering about is whether money is really being furnished to people who cannot get it from the banks on their own good characters and personal securities, without making communities think that they are helping, or making farmers think they are being helped, by some beneficent bogey. Is not the money being loaned by bankers just about as they would loan it anyway? Is anybody who could not get money in the usual way getting any money now? If not, then the Stanislaus plan and any other plan which does not go beyond country bankers' ideas and requirements is simply hot air, which may defeat the patriotic purposes of its out-blowers because it may discourage those who can put in crops with their own labor and capital from going as far in the risks of production as they otherwise would. It seems to us at the moment possible that the proclamation of unrestricted credit may be doing nothing which would not ordinarily be done by country bankers and merchants individually, or it may be overstimulating production—in both cases it is hot air with the usual fakes and dangers involved in that commodity.

GOOD LINE OF WINTER WORK.

WE LEARN that E. E. Calvin of Omaha, Federal regional director of railways west of Chicago, was in Los Angeles last week and in conversation with interviewers forecasted great agricultural and industrial expansion for California when the country returns to a peace basis. Railroads, he said, are preparing to handle a greater business than ever before and they estimate that the winter crop of tourists will be up to ante-war volume.

We also read that there is much concern at the East lest in the dream of universal commercial reciprocity as one of the set dishes at the coming "peace table" may result in the sacrifice of the products which made this country an efficient helper in winning the war. This is what we read in the press dispatches:

American manufacturers are heartily in favor of the proposed league of nations for the prevention of future waste of life and property. But, according to President Stephen C. Mason of the National Association of Manufacturers, they do not believe it practical for the nations of the world to enter into any general agreement relative to commercial intercourse.

President Mason explained that in the production of manufactured products there is such a wide difference of conditions among the nations of the world that there can be no practical method of equaling so diverse "interests" in the field of world trade.

Fortunately the next Congress will be so evenly balanced politically that it cannot be possessed and made to run violently down a steep place into the sea of economic vagaries. There will be a chance to demonstrate that the industries which have made America great must not be sacrificed even to lift other peoples. Let every nation enjoy the fruits of its own labors, just as every man should have opportunity to do, without unfair competition. As our State promises to be well filled with capable and influential people from all parts of the country this winter, let us make them understand that California's development and contribution to American greatness are the product of

an American policy which has made our country capable of helping to save the world from barbaric domination.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

What Is the Matter with Milo?

To the Editor: Can you explain why there is no market for milo maize, feterita, etc., while the Government asks us to raise pork, and pork, and pork? It seems to me that corn should be in demand if hogs are raised. I am wondering what is left to the poor farmer after paying high wages and being unable to sell at a small profit. Is there no Gompers who could start the co-operation of the farmers and get rid of the profiteers. The middleman has the right to make a substantial living, but the farmer has the same right, and I, having been in the farm business for a short time, can see that more money is made in buying and selling than in farming.—P. B., Merced.

Why, yes: the immediate trouble with barley substitutes lies in the fact that barley itself is in the dumps—and though we have some faith in barley improvement before another crop can be gathered, we cannot say that we are optimistic enough to be very sure it will drag the substitutes out of the soup. We can only hope it may. Fortunately no more sorghums can be put in until next April and May and by that time we can see how much is likely to be needed next summer, in view of how barley is then visible. It is natural that there should be chill in the values of produce over the sudden stopping of the war. It remains to be seen how hungry Europe is likely to be. The exhortations now current are based on the assumption that the forlorn continent will be hungrier at peace than at war—for a year at least. Mr. Hoover has gone abroad to figure it out. The next crop of wheat is covered by the price fixed by the Government, but everything else is largely conjectural, though likely to be held out of a slump by the general course of high prices. Fortunately wheat is about the only thing that has to be hurried into the ground and we may all be wiser in the course of a few weeks.

We are not sure that middlemen are the cause of the present trouble, though it may do them good to be hit on general principles. The cause of the widest dissatisfaction at the present time is that all the farming phases of the war have been determined by farmer substitutes and not by real farmers. A change in that respect for the future is what has to be looked out for in reconstruction policies.

Fruit Trees After Eucalypts.

To the Editor: I have an acre of land on a western hillside on which I intend setting out an orchard. It was formerly a grove of eucalyptus trees. Will you kindly advise me as to the best means of starting out an orchard and, if possible, suggest what variety of fruit would do best?—Subscriber, Sebastopol.

How long since the eucalypts were cleared off and what has the land done since? We would not think of planting fruit trees on a fresh uncovering of land occupied for some time by eucalypts. The land needs lifting with dynamite, clearing of all possible roots and rubbish, deep plowing-under of a heavy covering of stable manure and a try at barley or oats to see what condition the soil is in. You can go at the land in those ways now and plant next year. If, however, the land has already shown reclamation by good crops after the gums were cleared off, you can plant this winter. The kind of fruit to plant is a variety of fruits which you need for family use, for an acre does not make much of a commercial lay-out. If, however, you wish to plant for sale, look through your neighborhood and plant the fruit which does best for others on such soil and exposure near by. If you have the same fruit as they, you can sell with them and get much advantage thereby. If you only have an acre of some fruit not commercially handled in your district, you may have to eat it up yourself.

"Groves" or "Orchards"?

To the Editor: I have just returned from the south. I was much perplexed by their fruit conversation, in which they used the word "grove" very freely. They kept speaking of having orange, lemon, walnut and other "groves." I did not hear of a "peanut grove," but I was expecting to. Why do they have so many "groves" at the south? Why do not we get a few into our talk up here? It sounds very swell.—E. H., Sacramento.

We hope they will ultimately have fewer "groves" and more "orchards" at the south, for orchard is a better term with which to designate a collection of trees which receives care and culture such as California-grown fruits of all kinds do. The dictionary aspect of the question is interesting, viz.:

Grove: "A group of trees smaller than a forest: a small wood especially when cleared of under growth: a collection of objects resembling a grove."

Orchard: "A collection of trees cultivated for their fruit or other product: said especially of such a collection of trees, as the apple or pear."

It is true that the dictionary as a concession to current fashion gives as a secondary definition this: "A collection of orange trees is usually called an orange grove." But it should be remembered that the term originated in Florida at a time when collections of seedling orange trees were really "groves"—that is, they were grown in a wild way. This was never true in California—except at the old missions, perhaps. The modern American way to grow fruit is a "cultivated" way: the word "orchard" expresses that: the word "grove" does not. The word grove suggests a picnic and California fruit growing in an up-to-date manner is no picnic!

Probably Not for Rye Grass.

To the Editor: We have a piece of land mostly very light sandy, though a little of it is medium heavy black ground. It is not practical to irrigate the piece and we are considering putting in Australian rye grass. Most of this land is too thin or poor (not shallow) for any ordinary crop. Will it grow rye grass?—E. B., Paicines.

Probably not. If you should start it now and get some growth during the winter, it would probably not live through next summer. Land that will not grow any ordinary crop is not land for rye grass. It might give you a winter growth of rye to be pastured or plowed under. If there is water at ten or twelve feet, you might get a stand of white sweet clover (melilotus) with a fall start. That will stand frost and bore down through a lot of sand to water, which will keep it going through the summer. If the land is dry underneath, get what winter growth of rye you can and let it go at that. If you pasture the rye, the soil will improve.

Painting Large Cuts.

To the Editor: I have a five-year-old prune orchard started with too many limbs and I have to cut out a good many big ones. Can I paint the wounds right away, or let them dry out and paint them next spring? Somebody said in the Rural Press that painting right after the cut was made would cause sour sap or gumming. Is Oronite roofing paint good as a tree paint? I was told that it is used in the Santa Clara Valley, but I want to be sure whether it is good or not.—G. B., Kelseyville.

Our observation is that it is desirable to let a cut dry thoroughly before painting, but we do not wait as long as you indicate, though you might wait some time for leisure without harm. It is certainly not desirable to paint a sappy cut, for the paint will either rot, harden or it will make gum pockets under it. We doubt, however, that it has any connection with the general condition known as sour sap. We have used several roof paints with good results. They harden solidly and remain in place a long time. We do not know the one you particularly mention.

Morning Glory from a Tenant's Eye.

To the Editor: Will an arsenic spray kill morning glory or is salt better? Can I remove six inches of soil and put on an inch or two of salt? Cultivating out morning glory will not go with a tenant.—R. G., Hanford.

You are the first tenant we ever heard from who could see morning glory after he has knocked down the rent with it. Killing morning glory with arsenic spray is rather an expensive and elaborate process, which the University experiment station is still working at and concerning which you can get publications from Berkeley. Arsenic must be used carefully or it will kill the land for a long time. Your salt method would also be very expensive and that much salt would kill the land for several years, and those who have tried it have said that the morning glory was the first plant to come back! We doubt if we can give you anything easy with morning glory unless you can use it for hog pasture.

Work That Pays

Now that the American farmer has a starving world to feed, his burden is a heavy one. He cannot meet the many new problems single-handed, and needs a good farm paper more than ever.

We are just starting a big subscription campaign and need a few more red-blooded men to attend to our renewals and secure new subscribers.

Experience neither essential nor objectionable; we give you the necessary training to insure your success. Must have an automobile, and be in a position to travel and devote your entire time to the work. Straight salary; permanent work, with advancement.

Write for our proposition and tell us a little about yourself. You will be glad you investigated.

Whitewash to Kill Bugs.

To the Editor: In the Rural Press of November 9, page 506, appeared a recipe for whitewash. Now I am thinking some of spraying my fig orchard with something that will cut the moss and clean out insect eggs, etc., and wondered if the whitewash in this recipe would do the business.—H. G. J., Dinuba.

The whitewash referred to is recommended to stick and hold on. It may naturally do the same things to insect eggs in such a way that they will never hatch out, but for the purposes you describe the trees should be sprayed with lime-sulphur used according to the manufacturers' instructions. It has biting power which a whitewash made simply to hold on does not possess. Clean your trees with it and afterwards apply a hold-on whitewash to all bark likely to be exposed to sunburn.

Himalayas and Japan Plums.

To the Editor: What is the easiest way to eradicate Himalaya berry roots? Also how can I prevent Japanese plum trees from blooming in the fall? They have done so several seasons and have never borne a crop.—A. M., Watsonville.

Snake out the berries with a horse or team and chain when the ground is soft and wet and grub out all roots which show up and break off. Grub out survivors whenever they appear. Trees generally bloom in the fall after they have been allowed to get too dry and become dormant in the late summer. Keep them green and growing later by better summer cultivation or by a mid-summer irrigation if necessary. Summer pruning will promote later growth if there is plenty of moisture in the soil to encourage it.

Prune Rust on Almond.

To the Editor: What pest is on the enclosed almond leaves? Trees thus affected are dropping their leaves while most of the orchard is free from it.—R. S., Metz.

It is a brownish deposit on the under sides of the leaves and is known as prune rust (puccinia pruni). It is usually not much of a pest on orchard trees, though sometimes bad on nursery stock. It is controlled by spraying with Bordeaux mixture, but as it comes on in the orchard late in season after the leaves have discharged most of their duty, no treatment is usually resorted to. It is probably worse when the soil is a little too dry in the fall.

Pruning Vines.

To the Editor: We have a two-acre vineyard that was not cultivated last season. Would it be all right to prune it soon and plow it?—H. K., St. Helena.

Prune and plow after the leaves fall—before the weeds get too high to turn under cleanly, but get under all you can.

Too Old to Move.

To the Editor: Would it pay to move six-year-old peach trees? I would move them only a few rods and they would be set in vacant places in trees of the same age.—F. R. D., Biggs.

No.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 26, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	1.04	7.60	8.60	58	38
Red Bluff	1.88	12.71	5.03	70	38
Sacramento	.85	5.77	3.19	62	40
San Francisco	1.20	8.28	3.64	62	58
San Jose	.72	8.84	2.83	64	40
Fresno	.62	2.39	1.88	64	38
San Luis Obispo	1.28	5.47	3.27	76	44
Los Angeles	.47	2.50	2.06	78	50
San Diego	.28	2.59	1.23	72	46

The War Is Won

But the consumer of Food Must Still Economize

and the producer of Food

Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.

While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.

Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

GOLD BEAR FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

Superiority of Citrus Fumigation Shown

[Written for Pacific Rural Press by F. R. Brann, Horticultural Inspector, Lindsay, Cal.]

Regarding the relative cost to the citrus grower of spraying and fumigation, you will often hear the remark that "spraying is cheaper than fumigation." This is vague and should be modified. Many of the growers of the Lindsay district have found spraying very much more expensive than fumigation when tree and crop injury was considered. The amount of efficiency, tree injury, and other results depend upon the formula used, date of application, and the manner in which it is applied. The cost of controlling the citricola scale should be considered by the grower as overhead expense, for it is, as yet, a physical impossibility to completely eradicate this pest. The best that can be done is to control it and thus put our groves in what we term a "commercially clean" condition. Therefore, in order to correctly figure the cost of a certain treatment, we must do so on a continual basis.

I agree that one application of spray is cheaper to the grower than one fumigation, provided no tree or fruit injury results from the use of the spray. This is counting merely the cost of material and labor, plus the profit to the operator. The real consideration is with regard to the amount of efficiency derived. One fumigation usually places a grove in a commercially clean condition for from two to four years, during which time the grower can reap the benefits of trees producing under clean conditions. The average efficiency of spraying would necessitate from three to six applications during this time, which would be much greater in cost to the grower and the trees would probably not be producing under clean conditions during this time. Of course, there is usually considerable difference, both in cost and efficiency, whether the spraying is done by the commercial sprayer or by the grower himself. The grower would naturally do the work to the best of his ability. There are cases of fumigation work of very poor efficiency, but these cases are decidedly in the minority.

Taking the total acreage sprayed and fumigated in Tulare county from year to year, the following figures tell us considerable:

Fumigation.			Spray.		
Year.	Acreage.	Approx cost	Year	Acreage.	Approx. cost
1914..	1117	$ 29 859	1914	.. 233	$ 4,190
1915..	2018	54 486	1915....	750	13,500
1916..	3530	95 310	1916....	1252	22,536
1917..	4060	109,620	1917....	2293	41,274
1918..	700	24,500	1918...	*1240	22,320

Note:—*Spraying is still being done, these figures are only for work done to September 1, 1918.

The figures under approximate cost are for material, labor and operators' profit.

LOSSES FROM THE TWO METHODS COMPARED.

Of a total of 11,425 acres fumigated in Tulare county during the five-year period 1915 to 1918, inclusive, only four cases came to my knowledge where, through poor efficiency, consideration of adjustment was necessary. These four considerations totaled slightly over $200 on a total of 50 acres.

Of the total acreage of 5768 sprayed in Tulare county during this five-year period dissatisfaction was considerable. From 27 growers whom I personally interviewed I found that on properties aggregating 238 acres a total estimated damage of $48,600 actually occurred. I believe I am conservative in my estimate of $100,000 loss in Tulare county from the use of sprays, in addition to the loss of time and cost of application. In a number of cases legal proceedings would have been undertaken by the growers had it been possible to recover costs.

SPRAYER AND FUMIGATOR OPERATORS SHOULD BE LICENSED.

I believe the State of California is very much in need of a legislative act which will require of all who apply for license to operate as a sprayer, fumigator or salesman of any material to be placed on orchard property to furnish a surety bond in the county from which the license is obtained. Such an act would protect the grower from the unreliable operator and his materials and would be an advantage to those possessing real merits. It would also give the grower an opportunity to recover damages in case of tree or crop injury.

In 1917 liquid hydrocyanic acid gas was first used in the Lindsay district for fumigation on a total acreage of 475, cyanofumers being used on a total acreage of 3585. In 1918 season found no cyanofumer work and about 700 acres were fumigated with liquid gas. The new liquid gas method appears to be the last word in fumigation, having the earmarks of a great improvement over all former methods.

The writer is at present engaged in the final inspection and examination work of the liquid gas fumigation in the Lindsay, Exeter and Porterville districts and will have a report to make giving results as he finds them.

FEDERAL LAND BANK OF BERKELEY.

Loans from this bank now amount to $8,800,000. Last month the excess of income over expenses amounted to about $5,000,000. Monthly expenses remain about stationary, while income gradually increases. It is now six months since income was enough to meet expenses. The bank is going strong.

NEW DEPARTURE IN APPLE PRUNING.

J. C. Phillips of Watsonville is pruning his apple trees on the Ames system of pruning peaches—no cutting back but only thinning out, with the idea of facilitating picking and spur sets apparently.

How Walnuts Are Prepared for Market

We recently visited the new processing and packing establishment of the Walnut Growers' Association (Diamond Brand) at Goleta, in Santa Barbara county. Members of the association were delivering their nuts and getting a door test, receiving 29 cents a pound for all grades but culls. The nuts immediately pass through a blowing machine that throws out all light or empty ones, and then pass on an endless belt along the center of a table, with girls seated on both sides, who hand-pick imperfect nuts not separated by the blower. They are then passed through a bleaching solution and scoured in revolving cylinders, dried, graded, and then binned or sacked.

The suction culler takes out 95 per cent of all light nuts, and the association controls the patent on this machine. These culls are cracked and sold under four grades to the sweetmeat trade and net the grower 16 cents a pound.

Cracking standard is guaranteed 88 per cent and 90 per cent on No. 1, and this guarantee commands the increased price over those sold independently "orchard run."

It is the standardization, inspection and guarantee of quality and prices to the trade that has placed this industry on such a firm footing. That and the evolution of the standardized use and marketing of by-products.

In the last two days we have received inquiries from two different sections regarding the marketing of walnuts "orchard run" in Northern California. In reply it will be apparent why unprocessed or merely sulphured nuts, ungraded, do not command the prices that are obtained by co-operation, which can claim the credit of placing the walnut industry where it is today.

TO CALIFORNIA FRUIT GROWERS

You are careful about the bank with which you deposit your money. You carefully investigate the tractor or other farm implement before buying. You want to know all about the automobile you buy. These are all important.

You should investigate and understand the quality of the tree spray you use. There's one way to be sure, and that is the brand. It is a well-known name. Have you tried it before? Have your neighbors tried it? Has it proved successful? Altogether successful?

We maintain a bureau of information concerning orchard operations, especially spraying. Bulletins giving the best available information concerning the treatment of insects and tree diseases will be sent you on request.

Our entomologist, Mr. S. W. Foster, was for many years with the United States Bureau of Entomology, in close relation with the fruit growers of the Pacific Coast.

Your trees and your next year's crop depends largely upon the quality of the sprays you use this winter. It is too serious a matter to leave to chance. Use the recognized quality for the sake of security. Here is one place where looks don't count. The brand is the whole thing. Know the brand. ORCHARD BRAND tree sprays are sold all over America. They are the Acme of fruit tree sprays.

ORCHARD BRAND SPRAY MATERIALS

ORCHARD BRAND Lime Sulphur Solution.

ORCHARD BRAND and Prepared Bordeaux Mixture, for spraying peach trees and almond trees to control blight and shot-hole fungus are the standard tree sprays of the nation.

UNIVERSAL brand oil sprays, for spraying deciduous fruit trees during the winter season, are highly concentrated, and the only quality you would buy if you knew all the facts.

Let us repeat: It doesn't pay to take chances with tree sprays. Nothing is so important as to be sure about the effect, before you use them. Afterward, regrets won't save the crop.

Write us about your orchard, all about it. Tell us your troubles. Our orchard service is at your command.

General Chemical Co.

DEPT. A

SAN FRANCISCO

U-SU-RI-EN-SIS

the new, practically blight-proof, Chinese pear seedling, by use of which 75 per cent of blight-damage to pear orchards may be avoided. Usuriensis entirely

Eliminates Blight

from root, trunk, and main-limb crotches. It makes profitable pear-growing possible in many localities where blight has destroyed the industry. Send for our booklet, which tells the story and contains the latest treatise on Blight. Limited stock for sale. Never before offered or grown by an American nursery. We also offer our usual fine stock of pears on Jap root, which next to Usuriensis is by far the best root available this season. Let us help you with your Blight problems.

Loma Rica Nursery

Pear Specialists

A. L. Wisker, Mgr. Grass Valley, Cal.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Kern's Prune Orchards.

Some of the young prune orchards in the Delano district of Kern county have made such good growth that they are not only large enough but will bear some fruit at four years old. November 17 they were still carrying a lot of foliage of good color, laying up a store of vitality for the coming season. We liked the way they were headed—low—and there is plenty of good wood to choose from as thinning and opening up proceeds. New pumping plants are being installed in various places here. Electric power is being used.

Correction re Pear Root Louse.

E. A. Bolster, manager of the California Mountain Fruit Co., says: "My plans call for a douche of blackleaf 40 (as described in article appearing November 18 in the Pacific Rural Press); at the same time an application of commercial fertilizer to stimulate the tree. While I do not expect to eradicate the root louse, I am in hopes of controlling and possibly greatly discouraging it." Also, with complete returns now in on pears, the average price has dropped to approximately $2.70 a box.

Butte's Large Fruit Acreage.

Early Mills, County Horticultural Commissioner, reports his county as having 5765 acres of almonds, 867 acres apples, 165 acres figs, 1871 acres oranges, 5080 acres olives, 2224 acres peaches, 6430 prunes (bearing and non-bearing), besides pears, plums, walnuts, cherries, apricots, etc. Also 35,000 acres of rice and 500 acres of cotton. The farmer who doesn't keep a car in Butte county is getting to be rather distinguished and exclusive.

Federal Land Bank Operations.

During the month of October $7,580,736 were loaned to 3075 farmers in the United States by the Federal Land Banks on long-time first mortgages. Loans applied for at the Federal Land Bank at Berkeley during this month amount to $609,450. Loans applied for at the Berkeley institution from the time of organization number 3889, of which 3499 were approved.

High Priced Fruit.

We have just received a letter from a friend in England who has some Comice pears grown on Cordons and Espaliers. He has sold his crop at 50c per pear to a dealer who has put them in cold storage, expecting to double his money at Christmas. He says the Comice is the last word in pears.

Penalties for Pest Introduction.

The Federal Horticultural Board recently published a warning to travelers, explaining the heavy penalties against the unauthorized movement into this country of oranges and other fruits and certain vegetables liable to introduce pests to the danger of our own industries.

Riverside's Orange Crop.

Riverside county will have about 65 per cent of a crop of oranges. They are of excellent quality and well sugared, but are a little slow in coloring this season, owing probably to weather conditions. Some of the tests already run 10-1, according to Horticultural Commissioner D. D. Sharp.

Goleta's Walnut Shipments.

The California Walnut Growers' Association at Goleta, Santa Barbara county, shipped their first car of nuts on October 9. The week ending November 16, 14 cars of nuts were shipped—from 250 to 600 bags to a car. This section will ship about the same tonnage as last year—say 1200 tons.

Uprooting Wine Grapes.

Stearns Rancho Company at Wineville, in Riverside county, is taking out all its wine grapes. It will replant the ground with peaches, apricots, alfalfa, etc. The company gets all the water it wants at 40-50 feet deep. It has 2000 acres in wine grapes.

Spraying for Peach Blight.

Don't forget that first spraying for peach blight. Now is the time and not later than December 15. It is not necessary to wait until all the leaves are off or pruning is done. Do it now.

Smut Demonstrations.

W. L. Sweet, county agent of Butte county, reports that smut demonstrations are being held at the Farm Centers of the grain sections with a view of definite control of this fungus. Influenza has prevented the holding of indoor Farm Center meetings.

WINTER SPRAY FOR APPLES.

[Written for Pacific Rural Press.]

From many expressions of opinion by various growers in the Watsonville district it appears that crude oil emulsion will be more used for a dormant winter spray this year than lime-sulphur. From the time the leaves are off to the middle of February is the time to spray with crude oil emulsion to get the best results, also to be on the safe side against injury to the buds. If conditions of the soil or any other reason arises to prevent spraying till after this, lime-sulphur or miscible oil will be used. Fred Nohrden likes to get his crude oil spray on by the end of December. Rodgers Bros. use crude oil emulsion and lime-sulphur alternate years for a dormant spray—a system that is the safest and best so far as we know at present. Miscible oil will be largely used also in this district to kill out an infestation of leaf roller, which showed up to a damaging extent in some orchards around Watsonville this year.

MISCIBLE OIL FOR LEAF ROLLER.

Miscible oil is undoubtedly the best spray for leaf roller and is strongly recommended by Mr. Penny, the Horticultural Commissioner of Santa Cruz county. It is applied any time during the dormant stage of the trees and penetrates the egg masses, which are laid on the branches and trunks of the trees, and destroys the unhatched worm. The leaf roller hatches out just as the first cluster buds appear in the spring and begins at once to feed on them and later scars the fruit.

George P. Weldon, chief deputy of the State Commission of Horticulture, says that miscible oil for this pest is ahead of anything else that has been tried and its efficacy is no longer in question, and Mr. Weldon has probably carried out and followed experiments in commercial apple and pear orchards to a greater extent than any one man in the State. These leaf rollers also appear on apricots, as well as other trees, but we heard of no complaints in the 'cot orchards when we were there. As transportation is in such a chaotic condition owing to military necessities, it would be a good plan not to postpone ordering spray material until it is needed, or there may be annoying delay in delivery.

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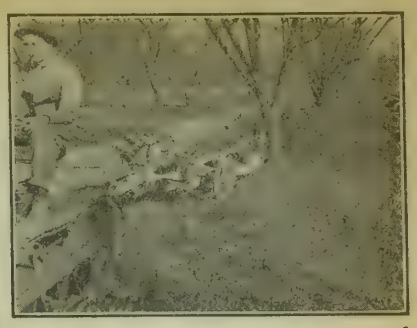

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Pear Blight on the Apple

[Written for Pacific Rural Press.]

To the Editor: I send you a few twigs from Yellow Newtown Pippin trees. Is the dying of these twigs caused by drouth of the soil, which has been poorly cultivated during the last two seasons, or is it a blight similar to that which affects pears, etc.? Would a spraying be beneficial, and what would be the best formula? Or would one need to go to such severe measure as digging out the trees?—Reader, Paso Robles.

Answer by Prof. W. T. Horne, University of California.

Two of the twigs I find with a definite dying back, the outer part of the twig being dead and the lower part alive, with a clear line of separation between. Other twigs seem to be dried without any very definite symptoms of disease. On one of these twigs which is killed back from the end I find an exudation which is dried down like a little gum on the side of the twig. On examining this gum-like material I find that it is composed largely of minute granules, which, without any reasonable doubt, are bacteria.

This is a genuine case of pear blight on apple, since apple does not ordinarily produce gum as do the cherries and other stone fruits generally, but when a twig is attacked by pear blight very often some drops of sirupy material exude and in dry weather, harden down in this way. Accordingly I conclude that your trees have suffered with twig blight early in the season. At this time of the year pear blight is not ordinarily active and the dried up drops on the surface of the twigs are not of any importance because the bacterial have long since been killed by exposure to the light.

It is possible that the trees have suffered from drouth late in the season and the treatment for pear blight consists of cutting out all of the affected twigs and especially in finding the blighted areas in the limbs and trunks. The earlier method of treatment of the blighted areas in the limbs and trunks was to cut off all of the bark down to solid wood and to disinfect the wound with a solution of corrosive sublimate in water, one part to one thousand. More recently it has been suggested that the outer bark can be cut away, leaving a little of the inner bark and disinfecting this cut surface. With this treatment, where only the outer bark is affected by blight, the inner bark is left alive and soon grows a new outer bark and there is not the same amount of trouble from large wounds on the trees.

Although most of the blighted twigs are harmless, it is nevertheless a good idea to clip them out at this season or during the winter, since the blight remains alive in some of them. Wherever cutting is done the shears should be wiped off after making each cut with the same solution used for disinfection. The surface and knives and chisels used in the work should be frequently disinfected. Importance is attached to getting out the blighted spots on the trunks and limbs. This work can be done at any time during the fall or winter by taking a sharp gauge chisel and making a very slight cut into any suspicious piece of bark. Wherever the bark shows a watery and red-streaked condition, all the affected bark should be taken off down to the inner bark at least. In this way the sources of infection may be eliminated and the amount of blight greatly reduced.

You should endeavor to discourage very succulent growth in the early part of the season by avoiding heavy pruning or any other stimulating measures.

[The reader will, of course, notice that Professor Horne's recommendation that the trees may be saved is based upon the assumption that they will be regularly treated for the blight and the disease held continually in check. If this is not done, they may be a menace to the pear and apple planting in their whole district. Such neglected trees are the factories from which the bugs regularly draw their munitions for district devastation.—Editor.]

Crops Decreased by Over-Pruning

[Written for Pacific Rural Press.]

The reason for so many failures in large crops of prunes in most orchards is because of too much pruning, says George Hill of San Jose. He claims that in his eighteen years' experience in the Santa Clara Valley, when he planted his orchard, that other orchards, heavily pruned, were almost total failures every two or three years, while his orchards, unpruned other than cutting out a little dead wood if there should be any, and a few interfering branches, bore a heavy crop each year. His trees began to bear at five years old—fruit averaging fifties and sixties for the thirteen years. His trees are planted 22 feet apart. Mr. Hill has very good soil.

OVERBRUSHY TREES DETERIORATE.

The writer remembers a similar orchard which had this treatment, also on excellent soil. Up to fourteen years old it was producing heavy crops each year, which I believe averaged fifties to sixties. In 1912 there was a very heavy crop and practically all the little fruit was on the outside of the tree, which was by this time so dense with brush that practically no inside fruit-bearing wood was living. The fruit then ran in the hundreds and it was a very unprofitable year for my friend, as the fruit did not sugar up well and consequently a lot of it did not fall freely and had to be batted off the tree. Though this orchard for the past six years has been heavily and well pruned, it is only now coming back into good bearing shape again and has not been producing anything like as profitable crops since it got overbrushy, as an adjoining orchard on the same quality of land that has been kept in good trim right along. Neither are the trees in as good shape as the ones mentioned. It is better to

DO A LITTLE JUDICIOUS PRUNING RIGHT ALONG

to induce new, vigorous wood-growth and keep the tree open enough to bear some fruit inside as well as out, than to carry a mass of brush starving out all inside growth and which necessitates a lot of heavy pruning later, which is a shock to the tree and an aggravation to the grower. A lot of fine brush means, sooner or later, a lot of small prunes. On a 2½c base, which was about an average for the years 1904 to 1910, to the best of our recollection, one ton of fifties would be worth $80, while two tons of hundreds would be worth a total of $60, with more than twice the cost of picking and handling, besides an unprofitable demand on the vigor of the tree and depletion of the soil. We are working for

QUALITY RATHER THAN TONNAGE

in all classes of fruits and to attain this scientific methods of orchard management must be observed—in pruning, spraying, cultivation and fertilization. On good soil, tonnage and quality can both be obtained by the let-be method for some years, but it is poor policy in the end for reasons above stated. The writer will go further and say that not only in the Santa Clara Valley, but in all prune sections, orchards are deserving of more time and expense in the pruning and care of cuts and injuries than is awarded them. Especially those that have been giving such fine returns during the last few years.

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Horticultural Jottings

Seventy-five per cent of Watsonville's apricot crop is dried each year.

Eighty cents a sack was paid for picking up walnuts in Orange county this year.

Pajaro Valley has 72 evaporators and 50 packing houses, besides an enormous cider and vinegar plant.

B. M. Dennison of Tehachapi received $3,114 for one carload of pears shipped to New York recently.

Nine hundred nurserymen were registered by the State Horticultural Commission in California last year.

Santa Barbara county's production of walnuts will be about 2200 tons—averages about half a ton of nuts to the acre.

About 30 carloads of Washington navel oranges have been shipped from the Exeter district (Tulare county) up to November 23.

The navel orange packing season is on now at the Elderwood establishment in Tulare county and about two carloads a day are being packed.

Jerry A. Gullett, near Imperial, is reported to have sold $4,000 worth of honey from his apiary, which only covers one-fifteenth of an acre.

Horticultural Commissioner Buku of Kern county expects a large planting of peaches and Thompson Seedless raisins in his territory this season.

The Sierra Vista Packing Co. of Riverside will ship the first navel oranges to the East for the Thanksgiving market. The fruit is testing up well.

Five carloads of prunes have been shipped from Santa Rosa for the American expeditionary forces in France—250 tons in one week from this center.

Fruit evaporators saved hundreds of tons of prunes and raisins this year that could not be finished in the usual way owing to the extraordinary season.

The American Defense Society says that the supply of black walnut trees is rapidly diminishing and urges further plantings — seeds to be planted in November.

The 1918 production of walnuts in Greece is 667,160 pounds, and of almonds 3,385,800 pounds, as reported (on estimate) by the U. S. Consul General at Athens.

Twenty farmerettes are picking olives at the Rialto ranch of C. C. Moore and another group is picking oranges at San Fernando for the Citrus Growers' Cash Association.

G. W. Walters of Exeter reports a gross return of $14,000 from his 14-acre vineyard of Emperors. They have been selling at $3 a drum on the Eastern market this year.

The Edison orange men (Kern county) began picking on November 7 and have shipped a number of cars. There are 400 acres bearing in this district and 200 acres not yet bearing.

L. W. Pray of Oroville has five or six tons of olives from his young four-year-old grove near Oroville and is getting $135 a ton straight for them through the association—no frost clause.

Tree pruning demonstrations are being given in the fruit sections of Kings county, says Farm Adviser Wallace Sullivan, by Dr. J. C. Whitton of the pomological department of the University of California.

Porterville beemen, together with apiarists of Visalia and Tulare districts, will hold a beemen's institute in Visalia, beginning December 9. Courses will be given by experts from the U. S. Bureau of Entomology.

Four thousand five hundred carloads of oranges will be shipped from Pomona Valley this year. Two years ago 5000 cars were shipped, but quality and prices promise to make this a banner year for the crop.

The big increase in shipments of fruit from the Livingston district (Merced county) was largely due to the increased acreage of young fruit and vines coming into bearing. The shipping report for the four principal months, August 1 to November 1, shows 737 carloads of products shipped, as compared with 567 carloads for the same period last year.

Apple buyers from Los Angeles have bought most of the apples at Mokelumne Hill section, paying $40 a ton for fruit delivered at Valley Spring depot and furnishing boxes for packing. About 100 tons were sold.

It costs from $125 to $150 an acre to care for citrus orchards, according to Horticultural Commissioner D. D. Sharp of Riverside. This year the crop will average about two packed boxes of oranges to the tree in that section.

Next year the bearing walnut acreage will be swelled to about 3500 acres in the Goleta district of Santa Barbara county. The Santa Barbara Walnut Growers' Association has shipped 48 carloads of nuts to November 22.

Tehachapi has about 3500 acres in pears, mostly Bartletts, and 1500 acres of apples, comprising Jonathans, Ganos and Arkansas Blacks. Good transportation for fruit, also the highway between Tehachapi and Bakersfield, is in fine condition.

A. L. Lindquist of Goleta has 100 acres of Caucasia Seedling walnuts that produced a heavy crop this year. There is one seedling in the orchard that has an especially fine nut on, which will be used in experiments to be carried out in the near future.

The Earl Fruit Company of Lodi claims to have the honor of securing highest prices for grapes sold this season. They state that one car containing 1120 packages sold for $4,551 in Boston and another containing 930 packages sold for $2,917 in Cincinnati.

Blight control in the Reed pear orchards of Sacramento and Yuba counties was far more satisfactory this year than last, according to Hayward Reed. The most satisfactory control yet worked is to cut out the blight and spray the cut surfaces with Bordeaux mixture or lime-sulphur.

W. H. Schrader has half a dozen young sugar prune trees at his ranch near Los Gatos that are loaded with young green fruit as large as grapes. The early rains and subsequent warm weather induced an unseasonable blooming and setting of the fruit. Mr. Schrader brought a double handful of it to the office as evidence of the endeavours of his young trees to give two crops a year.

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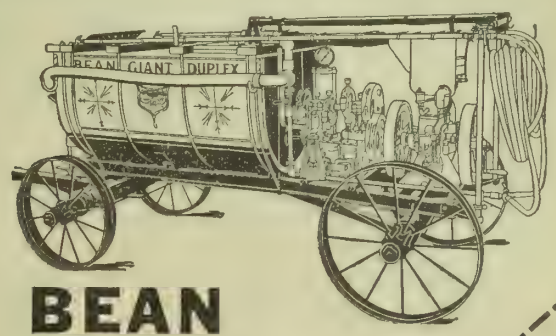

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The demand for trees will be heavy again this year, so we would suggest that you order early.

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The Farmers' Part in Winning the War

[Written for Pacific Rural Press by Hon. Gifford Pinchot.]

I do not believe that the farmers of America begin to realize that what they have done is the greatest and most splendid patriotic service rendered by any class of our people in the great war. Without adequate labor, credit, or farm supplies, neglected by the Government, misunderstood and abused by the city press, nevertheless the farmers produced the food we had to have. When it seemed to those who really knew that human strength could not suffice, American farmers grew the two great crops without which we would have lost the war.

THREE GREAT ERRORS OF POLICY.

Their wonderful achievement was accomplished in the face of difficulties that were wholly unnecessary. Three great mistakes were made in dealing with food production while we were at war. The first was in giving our principal attention to the conservation of what food we had instead of to the production of more food. If even a small part of the effort and exhortation which have been devoted to saving food had been given to growing more food, there would have been vastly more food available, and most of the painful need for saving would have been done away.

The second mistake was in failing to make it possible for the farmer to get enough labor, farm supplies and credit to give him a reasonable chance to raise the crops the nation and the world required.

The third mistake was in excluding the farmer from partnership in the conduct of the war, and especially from that part of it which had to do with food supply. Yet according to the United States census a full half of all our people live in the country and in small villages and towns, which are for the most part dependent on farming for their prosperity, and which have the same interests and the same outlook as the farming communities which lie about them.

In spite of all these handicaps, the farmers went ahead and won out. There has been nothing finer outside of the conduct of our men at the front.

WHAT FARMERS STILL MUST DO.

Although the guns are silent at last, for the American farmers the war is not yet ended. They have been fighting the Germans by sending men abroad and raising food at home. But now that our own splendid boys, side by side with the wonderful fighters of our allies, have beaten the Germans itno submission, the farmers of America cannot lay down their fighting tools. Two great enemies are still to be defeated. One is world-famine, which can be prevented only if the farmers of the United States keep up their marvelous record. The other is the persistent refusal of common justice and a fair share in our Government to the men who feed us all.

FARMERS' DEMANDS ARE DISREGARDED

Our farmers have seen their Government advancing hundreds (if not thousands) of millions of dollars to help other industries, but not to help them. They have seen a limit set on the price of what they have to sell, but not on the price of what they have to buy. Their own problems were decided for them, and very often wrongly decided, without their being consulted. Their legitimate demands for a share in the management of the war, voiced again and again through the National Board of Farm Organizations, were persistently denied. But looking beyond the ignorance and shortsightedness of officials, in the presence of the nation's need, they forgot everything but their duty as Americans, and they brought to pass what seemed altogether impossible.

FARMERS NOT PROPERLY REPRESENTED

Every farmer knows that since the Civil War this nation has been managed by city men for the advantage of city people. Laws and policies have been, and are still, in city hands. For example: There are today in Congress 531 members in both Houses; and only eight of them even claim to be farmers. One-third of our people live on the farm; and all of our people are dependent on the farm; yet only one and one-half per cent of our lawmakers are farmers.

It goes without saying that the farmers of America have no desire to deprive other classes in our population of the proper influence and just representation which is their due. Conditions which are unfair in the case of the farmers would be equally unfair if applied to others.

Every farmer knows that ever since the Civil War what the Government has done to help the farmer has been done still more to help the city man. Even in the matter of food production, the city man's point of view has been in control. What the city man wanted was cheap food. Therefore, what was done for the farmer was directed almost without exception toward helping or inducing him to grow cheap food. But what the farmer got for himself and his wife and family out of what he produced was a wholly different matter.

FARMERS SHOULD PLAN RECONSTRUCTION.

All this is wrong and ought to stop. That is why the National Board of Farm Organizations has undertaken, through its nation-wide Agricultural Reconstruction Committee, to find out just what the farmers of America believe they are entitled to in the reconstruction after the war. To find out just what you want is the first step toward getting it. When a farmers' plan of reconstruction, thus formulated, has been criticised, corrected and adopted by the organized farmers of America, there will be a real chance that justice for the farmer can be brought out of the great changes which must follow the conclusion of peace.

Guard your harness against decay

When the natural oils in your harness dry out, decay sets in. Dust, sweat and moisture attack the leather fiber and cause rot. Eureka Harness Oil takes the place of the natural oil and preserves the leather. Keeps harness strong, flexible and jet black. No animal oil in "Eureka"; rats, mice and other rodents dislike it and won't gnaw harness dressed with

EUREKA HARNESS OIL

MADE BY STANDARD OIL COMPANY (CALIFORNIA)

J.I.CASE PLOWS

IN J. I. Case Tractor Plows the "drag" of furrow bottom and land slide pressure has been eliminated. All the weight of the frame is carried on J. I. Case dust-proof, easy-lubricating, long-distance wheels.

That's why this Tractor plow "rides" like a wheeled vehicle instead of dragging like a stone boat. That's also why more acres per day and deeper plowing are possible—and extreme fuel economy is attained.

In addition, the J. I. Case Tractor plow is easily handled from the seat of the tractor; has a simple, sturdy power lift; and enters and leaves the ground instantly, points first, like a walking plow. Thus less labor is required and a more uniform quality of work is done. The Tractor is made a more profitable investment.

See your J. I. Case dealer today. He is a dealer who will justify your faith as well as ours.

J. I. CASE
Horse Drawn Plows
Sulky, Gang, Walker models. World's lightest draft. Flexible beam and "floating" bottom insure uniform penetration and prevent snares from breaking. Strong, dependable, convenient.
See your J. I. Case dealer or write us.

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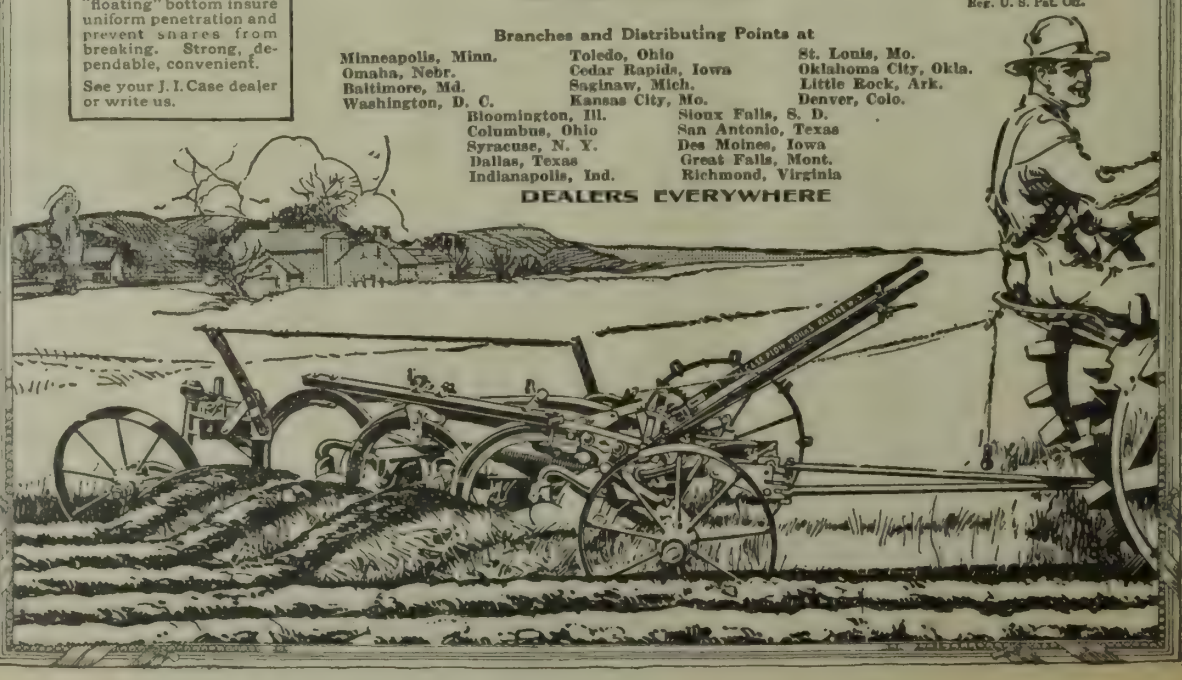


Field and Garden Suggestions

[Written for Pacific Rural Press.]

Small White Bean for Delta.

The white "Boston pea bean" may take precedence over other whites grown in the Sacramento-San Joaquin delta as "bluepods" have over the small whites formerly grown on the Coast from Monterey to Santa Barbara counties. They are about the same size as small whites, but rounder. They are very prolific and do not shell out so badly as other pea beans, according to H. L. Pabst of Rindge & Pabst, who have been growing them experimentally in the delta. Since the first bag of seed was obtained from the East four years ago, seed have been selected in the field from earliest maturing, most prolific plants. This year about four acres were planted, but two of them were on so much alkali that they did not yield well. From the other two acres 40 sacks of 90 pounds each were threshed. They are ready to thresh early in September if planted at the proper time.

Bean Straw Fertilizer.

To the Editor: Will bean straw plowed under six inches deep benefit the next crop of beans on the same land next year?—J. T., Soledad.

[Bean straw is high in nitrogen and humus, both of which will be available for the next crop if plowed under thoroughly and if enough moisture comes to rot them before dry weather comes. If the vines are diseased as with rust, there is danger of carrying the disease over. If this year's crop showed no sign of disease, and if the vines can be rotted this winter, it is the poorest kind of farming to burn them. The best way, if feasible, is to feed them to cattle along with other roughage and spread the manure on the land.

Doesn't Plow Bean Vines Under.

No bean vines are plowed under by S. O. Pugh on his Monterey county hillside ranch for the reason that in two-thirds of the seasons not enough rain falls to rot them before summer. Then they hold the soil so loose that it dries excessively. This, together with the trouble of plowing them under, counter-balances in his estimation whatever fertility and humus the vines would add. He feeds the vines to cattle if they are good and, burns them in a year like this when they are spoiled.

Butter Beans in California.

Do you remember the butter beans of the Eastern States? They are pole beans, flavorous and rich to cook after drying, and fine to shell just before maturity, or to cook pods-and-all while green. The beans are about an inch long, plumper and longer in proportion than our limas. A. McCall of Santa Cruz county grew 110 pounds of them on a moist spot sixteen feet square last season. He planted them one bean in a place about a foot apart after frost danger was past. No poles were used.

Helping the Barley Market.

The barley market would be considerably improved if lots of people could do as G. W. Streeter and H. W. Hosmer of Sonoma county are doing. When they called at our office recently they had bought 65 hogs and were going out to buy 85 more, along with enough barley to feed them. They reported that it was not hard to find the hogs and they believed that cheap barley and high-priced pork make a winning combination for those who bring them together.

Government Bean Buying Starts.

The Government has been buying moderate quantities of all varieties of beans, according to H. Clay Miller of the Food Administration. Its needs are filled temporarily, but more will be bought later. Efforts are being made to relieve the bean growers' predicament and to keep prices at a fair level. The beans already bought were at the "common market prices," each lot having been offered at whatever the seller figured would move them.

Buying Barley for Pigs.

N. P. Mascovich of Kern county thought he was unlucky when a lot of his sows showed up too piggy to sell for pork. Those pigs are coming now and Mr. Mascovich is buying cheap barley to feed them. He now thinks he was lucky, for when all the pigs have come he will have about 1000 head. They will convert a lot of cheap barley into fair-priced pork.

How to Use Moldy Corn.

Several subscribers report that they had milo, kafir and other corns damaged by rain, and ask if it can be fed safely to horses, cows, hogs, sheep or poultry.

We would not advise feeding it to any stock except hogs, as it would be apt to cause serious digestive troubles. But it can be fed to hogs without any bad results, although the feeding value will be about doubled if it is ground.

Rains Hurt Rice But Little.

Rains had not damaged the rice crop materially up to November 21, according to a letter of that date from Secretary Frank B. Durkee of the Chico Chamber of Commerce. Most of the rice had been cut and a large part of it threshed.

ALFALFA SEED

Common variety .....21c per lb.
Smooth Peruvian .....30c per lb.
Hairy Peruvian .....40c per lb.

SELECTED SEED

Delivery to you by prepaid Freight

Delay buying until you have compared my samples with seed others offer.

E. F. SANGUINETTI

YUMA ARIZONA

Cleveland Tractor

Serviceable the year 'round

The Cleveland Tractor is serviceable *every season of the year.*

It is an all-purpose machine.

When winter weather or crop conditions make the Cleveland unnecessary in the field *its usefulness in other lines of work begins.*

It is tractor and stationary engine in one. It will saw wood, pump, drag logs, haul grading or road-making machinery and do practically everything formerly done during the winter months with horses and stationary engines.

The Cleveland lays down its own tracks, travels on them and picks them up again like the famous battle "tanks." It will go practically anywhere—over rough uneven ground, on the side hill or over soft plowed fields.

A traction surface of 600 square inches with a weight of less than 3200 pounds *effectively prevents the Cleveland from packing the soil.*

You can house the Cleveland in less space than is required for one horse. But in spite of its small size it develops 12 horsepower at the drawbar and 20 at the pulley for stationary work.

Under medium soil conditions the Cleveland Tractor plows 3½ miles an hour with two fourteen inch bottoms. This is eight to ten acres a day—equal to the work of three good three-horse teams and three men.

It burns either kerosene or gasoline.

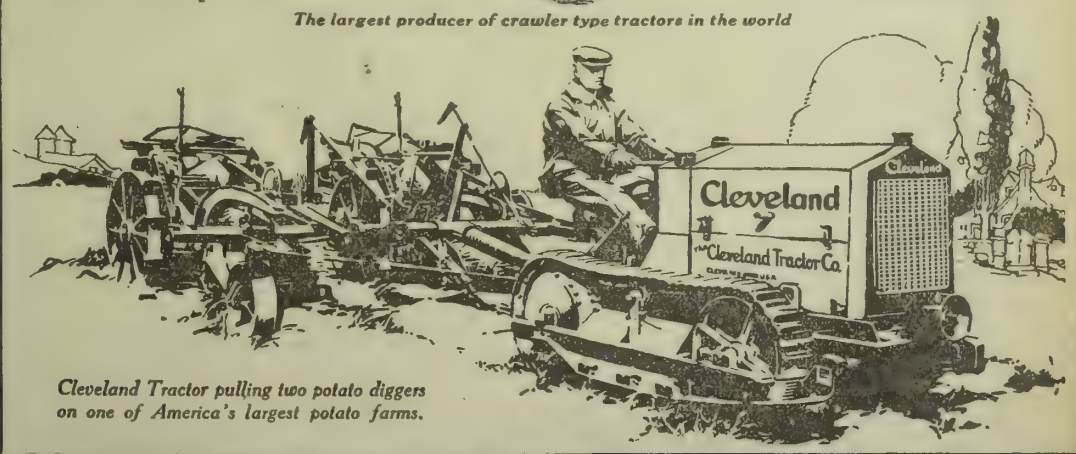
Don't wait till spring to get your Cleveland Tractor. Order it *now* and get the full advantage of its all-purpose, all-season ability *this winter*—and be prepared for the first field work of early spring.

Write for descriptive matter and name of the nearest Cleveland dealer.

The Cleveland Tractor Co.

19079 Euclid Ave. Cleveland, Ohio

The largest producer of crawler type tractors in the world



Cleveland Tractor pulling two potato diggers on one of America's largest potato farms.

Cleveland Tractor

NEW MODEL
$1,735.00
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Distributors Northern California and Western Nevada

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2076 Center Street BERKELEY, CALIFORNIA

Rice Harvest Shows Wonderful Progress

[Written for Pacific Rural Press by R. E. Hodges.]

Thirty bags of paddy rice per acre as the average of 125,000 acres planted to that crop in California this year; and a price of $4.32 per hundred pounds for the No. 1 grade are plenty of reason for the enormously increased acreage to be planted to rice next year, as stated by Executive Secretary C. H. Merry of the California Rice Growers' Association. The crop now being harvested is estimated at 3,750,000 bags, after figuring on the loss of about 15,000 acres abandoned partly on account of water shortage and partly due to water grass. The 1918 crop is a million bags more than last year's. Harvest will be over about the first week in December. The rice is of especially good quality in spite of the temporary water shortage, which was expected to result in shriveled kernels, and in spite of the cool weather, which last spring was expected to cause poor germination and later on was expected to slow up the growth and delay maturity too long. The Japanese types, according to Mr. Merry, are supposed to need a great deal of hot weather; but they stand shortage of water better than the Honduras types.

In acreage grown, Butte county, the first to grow rice and for several years the leader in California, stands third this year. Glenn leads with 45,500 acres; Colusa has 37,000 acres; Butte 35,000; Yolo 15,000; Yuba 4000; Sutter 3500, and the San Joaquin Valley about 7000. The San Joaquin has this year emerged from the experimental stage, having proved herself as well adapted to rice as the Sacramento Valley. Stanislaus is the principal San Joaquin Valley rice county, with Merced second and Kern third. There is practically none in Kings and Tulare. Miller & Lux have 1500 acres in Fresno county.

New mills in California have added a capacity of 16,000 bags per 24 hours, and enlargements on mills previously run add 4000 bags more. The total capacity of the 12 or 15 mills in California is stated as 52,970 bags per 24 hours. The California State Rice Milling Co. already plans to double its present 6000-bag capacity in time to handle the 1919 crop. This company represents an investment of $400,000 of southern capital, being a branch of the biggest rice milling company in the United States—the Louisiana State Rice Milling Co., which has $10,000,000 capital.

Rice growers of 1916 and 1917 will not soon forget what was happening to them until the California Rice Growers' Association induced Louisiana millers to buy in California, bringing prices up to a living level . This year the price is fixed by agreement with the Food Administration; but next year it is not at all likely that the Food Administration will be in existence, and every man will have to sell at whatever he can get, unless the association exerts a powerful enough influence to hold prices to profitable levels. There is great likelihood next year of heavy importations from the Orient at Oriental prices, and the association will need all the support of a great majority of growers in order to accomplish its benefits to the industry in California. Growers are already realizing this, as shown by the great increase in association membership. On October 25, 1918, the association had 315 members, controlling 61,470 acres, as against 213 members, controlling 34,496, at the corresponding time last year. Along with this increased strength is also coming a realization on the part of both growers and millers that the business of both will be greatly advantaged by greater harmony between them.

MILO, GYP, KAFIR, ETC.

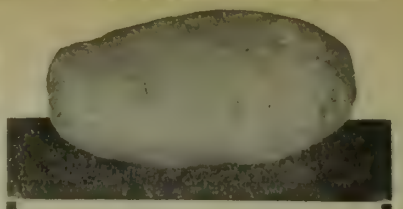
[Written for Pacific Rural Press.]

The market for sorghum grains, including milo, kafir, gyp, feterita, and similar crops is practically at a standstill, according to John M. Perry of Stockton, director of the State Agricultural Society, due to the cheapness of grains which may be substituted for them. Large quantities of weevily Australian wheat has been preferred for chicken feed and has sold at only three cents per pound. Good wheat also is available for chicken feed now. Barley, which is practically interchangeable with sorghum grains for livestock feed, has been still lower. The quality of a great deal of the late white sorghums was badly damaged by the fall rains; and despite all the recleaning possible there is a considerable percentage of discolored grains of practically no value. While the recleaned grain will probably not spoil further, there is a great deal that will continue to deteriorate. No more of the sorghum grains are to be milled as substitutes for wheat flour.

A considerable proportion of the crop will never be threshed, but is being fed in the head as usual. A great deal is sold from grower direct to consumer. Not enough of the sorghum grain crop is sold through dealers to give them much of a basis for estimation of total tonnage, but George H. McLeod of the Sperry Flour Co. believes that this year's California crop is between 75,000 and 100,000 tons, principally milo grown in Imperial and Tulare counties. As much of this milo is of early maturity, probably half of the crop has been sold by the growers either to dealers or consumers during the past two and a half months. The opening of a market for sorghum grains will come when the inferior wheat for chicken feed has been used up and when chicken men will have to pay so much higher price for the better grades that they will turn to the sorghums instead.

WAS NOT THAT TOO MUCH MILO?

To the Editor: I noticed in your issue of November 16 a report from C. E. C. of Van Nuys that he had grown 18,000 pounds of cured milo maize to the acre. My neighbor has a piece of ground that was idle for three years for want of water and he had put a heavy coat of hen droppings on it, and this year had all the water he could use from my well, and he claims he grew 6000 pounds to the acre of cured grain. I think our Van Nuys friend, to get 18,000 pounds, must have beat the scales or dug it out by the roots and took lots of dirt with it. That land would surely grow great pole beans if he could get a ladder long enough to pick them.—D. B., Earlimart.



Blue-Flowered

White Rose

Seed Potatoes

Just in—first carload of the season—genuine Oregon-grown blue-flowered White Rose Seed Potatoes. Best early variety.

True to name. Free from disease. Hill-selected.

Uniformly large, smooth-skinned, choice quality. Write for prices and Potato Catalog.

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CALIFORNIA FRUITS AND HOW TO GROW THEM, 525 Market Street, San Francisco.

In California

the John Deere Tractor Plow fully meets working conditions. Gets right down to thorough work, runs steady at uniform depth and stands up under severe strains. Specially adapted for orchards and vineyards. Front furrow and land wheel set to permit close work in throwing to or from rows. Levers down out of the way of limbs. You can get this plow in two, three or four bottom sizes. Drop us a post card today for descriptive folder and our free book, "Better Farm Implements and How to Use Them". Ask for package PT4.

John Deere Plow Company

San Francisco, California

JOHN DEERE

TRACTOR PLOW

Agricultura Notes

About 25,000 acres of Indian corn were planted in San Joaquin county this year.

The pumpkin and squash season is at hand. They are moving freely and at good prices.

The celery acreage in California for the season of 1918-19 is 3000 instead of 300, as misprinted in our issue of November 23.

Potato warts, a disease coming from Europe and first appearing in this country in Pennsylvania, has invaded California.

The Sutter Basin Co. proposes to plant 6500 acres of new land to rice next year, irrigating by gravity and pumps from the river.

Mandeville Island potatoes are bringing $2.25 f. o. b. ranch landings, while delta potatoes in general are bringing about $2.

A production of 3,750,000 sacks of rice in the Sacramento Valley is forecast. This is more than 36 per cent greater than last year's result.

Potatoes left in delta soil after New Year's are likely to get waterlogged, according to a well-known dealer, though they are safer on the higher lands.

Restrictions on the shipment of cotton from the United States except to enemy countries and to the northern European neutrals have been removed.

A specific act of Congress provides that 25 per cent of all National Forest receipts be returned to the counties within which the forests are located.

The rainstorm throughout the State this week brought more than six inches of snow to the summit of the Sierra Nevadas. Snow is still falling at this writing.

New crop Kotenashi beans, which correspond to our small whites, are now coming into the Japanese markets and will reach Pacific Coast markets about New Year's.

Members of the California Lima Bean Growers' Association will receive checks amounting to $2,000,000 as partial payment for beans delivered to warehouses during October.

A letter recently received by a San Francisco company from the Food Administration headquarters in New York says that the Government is in the market for beans from time to time and will be glad to get offers.

Cotton ginned prior to November 14 amounted to 8,681,005 running bales, including 127,812 round bales, 6873 bales of American Egyptian and 24,145 bales of Sea Island, the Census Bureau has announced. Ginnings by States include: Arizona, 13,226; California, 25,013.

Beans grown on 582 acres that had been growing hemp two years in the San Joaquin delta required only 25 per cent as much hoeing as where hemp had not been grown, according to H. L. Pabst of Rindge & Pabst. Hemp had shaded the ground so weeds were smothered out.

One thousand acres of rice in Stanislaus county, valued at $135,000, were saved by water secured through a survey made by a county agent, showing the imperative need of more water, and presented at a special meeting of the County Council of Defense.

The California Packing Corporation has under lease 800 acres located on the Sacramento Northern Railroad, between Beatrice and Marty station, in Yolo county. The entire 800 acres will be planted to onions, asparagus, carrots, tomatoes and other truck, and the crops hauled to Sacramento canneries and prepared for local and Eastern markets.

A. E. Way is scheduled to conduct a series of vine pruning demonstrations in various parts of Fresno county under the auspices of the Fresno County Farm Bureau, beginning December 9. Also Professor J. C. Whitton of the University of California will conduct a series of orchard meetings at which the chief subject will be pruning—in the same county. Both demonstrations will be followed with small group meetings throughout December and February.

The prosperity of an agricultural district is measured by the intelligence of its seedsmen.

A Progressive Seed House is a great asset to any agricultural community.

The Aggeler & Musser Seed Co. is such a seed house.

It is *The Seed House of and for the Great Southwest.*

This seed house has never slept since its incorporation in 1896. What it has done for the development of the Great Southwest ranks equally, or probably more, than any other of the many enormous industries.

Southern California is famous the world over for its fine vegetables—

Because the Aggeler & Musser Seed Company brought to the growers the seeds of these fine vegetables and educated the growers when and how to grow them.

Aggeler & Musser Seed Company have pursued the theory that there is some line of vegetation suited to each and every condition of soil and climate, and systematically went about to discover that vegetation, and systematically educated the grower how to plant, when to plant and where to plant each particular vegetable to attain success.

Their latest enterprise is the introduction of Grasses and Forage for the vast range lands that are now unproductive.

At their booth in the Agricultural Building, Liberty Fair Exhibition Grounds, you may see samples of Grasses, Sorghums, and Millets suitable for every condition of soil and climate.

Do not fail to see it, it may open some valuable suggestion to you.

Always on the alert for something better, some aid to agriculture, Aggeler & Musser Seed Company endeavored to grow potato seed perfectly free from disease, with only partial success; therefore, to make success complete, they have installed a large vat for the purpose of dipping all potato seed into a solution of Corrosive Sublimate, which will destroy the diseases of scale and Rhizoctonia, making clean seed, which will produce more and better potatoes. This innovation is a great boon to growers in Southern California, where it is so much needed.

The growth of the Aggeler & Musser Seed Company has necessitated larger quarters. They are now installed in their new store in the Meredith Building, 620 South Spring street. The retail department on the first floor, the offices on the second floor, and the mail order department on the second and third floors. Their mill and warehouse is at Sixth and Alameda.

Be sure to write for their catalog and remember the new address.

Aggeler & Musser Seed Co.

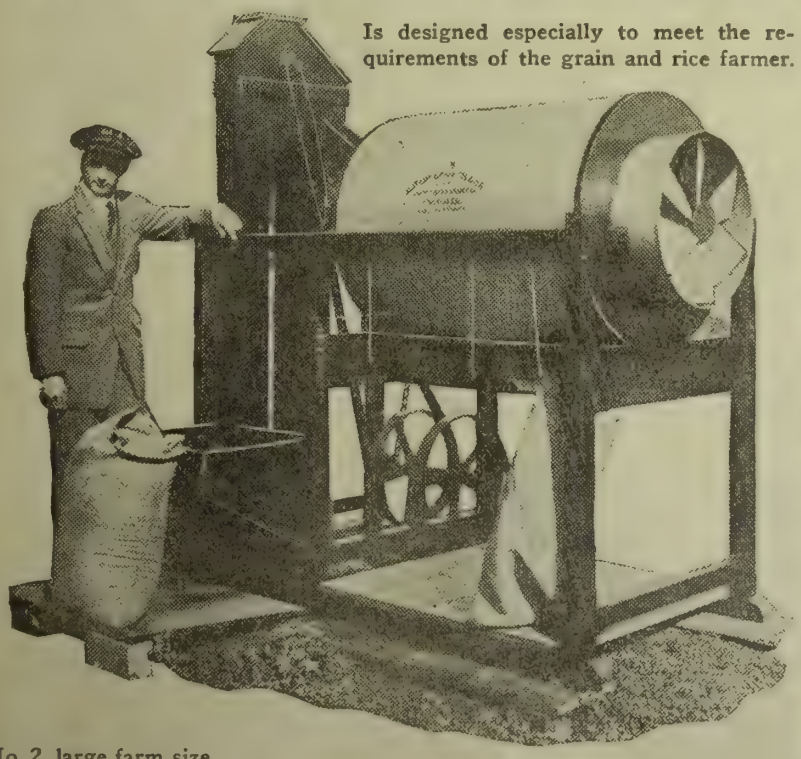
620 South Spring Street

Los Angeles, Cal.

Phone 60875 Main 4545

ROTARY GRAIN CLEANER

Is designed especially to meet the requirements of the grain and rice farmer.



No. 2, large farm size.
Capacity two tons per hour.
Latest improvement in grain cleaner line.
It has a principle all its own.
A new invention that has no equal for selecting the best seed for planting.
Cleans Wheat, Barley, Oats, Rice and Kaffir Corn.
Cleans thoroughly and quickly; is simple in principle and durable in construction.
A 2-H.-P. gasoline engine is all the power necessary to run it under full load.

Manufactured by

GRAVITY GRAIN GRADER COMPANY

28 N. East Street Stockton, California

The owners of one of the biggest ranches in the Southwest wanted the best Hairy Peruvian alfalfa seed that money could buy. They bought Germain's—the proven strain—five big truckloads—25 tons!

We've just published a large illustrated folder entitled "The Truth About Germain's Proven Hairy Peruvian Alfalfa Seed." It contains a photograph of the 50,000-pound order. Write or call for this free folder today.

The supply of Germain's "proven strain" is going fast. Better place your order now.

Germain Established 1871
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Your Soil Needs Amboy GYPSUM

FREE BOOK — GYPSUM FACTS
Tells how, when and what gypsum to apply for increasing crop yield. Gypsum should be used freely on citrus and alfalfa land.
Consolidated Pac. Cement-Plaster Co.,
613 San Fernando Bldg., Los Angeles.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

LONG HITCH FOR TRACTOR PLOWS.

With a horizontal hitch from tractor to plow, several feet greater distance between them has great advantages and it does not increase the draft, says Prof. J. B. Davidson of University Farm. With a sloping hitch, it might make a difference because it would change the angle from drawbar to plow hitch. With a long horizontal hitch you can plow a straighter, more even furrow, because slight variations in steering the tractor do not affect the plow appreciably. In plowing around a sidehill there is a special advantage in a long hitch. There is a tendency for the tractor to creep sidewise down hill and it is necessary, therefore, to keep it pointed at an angle up hill from the furrow. Tractors have turned over on steep hills after sliding sidewise into the furrows. With a longer hitch the tractor can be kept on firm ground at a greater distance from the crumbly edge of the furrow and will not creep so much nor slide into the furrow with resultant difficulties. It makes steering easier, and while it increases the pull on the drawbar slightly, it actually decreases the power used, on account of the firmer footing. The chief objection to a long hitch is where frequent turns are made, as in orchard and vineyard work; but on straightaway plowing the long hitch makes a better job with no increase in power used.

WHY NEW TRACTORS NEED NEW OIL FREQUENTLY.

Castings used in interior parts of tractors are cleaned of the sand used in their molds not only by rolling over and over in a cast-iron barrel with flint rocks, but also by use of the sand blast. But it is impossible to get all the sand and scale off in those ways. When the castings are put to work in the crank case of an engine, the constant vibration, the shock of explosions, and the repeated expansion and contraction work them loose. They drop into the oil, and, being harder than the cylinder walls, will dig big scores if they happen to get between the pistons and walls. It is on account of this scaling and dropping of molders' sand that the oil should be removed every day from the crank case of a new tractor. It may be strained through several thicknesses of cheesecloth after settling a day or two and used repeatedly. Of course, this is in addition to the extra need of oil on new tractors due to the rubbing surfaces not having been worn precisely smooth and therefore causing greater friction than after they have been in use awhile.

HORSE TOOLS FOR TRACTORS.

"Success with tractors depends to a large extent on the kind of implements used with them," said Prof. J. B. Davidson in a lecture at the University Farm Tractor Short Course, November 21. Horse implements have not generally proved highly satisfactory, though the amount of work to be done may not always justify the expense of specially built tractor implements until the horse implements are worn out.

As tractors are designed to save labor, small ones need implements which can be operated by the driver from the front end rather than from the rear as with horse-drawn implements. If an extra man is required to tend them, the labor-saving purpose of the tractor is defeated. With larger tractors enough plows are used to justify the expense of a special man to attend to them. Here also horse implements are not satisfactory because they are not built strong enough to do the better work which a tractor is capable of doing.

PUMP PERMITTED COVER-CROP TO ATTRACT INSECTS.

An Oregon vetch cover-crop in 70 acres of bearing prune trees in Sonoma county seemed to be the reason thrips and red spider did not bother that orchard, while they were thick in surrounding orchards, according to H. W. Hosmer. The vetch was planted last fall after the first rain. A $5,000 pumping plant was installed during the winter. This permitted Mr. Hosmer to delay plowing until after May 15. While no thrips were noticed on the cover-crop, search was made for them in the prune blossoms, but none were found. Red spider, however, became so thick on the cover-crop that some of it was killed, while hardly any were to be found on the trees. G. W. Streeter, also of Sonoma county, found tent caterpillars far more attracted to the vetch than to the trees.

A big four-horse drayage truck got stuck recently on Market street in San Francisco because the horses could not get secure footing on the slippery streets. A motor truck came along, backed up against the rear end of the horse outfit and gave it a generous start.

Potato Outlook Rather Hopeful

[Written for Pacific Rural Press by R. E. Hodges.]

What about the potato market? Read these facts and judge for yourself. The normal world crop is around 6,000,000,000 bushels, according to the best figures we have obtained. Germany has normally produced one-third of these, but she didn't do it last season. Her crop, however, has recently been largely used for alcohol and has not affected the market for edible potatoes as figures would indicate. European Russia normally produces 1,000,000,000 bushels, but she is reported hungry. Austria-Hungary normally produces 600,000,000 bushels, but she didn't do it last season. France normally produces half a billion bushels, but her women had to do a large part of the farm work last season. Great Britain normally produces 300,000,000 bushels. The United States is credited with 450,000,000 bushels in the same set of figures. Last season the United States produced 390,101,000 bushels, a decrease of 52,435,000 from the crop of 1917, according to the U. S. Bureau of Crop Estimates. The principal producing States are Maine, whose 22,400,000 bushel crop represents an increase of 2,150,000 bushels over last year; New York, whose 1918 crop is estimated at 33,712,000 bushels, a decrease of 4,288,000 bushels; Pennsylvania, whose 23,180,000 bushels are 6,352,000 less than in 1917; Michigan, whose crop decreased 7,350,000 bushels to a 1918 total of 28,560,000; Wisconsin, with 32,482,000 or 2,516,000 less than last year, and Minnesota, whose crop decreased 1,344,000 bushels to a total of 32,256,000. The California crop is now estimated at 12,555,000 bushels, a decrease of 1,345,000 bushels. We do not have at hand the corresponding figures for Oregon, Washington, Idaho, Nevada, and Colorado, which are California's chief competitors; but we have the following information balanced up from the statements of potato dealers: The Idaho crop is about normal; the Oregon crop less than normal; Washington about normal; Colorado about normal; Nevada about normal.

POTATO PRICES.

Potatoes are about the most "fluid" produce in the world, according to Mallory E. Enos of the Ennis-Brown Co., one of the largest potato dealers on the Coast. He meant that whenever the price in one locality gets above that in another locality enough to more than pay the difference in freight potatoes would flow to the high-priced market until its prices were leveled down.

California potato prices have been higher than elsewhere, and perhaps justifiably so on account of the cost of production. This is rather high for two reasons: Our yield per acre of marketable stock averages low, and where most of our potatoes are grown they are the chief crop. In

TRACFORD

$185.00
F. O. B.
San Francisco
Ideal for Vineyards. At a small cost you can cut your Ford down to 3 feet wide and shorten to 48-in. wheelbase, for 8-ft. row vineyards. Will do as much work in a day as two two-horse teams.

$185.00
F. O. B.
San Francisco
Ideal for Orchards. Will pull any implement that four horses can successfully handle. The most economical implement made for the farm.

An attachment for converting any Non-floating axle automobile into an economical or horse-power Tractor.

Beginning the Third Year. TRACFORDS Everywhere. Every User a Satisfied Owner. Immediate Deliveries. Complete with Large Cooling and Five Roller Pinions.

HOW MANY ACRES CAN BE PLOWED WITH THE TRACFORD IN A WORKING DAY OF TEN HOURS?

This depends upon the width of cut. Pulling a two-bottom, twelve-inch plow, from four to five acres a day can be plowed.

WHAT IS THE WORKING LIFE OF THE TRACFORD?

It is practically indestructible. The side members are constructed of four-inch channel steel. The wheels of the TRACFORD run on a one and fifteen-sixteenths-inch solid steel dead axle, which carries the entire weight of the Ford, and to which the Ford frame is bolted. The Tracford wheel has a ten-inch face, equipped with angle iron lugs for field work, and is fitted with large grease cups, which thoroughly lubricate wheel, bearing and axle, sufficient for a full day's work.

IS THE CAR RUN ON LOW GEAR WHILE WORKING?

Never. It is run exactly as on the road. Low gear is reserved entirely for starting and for making unusual pulls of short duration. Wherever we say that the TRACFORD will do this work and that work, we mean that it will do it on HIGH GEAR. Any attachment which necessitates running a Ford car on low gear is not practical.

HOW MUCH GASOLINE WILL THE TRACFORD CONSUME?

About one gallon an hour. This depends on the work that is being done and the adjustment of the Ford car to which the TRACFORD is attached.

HOW MUCH OIL WILL THE TRACFORD REQUIRE?

About the same amount per hour that the Ford to which the TRACFORD is attached will require for steady road work.

Hughson & Merton, Inc.

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the Northwest and in Colorado potatoes are a sort of side line on many scattered ranches, often fitting into a rotation, so their demands for labor are not so trying on the general labor situation at certain seasons nor so expensive as in specialized potato districts.

Mr. Enos notes that several hundred carloads of Idahoes have already come to California this season, with only an estimated 40 per cent of the crop moved. These are Rural New Yorkers and Netted Gems principally, and because of their boiling to pieces when cooked that way they do not seriously conflict with California "River" Burbanks, which do not boil to pieces. The Colorado crop of Downing, Brown Beauty, Pearl, Russett Burbanks, etc., is about half moved already. Nevadas are just starting to come, but the Washington and Oregon Burbanks, being later, are not yet moved in any quantity. Oregon sales are being made at $1.25 to $1.35 to the growers and Nevada potatoes are bringing as high as $1.50 to $1.60, according to a large buyer. One dealer remarks with some feeling that Northwestern growers are storing for the higher prices that are expected after January 1, but that they will get "bumped" not only by lower markets but also by rotting, shriveling, freezing, etc., in storage. Mr. Enos believes that when the Washington and Oregon potatoes do start they will not depress California markets greatly because the latter are now at rock bottom, the price of $2 per cental f. o. b. ranch landings being very close to the cost of production. This hope might seem to be justified also by the national and world shortage of potatoes this year.

WESTERN QUALITY IS FINE.

Whether potatoes will spoil in storage to any extent is questionable, for the Western crop as a whole is of exceptionally fine quality and freedom from disease. Idaho storage is generally in frost-proof cellars. Washington potatoes are stored largely in pits. Oregon growers store in the dry and California delta growers may safely leave their potatoes in the ground until New Year's.

DELTA CROP AND CONDITIONS.

As the Sacramento-San Joaquin delta produces most of the California crop, Mr. Enos' observations on its condition will be interesting. The acreage is estimated to be 20 per cent less than last year. The yield is very satisfactory in general, being probably 10 per cent better on the new lands than last year and about the same as last year on the old lands. "New lands" are defined as those which have been reclaimed within six or eight years and properly rotated with other crops. Their yield is averaged at about 160 sacks per acre. Seventy-five sacks is a good average on the old soil, and the quality is not so good where potatoes have been grown many years in succession. About half of the acreage this year is on "new land." The loss by fall rains has been only nominal, and there is very little disease in the present crop. The only serious disease has been the wilt, which has already developed in "leaky" potatoes and they have been sorted out. About half of the crop has been dug, and most of the rest will be out of the ground by New Year's.

POWER NOTES.

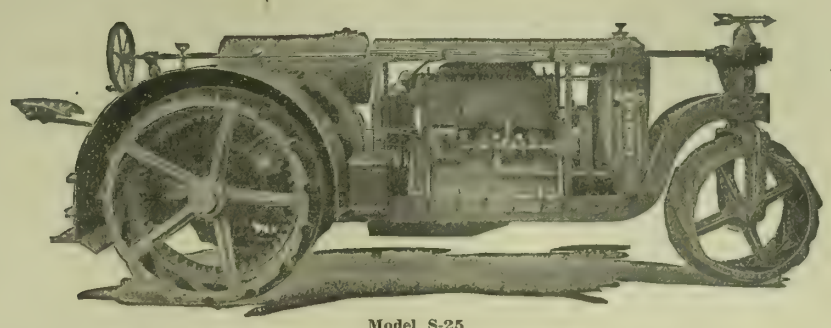
All war-time restrictions and regulations regarding highway building were removed November 14 by the U. S. Highways Council. Better roads and more of them mean more motor trucks and automobiles, which mean quicker transportation of freight and people.

The C. L. Best Gas Tractor Co. has recently appointed new dealers for its Sacramento territory north of San Joaquin county. They are M. K. Grant and Chas. H. Manning, both long identified with the Best company. They report the sale of about ten 75s and twenty 40s since the new arrangement went into effect.

Samson

GMC TRACTORS SIEVE-GRIP GMC TRACTORS

Tractor



Model S-25

Simplicity, dominant feature of the **GMC SAMSON SIEVE-GRIP TRACTOR,** goes hand in hand with efficiency. Correct design and few and accessible working parts assure low up-keep cost and long life to the **GMC SAMSON SIEVE-GRIP TRACTOR.**

Thousands of owners testify that where the **GMC SAMSON SIEVE-GRIP TRACTOR** goes the farmer's trouble ceases. This is its record for nearly two decades of trying service here and in far corners of the earth.

Mere youths are successful operators of the **GMC SAMSON SIEVE-GRIP TRACTOR, and in the emergency, even women have proved equal to the task.**

The **GMC SAMSON SIEVE-GRIP TRACTOR** performs tasks requiring the power of ten horses and does the work better, faster and cheaper than any other power. It is also adapted for many farm labors for which horses are unsuited.

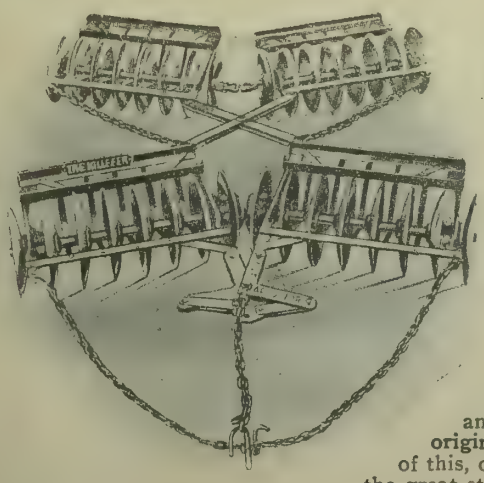
The **GMC SAMSON SIEVE-GRIP TRACTOR** is simplicity itself.

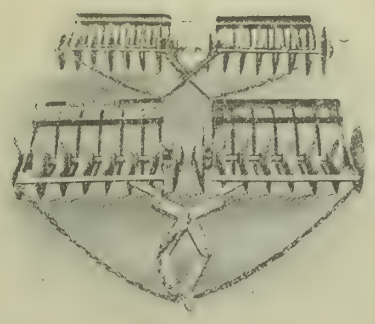
Further information is furnished by our illustrated booklet, Better Farming.

Samson Sieve-Grip Tractor Company

DIVISION OF
GENERAL MOTORS CORPORATION
STOCKTON, CAL.

The KILLEFER
AUTOMATIC
Double-Disc Harrow





Automatically Straightened

The small cut shows the Automatic Double-Disc Harrow, automatically straightened. To accomplish this, the tractor is backed up until the hook on the draw chains can be placed in the hole on the front end of the adjusting swivel; then, by going ahead about 18 inches, the disc is drawn straight. To set for working position again, pull out the hook and go ahead. This can all be done by the driver from the seat of most tractors.

Without A Doubt

this is the most important development to be made in the manufacture of farm tools to date. This is the **only Automatic Double-Disc Harrow** on the market. It was designed and built in our own shops, completely; we are, therefore, the **originators** and have it **fully covered by patents.** In the development of this, our latest triumph in **Disc Harrows,** we have not only maintained the great strength and durability as originally designed, but have added two additional most valuable features, namely, our **Automatic Shifting Device;** controlled by the operator from the seat of his tractor, and a **greater flexibility,** so desirable in a **tractor Disc Harrow,** but not found in other makes.

This Harrow is built in all sizes from 5 to 12 feet, inclusive.

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J. Henry Meyer has recently purchased from William Hunter, Freeman, Ontario, Canada, the imported yearling Ayrshire bull, Holehouse Secretary, to head his herd at Watsonville. He is sired by Netherton Viceroy and out of Holehouse Nancy 6th, with a Scottish record of 11,370 pounds milk testing 3.87 per cent. His paternal grandsire is Brae Rising Star, champion of Scotland for three years. Canadian authorities state that this young bull is one of the best that ever left Scotland.

What Can the Farm Bureau Do to Enforce Marketing?

Written for Pacific Rural Press by H. J. Baade, Farm Advisor, Napa

The fat hog auction sale conducted by the Napa County Farm Bureau at St. Helena, Saturday, November 16, was a failure. The farmers lost money on the undertaking. It appears that several reasons can be given for such an unfortunate outcome. First, the packers failed to send buyers; second, the market is on the decline; third, the wrong day of the week had been selected for the sale.

The first condition was the one most feared by the committee in charge. In order that the packers might be notified in ample time, the packing concerns operating in the San Francisco bay region were written to by the auction sale committee, November 4. They were told that 200 or more grain-fed hogs would be offered for sale on November 16 at St. Helena and each firm was invited to send a buyer. On Wednesday, November 13, a member of the livestock committee of the Food Administration was called by telephone. He was told that the committee felt uneasy as to the buyers appearing at the sale. He agreed to take the matter in hand and notify the packers to attend the sale. Both letters and personal solicitation failed to bring the buyers.

The declining market is a condition for which no one is to be blamed. We are all glad to enjoy the sunbeams of a world peace and the return of normal conditions with normal prices.

As to the selection of Saturday for the day of this sale: Saturday has been the day of many of the successful sales in the State. It is convenient for the farmer and a satisfactory day for a sale, providing buyers are present. If, however, buyers are absent and it becomes necessary to ship them, Saturday is a bad day to select. The Farm Bureau had faith in the good will of the packers and expected them to send buyers, although a local buyer stated that he knew before hand the sale would be a failure. How he knew the Farm Bureau has not yet discovered. Had the hogs not been sold it would have been necessary to ship. They would then have arrived on the market late Saturday night. To hold them till Monday's market would have meant an additional expense, and, then, what was to be gained by such procedure? What assurance was there that the market would not have dropped a cent or two by that time? Had the hogs been assembled on any day but Saturday, the farmers would have taken a chance at shipping in in place of selling at the price they did.

We find that some farmers who had previously been offered 16c were obliged to take 13c. In fact, the one buyer who by chance attended the sale and bought most of the hogs did not care to take some animals at any price.

These results will no doubt mean no more fat hog sales in Napa county. The object of this sale was to group and grade hogs so as to enable the farmer to sell in quantity a superior product.

The result is that packers, with the monopoly of buying in their hands, refused to co-operate. The farmer had acted in good faith, the packers ignored him. The farmer had fed expensive grain at the instance of the Government's request for more and better pork. Could the farmer sell direct to the Government all would be well. Why this present system, whereby the producer is absolutely dependent on the packer to dispose of his livestock? The packer always takes his toll regardless of conditions, but what about the producer? The Federal Trade commission has made certain recommendations regarding the control of the situation. To counteract these recommendations the various packers are spending enormous sums of money in advertising and printing to accomplish what may be called "educating the public." Hardly a day passes but brings some of their printed material to my desk. All of it is skillfully prepared; but what will it profit them if, after their "educational process," they treat the farmer as they did at the St. Helena sale? Co-operation in California did not get a setback at this sale. We hope that the day may not be far distant when on the list of California's marketing associations will be found an association for the livestock producers. One sufficiently strong to make the packer come to terms or eliminate him.

WHAT CAN A BROADER EFFORT DO?

[In the foregoing detailed account of a local failure Mr. Baade clearly shows the need of something more than local effort. No local association can compel buyers to attend their sales nor do much of anything else if they conclude not to buy. As Mr. Baade suggests in closing, something much broader and stronger must be done. What it is we do not know at the moment and therefore cannot make any concrete suggestion. It is, however, a good time to consider carefully the greater proposition of the affiliated Farm Bureaus which we have just received from the Kern County Farm Bureau Monthly]:

For some time there had been a feeling that greater progress would ensue and increased efficiency be attained through the union of the marketing departments of the County Farm Bureaus in the southern portion of the San Joaquin Valley. Furthermore, the need had become apparent for a larger and stronger organization, which would be in a position to deal with the large packing house firms on a more satisfactory basis than had ever been possible heretofore.

The first definite step toward union and organization was taken on August 30, 1918, when delegates from Kern, Tulare, Kings, Fresno and Madera counties, representing the marketing and auction sales committees of their respective County Farm Bureaus, gathered together in conference in Delano. The plans formulated at this meeting were again taken up in a second conference held at Hanford on September 14. The outcome of an all-day session was the adoption of a constitution for the new and larger organization to be known as the California Farm Bureau Marketing Association. At the subsequent meetings of the boards of directors of the Farm Bureaus in Kern, Tulare and Kings counties the action of the conference was ratified and a director appointed from the marketing committee in each county to serve on the board of directors of the new association. Since that time the directors of the association have met several times in Visalia, which was selected as the official headquarters. A manager and secretary-treasurer have been appointed and a bank selected as the depository of the association's funds. The organization is in active operation and not only conducts the sales but, when need arises, bids in the hogs and ships for the protection

The Greatest Auction Sale

EVER HELD WEST OF CHICAGO

Tagus Ranch, Tulare, Cal. : December, 10, 11, 12, 13, 1918

200 Registered Duroc-Jersey Sows, Gilts, Boars.
200 High Grade Angus Breeding Cows.
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100 High Grade Shorthorn Breeding Cows.
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90 Registered Holstein Cows, Heifers and Bulls.
100 High Grade Brood Mares, Work Horses and Mules.
14 Registered Percheron Mares.
13 Registered Percheron Stallions.
3 Registered Belgian Mares.
3 Registered Belgian Stallions.
5 15-35 Sandusky Tractors.
2 Bull Tractors.
$50,000.00 Worth of High Class Implements and Equipment.

The Live Stock

The 90 registered Holsteins are headed by KING SADIE VALE ROSE, by King Korndyke Sadie Vale and out of a 27.98 lb. daughter of a 32 lb cow. There are many good record cows in the herd, including two 26 lb. 3-year-olds. Every animal guaranteed to be a breeder.

The beef cows are literally the selection from thousands of head that have been in the Tagus herds during the past few years. The Angus herd had an 85 per cent calving record last year and not a single death from disease.

The Duroc-Jerseys are headed by California's Defender, Junior Champion at Panama-Pacific International Exposition, and all of the younger animals in the herd are his get.

The Horses range from high class registered animals to high grade brood mares and work stock, mostly young, desirable animals with quality and substance.

Auctioneers:
Col. Ben A. Rhoades
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We Will Lease

in tracts of 20 acres and upon liberal terms to

SUCCESSFUL AND RESPONSIBLE PARTIES

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TAGUS RANCH

The richest — Most productive — Best watered and equipped

6000 ACRE RANCH

In California.

Located in Tulare County—5 miles north of city of Tulare—On the main cement State Highway.

Apply to

PACIFIC STATES CORPORATION

(Owners)

At Office on ranch or write P. O. Box D, Tulare, Cal.

The Implements

All implements and equipment on Tagus Ranch are strictly modern and mostly of comparatively recent purchase. Quality and utility have been the keynote in purchasing, and all equipment is in good condition, some of it perfectly new and unused, still in the original crates and cases in which it came from the jobbers or manufacturers. The list includes many first-class implements that are now out of stock with dealers and cannot be bought new at any price. Every implement goes absolutely without reserve or limit, as does everything else in this sale, for the entire ranch will be leased.

CATALOGUES IN PREPARATION, WRITE TO THE SALES MANAGER.

OWNERS

PACIFIC STATES CORPORATION

Tagus Ranch, Box D. Tulare, Cal.

Sales Manager:
C. L. HUGHES,
Sacramento, Cal.

of the farmers, as has been the case several times recently.

The Farm Bureaus in many other counties of the State are taking steps to get started with auction sales, and, as rapidly as possible, it is expected they will come into the association. Fresno and Madera are already arranging to do so. The California Farm Bureau Marketing Association is just in its beginning, but hopes to do much to assist the farmer to market his products to better advantage. In the event that satisfactory and fair prices cannot be secured from the buyers in this State, the association may even undertake to ship fat hogs by the trainload to Eastern or Northern markets.

In union there is strength. As the association grows and as more county Farm Bureaus affiliate themselves with it, new lines of business in marketing and purchasing will be undertaken for the benefit of the farmer. Every Farm Bureau member should realize that the California Farm Bureau Marketing Association is his organization, as it is an outgrowth of the Farm Bureau itself. The success of this marketing movement will depend upon the farmers' backing and support.

The officers of the California Farm Bureau Marketing Association are as follows: H. G. Hull of Wasco, president and director representing the Kern County Farm Bureau; W. J. Fulgham of Visalia, vice-president and director representing the Tulare County Farm Bureau, and Roy M. Filcher of Corcoran, director representing the Kings County Farm Bureau. The manager and secretary-treasurer is D. H. Bitner of Bakersfield, already well known to the farmers of this county as business manager of the marketing department of the Kern County Farm Bureau.

LIKES HIS MILKING MACHINE.

The problem of milking 42 cows does not worry D. O. Mills of Monterey county. He bought a milking machine last summer and employed B. H. Dreyer to operate it. Mr. Dreyer is enthusiastic in telling how much of a labor saver it is for a man who uses it intelligently. Heifers are more easily broken to milk than by hand, the cows stand fine, and no garget has developed. Success depends on the man and on the cleaning, says Mr. Dreyer. He operates one unit, milking two cows at once, stripping them afterward, and getting through with 42 cows in two hours. After milking, he drops the cups into fresh water, which is drawn through the entire unit. They are left in clean water over night. Following similar rinsing after the morning milking, the outfit is cleaned out with a brush and warm water, not using hot water on account of its effect on the rubber. It is left all day in a disinfectant solution. Only once per week is it taken entirely apart for cleaning.

WOMEN MAKE GOOD AS COW TESTERS.

[Written for Pacific Rural Press.]

Recently in our livestock notes we stated that five women cow testers had been appointed in different parts of the United States. Since then, on account of the shortage of male testers, more women have been employed and now there are 27, who, according to all reports, not only have done satisfactory work but have achieved results above the average.

Considering that the testers get free board and lodging, the pay is thought satisfactory. The women are paid the same as the men and receive from $50 to $75 a month, besides board and lodging. Conveyance to the next farm is furnished in some associations, while in others the tester provides her own conveyance and the farmers furnish free stable room and feed for her horse. To keep the work on a satisfactory basis women must continue to receive the same pay as the men for the same work. Occasionally there may be an association in which it would not be advisable for a woman to work, but if such is the case the fault is with the association and not with the woman cow tester.

The work does not require great physical strength. It does demand some training, but this is easily acquired by women, and, even though with the demobilization of the army many male testers will be available for their old line of work, it is quite probable that, because women testers have done so well, they will continue to be employed.

LATEST ON THE FAIRS.

The Liberty Fair at Los Angeles will open two days after the influenza ban is removed. The fair authorities are daily expecting such action by the Board of Health, and it is hoped that the gates will be thrown open during the early part of the first week in December. Many fine exhibits are already on the grounds, and a great show will surely be pulled off in spite of the several unavoidable postponements.

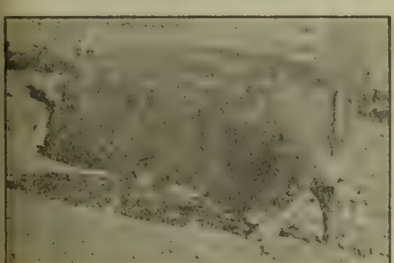
The Pacific International Livestock Show, which was to have been held at Portland, has been called off entirely, except the fat stock classes and sales, which will be held as announced.

The Northwest Livestock Show, scheduled to be held at Lewiston, Idaho, has been postponed indefinitely.

There was an old woman
  Who lived in a shoe;
She had so many children
  She didn't know what to do;
So she gave them some pigs
  And bade them "raise more"
And they all made a fortune
  And helped win the war.

The Blatchford Calf Meal Company, Waukegan, Ill., is establishing a research and educational bureau and will co-operate with private individuals, State or Government agencies whose object is that of more and better livestock. The work, which will be in charge of Prof. R. E. Caldwell, formerly chief of the Department of Dairy Husbandry, Purdue University, will be to investigate all problems relative to the feeding of young farm animals, and Prof. Caldwell assures farmers that his work will not in any way be tainted with personal or commercial ambition. There will be no charge for the service, and farmers everywhere in the United States are urged to put their feeding problems up to Professor Caldwell for solution.

Grand Champion
BERKSHIRES



AMES RIVAL 70TH

We have in our herd the Grand Champion Boar, Grand Champion Sow and First Prize Senior Herd at State Fair.

Forty-three litters this year averaged ten to the litter. Let us supply you with foundation sows and boars to head your herd.

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Hamilton City : : California

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California's Most Popular Big Type Sire.
GREAT MODEL
(By Great Wonder and Model Lady 4th)
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TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM.
W. O. Pearson, Prop. Woodland, Cal.

Calco Troughs for your hogs

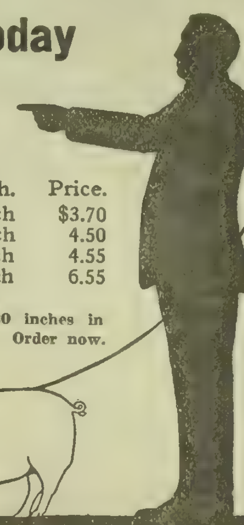
Sour grain in troughs causes digestive disorders and scours. Sanitary troughs and surroundings prevent worms and disease. Calco Troughs are absolutely sanitary—are made of Armco rust-resisting iron, with smooth metal sides and round bottoms. Every particle of feed is used—none left to sour. They are light, durable and economical.

Order by Mail Today

The following are popular sizes and will be sent upon receipt of your check or money order:—

Size.	Depth.	Length.	Price.
10¼-inch	5 5/16-inch	40-inch	$3.70
10¼-inch	5 5/16-inch	60-inch	4.50
14 -inch	7 3/16-inch	24-inch	4.55
14 -inch	7 3/16-inch	60-inch	6.55

Other models from 24 to 120 inches in length from $2.50 up. Order now.



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Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.
Best families.
Finest individuality and clean-cut markings.
Call or write.

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

OAK KNOLL FARM
LAKEPORT CALIFORNIA
We have sold all our young boars and are now booking orders for March delivery.
Highlander, the $1,000 Grand Champion Boar, heads our herd of
CHESTER WHITES
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

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El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
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DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Get the Last Drop of Milk

[Written for Pacific Rural Press by R. H. Whitten.]

A young milker was particularly anxious to win promotion and be allowed to milk a string of cows on official test. He worked hard and faithfully to make his string produce heavily and test highly, but the milk sheet showed that his cows were decreasing more rapidly in milk flow than those in other strings, and the Babcock tester gave them a lower percentage of butterfat.

One morning, just as he was at the point of discouragement, the superintendent handed him a pint bottle and asked him to fill it from the heifer he was milking, taking equal portions from each quarter. Just as he was finishing the milking of that heifer the superintendent appeared with another pint bottle and a similar request. The milker said that he had milked the heifer clean, and protested that no more milk could be secured from her. But the superintendent insisted, and finally the attempt was successfully made.

Later the two samples were tested and the milker was amazed to find that the first sample tested only 2.3 per cent while the second tested an even 15 per cent. The demonstration proved to be the necessary lesson to this ambitious worker, and from that day on he was the best milker on the ranch. His cows always tested highest and milked most persistently because he had learned how to add to each milking of every cow a pint of milk, creamy in richness. And the method of securing it exercised, stimulated and developed the milk-making glands.

SKIM A RICH CREAM.

On other farms a great deal of the profit from dairying is lost because the one who does the separating skims a cream low in butterfat. There is a strong notion which prevails among many dairymen that it is more profitable for them to make a cream testing, say, 20 to 30 per cent rather than 35 to 45 per cent. But they are utterly wrong, and for two important reasons: First, the low testing cream robs them of a large amount of skim milk; second, rich cream keeps sweet much longer.

Creameries pay not for the actual weight of cream but for the butterfat it contains. And here is the way it works out: 296 pounds of cream testing 35 per cent contain as many pounds of butterfat as 500 pounds of cream testing 20 per cent. And the 35 per cent cream saves 214 pounds of skim milk, worth at present prices about $1.60 for feeding calves, hogs or chickens.

So set the separator to skim at from 35 to 45 per cent. A simple turn of the screw will put many dollars into your pocket.

PREVENT SEPARATOR LOSSES.

Are you keeping a cream thief in your dairy? In an investigation of 170 separators it was found that one out of every five was wasting valuable butterfat. When skim milk has a fat content above .02 per cent, the separator is a cream thief. If you are not sure about your separator, send a sample of the skim milk to your creamery or the Agricultural College at Berkeley and have it tested. Don't think that you can tell by eye; the cream thief will fool you. An accurate test is the only safe way.

WHY CREAM TESTS VARY.

Why does the cream test jump from 28 per cent one time to 36 the next, and then drop to 24 the next time, when apparently conditions are the same from day to day?

There are several different factors which may cause these variations, and the adjustment of the cream screw is an important one. Often these screws are so loose that they may be unintentionally moved in washing or handling. Find out just where a screw should be set to skim cream testing from 35 to 45 per cent, as you may prefer, and then mark the position of the screw by scratching the metal, so you will notice if the screw is accidentally moved.

The speed of the separator is another important factor. Each make is designed to do its best work at a certain speed, and the instructions furnished by the makers should be carefully followed. The only reliable way to maintain the proper speed is to count the number of revolutions of the crank by the watch.

An investigation on a number of farms disclosed the fact that 19 out of 20 separators lose fat in the skim milk because they are run too slow. The average loss is from 7 to 12 pounds of fat per cow per year. In a herd of 30 cows, with butterfat at, say, 45c this amounts to from $84 to $144 per year—a heavy fine to pay for failing to heed the directions accompanying the machine.

Changing the rate of inflow of whole milk without a change of speed will cause the test to vary. Reducing the inflow will give a high-testing cream. A float should always be used, as otherwise the height of the milk in the supply can will affect the inflow.

The separator should be securely fastened to a solid foundation, for any unsteadiness of the separator bowl, shaking or trembling, affects the amount of butterfat in cream, generally lowering it. In one series of tests there was a difference of 10.1 per cent in the average percentage of fat when conditions were normal and when the bowls were running unsteadily.

The temperature of the milk may affect the test. Most instructions state that the temperature should not be under 90 degrees, and that milk should be separated as soon as it is drawn. But often this is impracticable, and it has been found that if the temperature does not go below 70 or 80 degrees there is little effect on separation. But when the temperature runs much below 70 degrees considerable fat is lost in the skim milk. If old milk is to be separated, it should be warmed and stirred so that the cream will be well mixed with the milk.

The amount of water or skim milk used to flush the bowl at the end of the run will affect the cream test, as part of it will pass into the cream. Only a quart of water or skim milk added to 50 pounds of 30 per cent cream will reduce the test to 28.8 per cent. Of course, the smaller the lot of cream the more this effect is noticeable.

Insecure or sloping foundations, bowls incorrectly put together, out of balance or at the wrong height in the separator frame, bearings worn or out of adjustment, lack of oil, poor oil, uneven power—one or more of these may cause a vibration which will mean a loss. To get the best results, observe the following: (1) Fasten the separator securely to a solid foundation; (2) oil thoroughly before each running; (3) clean well after each running; (4) set screw to skim at 35 to 45 per cent; (5) feed according to capacity; (6) run at the speed for which it is adjusted; (7) separate the milk soon after it is drawn, and, if possible, when it is above 80 degrees.

Breeders of Milking Shorthorns will be delighted over the new record established in England for offerings of this breed. The average on 68 head was $1,062, with a top of $2,750. Forty-four cows and heifers averaged $1,395.

Annual Pacific International

SHORTHORN SALE!

Auspices of Pacific Northwest Shorthorn Breeders' Association

Thursday, December 12, 1918

At the

Pacific International Livestock Show, Portland, Ore.

TO THE PROSPECTIVE BUYER OF CHOICE SHORTHORNS. THERE WILL BE SOLD AT PUBLIC APPRAISAL 35 HEAD OF STRICTLY CHOICE FEMALES AND 15 HIGH CLASS BULLS, SIRED BY THE BEST BULLS IN THE NORTHWEST. CATALOGUES SENT BY APPLYING TO

FRANK BROWN, Sales Manager

CARLTON, OREGON

ROSELAWN STOCK FARM

SHORTHORNS

Headed by Ringleader, by Ringmaster, three times Grand Champion at Chicago International.

Crescent Dale, by Whitehall Rosedale.

Roselawn Champion, by Eastlawn Champion.

Roselawn Champion, the Junior and Reserve Grand Champion, and his dam,

Mischief E. 3rd, Senior and Grand Champion at the California State Fair in 1918.

We have for sale a choice lot of young bulls, reds and roans, five ready for service now and eight more will be ready by spring. We can also spare a few females.

A VISIT WILL INTEREST YOU.

Roselawn Stock Farm Woodland, Cal.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding. Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

Shorthorn Bulls

Four Head—Two to three years old.
Six Head—Ten to twelve months old.

BRIGHTON FARM HERDS.

H. L. & E. H. MURPHY PERKINS, CAL.

Polled Herefords to Invade the Coast

[Written for Pacific Rural Press.]

Polled Herefords will make their bow before a California audience next April when an offering of about 30 head, selected from the leading herds of the Corn Belt, will be sold at the University Farm, Davis, at the time of the annual gathering of farmers and stockmen.

This will be a quality sale. It is in the hands of B. O. Gammon, secretary of the Polled Hereford Association, who has asked breeders to consign animals that will be a real advertisement to the breed. He plans to have about one-third bulls and two-thirds females, ranging in age from 12 to 20 months. The cattle will be assembled at some central point in the Middle West and the cars will be decorated with appropriate advertising matter exploiting Polled Herefords. Circulars will be distributed at all stopping points on the way, and extensive advertising will be done in this State, boosting the breed and calling attention to the sale.

America's Greatest Farm Auction Sale

[Written for Pacific Rural Press]

The four-day sale to be held at the Tagus Ranch, Tulare, December 10 to 13, will be the biggest event of its kind ever held. The great 6000-acre ranch is to be leased, and all of the livestock and equipment must be sold.

The offering includes all the famous producers and prize winners in the herds—animals that money could not buy except in a complete dispersal sale. There will be 90 registered Holsteins, many with official records; 200 registered Duroc-Jersey hogs; 15 registered Aberdeen-Angus bulls; 200 high-grade Polled Angus cows; 3 Shorthorn bulls; 100 high-grade Shorthorn cows; 33 registered Percheron and Belgian stallions and mares, and 100 high-grade draft horses and mules. Also there will be five tractors and $50,000 worth of high-class implements and tools.

Only the best of both livestock and implements has found a place at Tagus Ranch, and shrewd buyers will find at this sale a wonderful opportunity for investment and profit.

Portland Shorthorn Sale

[Written for Pacific Rural Press.]

The Shorthorn sale to be held at Portland, December 12, in connection with the Pacific International Livestock Show should attract the attention of every lover of the noble red, white and roans.

The consignments are from the leading breeders of Oregon, Washington and Idaho, and include a very select lot of breeding cows and heifers, sired by world-renowned bulls. Also there are some high-class young bulls, with individual merit and breeding combined, that should prove exceptional sires. Frank Brown, Carlton, Ore., is sales manager.

The University Farm School at Davis will give a short course in milking machine operating from December 2 to 13. Success with milking machines depends chiefly upon the operator. Machines have been in daily use at the farm school for several years, and this course should prove a most practical one. At the same time there will be a short course in cheese-making.

Our Aim is to Encourage and Assist in the Production of Beef

SOUTHWEST CATTLE LOAN COMPANY

Jno. L. Knorpp, Pres. & Gen. Mgr.

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Los Angeles, California
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SHORTHORN BULLS AND COWS

TOP NOTCH REGISTERED SCOTCH COWS AND HEIFERS
also one hundred head of unregistered Heifers.

FINE LOT OF REGISTERED BULLS
One to Three Years Old

85 Unregistered Purebred Weanling Bulls

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PAICINES, CALIFORNIA

Telephone to Paicines Ranch via Hollister.
Take train to Tres Pinos, where motor will meet you.
Train leaves S. F. 6:10 a. m., arrives Tres Pinos 10:30 a. m.

SAN FRANCISCO OFFICE:
607 Butler Building
Telephone Garfield 391

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Toyon Farm Association of Los Altos and the Lewis Company of San Jose each contributed to a shipment of registered Holstein bulls which was made to Chili during the past month.

The Holstein cow, Piebe Laura Ormsby Vina, purchased by the Bridgford Company, Knightsen, at the Vina sale, has just made an official record of 32.76 lbs. in seven days as a five-year-old.

Burroughs Bros., who are operating a certified dairy near Santa Clara, Santa Clara county, have received a carlod of Holstein cows from the Lewis Company, which have been shipped from its Hollister ranch.

The Lewis Company reports the sale of the young bull, Prince Hengerveld Skylark Ormsby to William Fee of Santa Clara county. This bull is an excellent individual, son of the proven sire, Sir Skylark Ormsby Hengerveld.

Stanislaus Princess Cleopatra, the Holstein cow owned by Stalder Bros. of Rosamaine's Rancho, Riverside, has twice made better than 31 lbs. before reaching the age of five years. As a three-year-old she made 31.04 lbs. butter from 513.9 lbs. milk and as a senior four-year-old she made 32.07 lbs. butter from 528.8 lbs. milk in seven days.

Frank L. Morris of A. W. Morris & Sons, Woodland, reports that Tilly Alcartra is now milking 77 lbs. or more per day. She will complete her year January 10, and is expected to make over 33,000 lbs milk, thus breaking the world's record for the second time. She will average 30,000 lbs. milk for four years and 1100 lbs. butter for five years.

The Bordens have permanently closed their condensed milk factory at Elgin, Ill., as well as several in New York. But every time they close one in the East they open a new one in the West—generally on the Pacific Coast. Eventually this section will be the center of the condensed milk industry. Which, of course, will promote the expansion of the dairy business.

W. J. Higdon, Tulare, reports that Mona Fobes, a four-year-old Holstein, has made a record of 26.61 lbs. butter from 523.4 lbs. milk in seven days. Trout Brook Pontiac Starin, a five-year-old, has made 26.51 lbs. from 553.3 lbs. milk. Both are being continued on 30-day test. Pauline Soldine 3rd, with a record of 27.70 lbs. as a three-year-old, is being put on test again and promises to make 30 lbs.

Bridgford Company of Knightsen are jubilant because their Holstein cow, Spring Farm Pontiac Maid, has just broken the State record for a senior four-year-old, having produced 35.65 lbs. butter in seven days. She is still on test and on the fifteenth day she milked 105 lbs. This wonderful cow is by the 44-lb. bull, King Korndyke Pontiac Lass, who is out of the former world-record cow, K. P. Pontiac Lass. Her dam is a daughter of Spring Farm King Pontiac.

W. F. Mitchell, Visalia, reports that the Holstein cow, Dutchess Elizabeth Victoria, has produced nearly 17 lbs. butter in seven days at two years and ten months of age. She is being continued on 30-day test. Lady Zenobia 2nd, an aged cow, has just made 20.5 lbs., and Black Patti, with a 26-lb. record, is being put on test again and is expected to increase her record. Mr. Mitchell has several cows that will freshen soon, and all will be put on official test.

Beef Cattle.

The sale of Herefords recently held by the late Viscount Rhondda at Newport, Monmouthshire, eclipsed all previous records in the history of the breed in its home land. The general average for 204 head was $1,000, and eight new sales records for the breed were established.

E. K. Brown of the Santa Rita Ranch, Dos Palos, has purchased a carload of yearling Hereford heifers from the Carl Miller herd, Belvue, Kan., and a carload of yearling bulls from the Mortimer herds of Nebraska. Other purchases in Kansas, Nebraska and Colorado make a total of 400 head which are being shipped to Bloomfield Farm, Gilroy, where it is planned to establish one of the largest Hereford herds west of the Rockies.

Three years ago J. C. Andrew of Westpoint, Indiana, paid $5,000 for the Shorthorn bull, Lord Avondale, when only five heifers constituted his herd. Last month, at his first public sale, he sold 11 sons and daughters of that bull for $15,000, getting an average of $1,940. Other animals in the sale were heifers bred to the bull and two cows with his calves. The grand total received was $47,375, showing a pretty good start, and good evidence of the value of a high-class sire.

Swine and Swinemen.

Donald H. Graham of Lancaster is breeding 30 Duroc sows and 25 gilts for spring farrow—most of them to his great young boar, Orion's King Gano.

W. D. Trewhitt of Hanford had 26 head of Poland-Chinas in the top car that sold at $18.80 per hundred at the recent Farm Bureau sale at Hanford. The hogs averaged 225 lbs. and were hard grain-fed.

R. C. Sturgeon, secretary of the Tulare County Duroc Breeders' Association, reports that their first public sale will be held in the new sales pavilion at Tulare, January 10. About 50 head will be offered, and consignments will be made by Allen Thompson, C. E. Ellis, R. E. Clifford, S. A. Williams, Henry Cummings and R. C. Sturgeon.

Peters, Lamson & Walker, owners of the Windsor Ranch at Bonita, are carrying 2800 head of Durocs, of which 250 are now purebred. They plan on eventually having an entire purebred herd, carrying about 2000 head. Their plant has been developed along scientific lines and represents the last word in labor-saving devices.

John M. Bernstein, the Poland-China breeder of Hanford, reports a heavy demand for sons and daughters of his two great boars, President and Smooth Jumbo. He has recently made the following sales: Service boars to R. O. Deacon, Lemoore; J. I. Wagy, Maricopa, and Bertram Bros., Hardwick; six months boar to Blakeley & Woodward, Lemoore; eight months gilt to Mr. Dingley, Lemoore; six months gilt to C. H. Meyers, Laton.

WHY RAISE SHEEP!

Sheep in all countries of the world have decreased 50 million head since the war began.

There is a world-wide shortage of wool and mutton.

There is a growing demand for meat and wool.

Sheep have decreased 12,000,000 head in the United States in the past 17 years.

The range flocks of the West are rapidly being reduced.

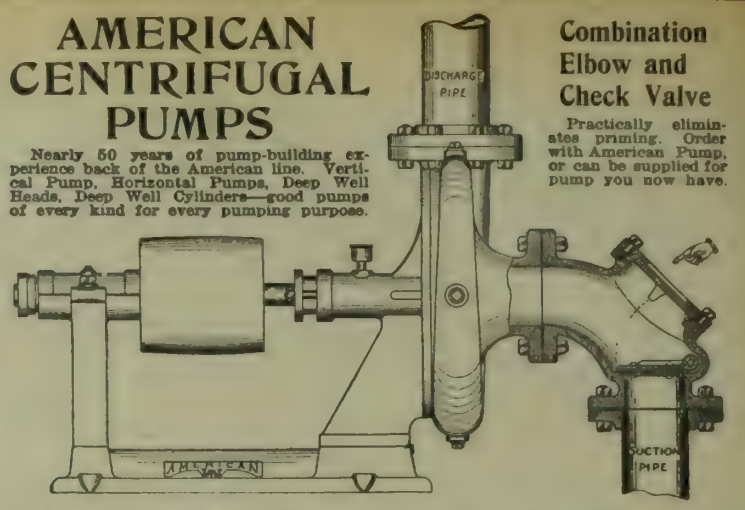
Pacific Coast farmers must help provide the future supply of wool and mutton.

AMERICAN CENTRIFUGAL PUMPS

Nearly 50 years of pump-building experience back of the American line. Vertical Pump, Horizontal Pumps, Deep Well Heads, Deep Well Cylinders—good pumps of every kind for every pumping purpose.

Combination Elbow and Check Valve

Practically eliminates priming. Order with American Pump, or can be supplied for pump you now have.



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Put your irrigation problems up to irrigation experts. We'll show you how to get the MOST WATER with the LEAST TROUBLE at the SMALLEST COST. Write for our catalogs of Gas Engines, Oil Engines, Motors, Direct-connected Motor-and-pump Outfits, or any of these in which you are interested. We'll answer your inquiry fully and carefully.

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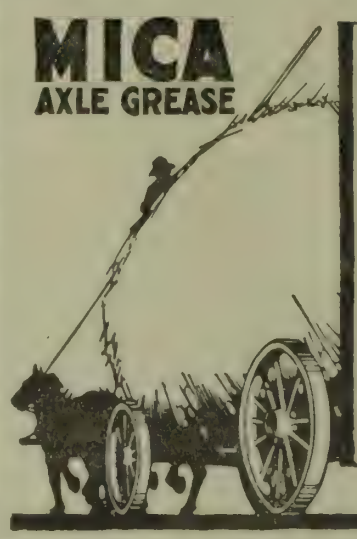

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Add Dollars To Dairying Profits!

If you are using the gravity or shallow-pan cream separator method, or are using an old or inferior separator, you are robbing yourself of profits. Stop this waste forever! Use a

VIKING CREAM SEPARATOR

The closest skimmer on record. Over ONE MILLION in use. Lower in price than other standard separators. Greater in capacity than any other separator of equal rating.

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Breaking all Records

Right now—when milk prices are breaking all records—is the time to make new high records in milk production. It is surprising how effectively this can be accomplished by raising the health standard of your dairy cows.

The most prevalent cow ailments—Abortion, Retained Afterbirth, Bunches, Lost Appetite, Scours, etc.—arise from an impaired condition of the genital and digestive organs. Kow-Kure has remarkable medicinal properties that act directly on these organs, producing regular, healthy action. The cow thrives on Nature's food, and a full milk flow naturally follows.

An occasional use of Kow-Kure will prevent disease and pay for its cost a hundredfold. The best dairymen keep it on hand constantly. Feed dealers and druggists sell Kow-Kure, in 60c. and $1.20 packages.

Send for free book
"THE HOME COW DOCTOR"
—very useful wherever there are cows.

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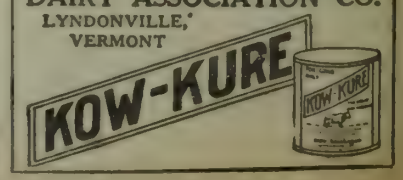

California Breeders have sold more than $350,000.00 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

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C. L. HUGHES Sales Manager, Sacramento, Cal.

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Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1890 as the complete milk substitute. Costs less than half as much as milk—prevents scours—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits

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Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore

TULARE SALE STARTS MANY NEW BREEDERS.

That the return of peace means the beginning of a new era of prosperity for purebred breeders was evident from the number of new herds of Holsteins that were started with stock purchased at the sale held at Tulare, November 20-21. It was strictly a farmers' sale. Very few breeders bid on the animals, and most of them went to dairymen in Tulare or adjoining counties.

In merit the offering was a grand one. Outstanding sires were represented by high record daughters, and the females were bred to the highest record sires ever represented in a sale in the West. Also there were some of the greatest young bulls ever offered in this State.

But the audience was slow to appreciate the merits of the stock and not until the afternoon of the second day was Col. Ben A. Rhoades able to get the people warmed up. The first day was made a holiday in Tulare and the townspeople turned out in large numbers, but they were spectators, not buyers.

It was honed that the new sales pavilion would be dedicated at this sale, but it has not even been started. The land is bought and paid for, and money is in the bank to build the pavilion, but on account of war conditions a permit could not be secured. It is expected, however, that work can proceed without further delay, and that the pavilion will be ready for the sale of Duroc-Jersey hogs to be held in January.

In all, 102 head of Holsteins were sold for a general average of $262, which was kept low on account of the number of calves offered. The top of the sale was Rose De Kol Cande, a wonderfully sweet heifer consigned by Bridgford Company. She has a butter record of 24.42 pounds at 26 months and is the highest record two-year-old ever offered on the Pacific Coast. She was bid in at $1,000 by W. J. Higdon, Tulare, who always has his eye open for the good ones.

F. M. Helm of Fresno secured the Yocum herd sire, King Ignaro Mead, for $675, and Fred Ross of Hanford paid $650 for a young Prince Gelsche Walker bull, out of a 29-pound dam, consigned by A. W. Morris & Sons.

In both numbers and total amount of purchases C. A. Miller of Ripon was the heaviest buyer. He secured 12 head for $2,985. H. C. Heitzig of Tulare took home 10 head, for which he paid $2,160. Alex. Whaley of Tulare, who consigned 6 head, bought an equal number, paying $2,335 for them.

Other prominent purchasers were H. L. Heard, McFarland; J. B. Monroe, Porterville; C. H. Hasker, San Francisco; A. E. Poston, Tulare; R. F. Guerin, Visalia; H. M. Hancock, Riverdale; C. R. Ogden, Kerman; Robt. T. Curtis & Son, Exeter; T. M. Calvert, McFarland, and W. D. Trewhitt, Hanford.

The consignment of 7 head by Bridgford Company was made up of outstanding individuals and averaged $535 per head. W. J. Higdon made an average of $373 on 11 head; A. W. Morris & Sons $305 on 16 head; Alex. Whaley $249 on 6 head; W. F. Mitchell $228 on 19 head; R. C. Sturgeon $215 on 2 head; Chas. Yocum $212 on 22 head; E. G. Wharton $155 on 13 head, and R. F. Guerin $143 on 5 head. C. L. Hughes consigned his entire herd of one yearling heifer, which brought $450.

Altogether the animals represented excellent value at the prices paid for them and they should make good money for their new owners.

C. E. Ellis, the Duroc breeder of Tulare, reports orders for 130 more sows than he can supply. He says that the demand for bred sows has never before been so good.

LIVESTOCK DIRECTORY.

Rate in this directory 3c. per word each issue.

SWINE.

Poland-Chinas.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength and quality, everything that goes to make the **Profit Producing Hog.** Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

BIG, SMOOTH POLAND-CHINAS—One April boar by Grand Champion Kings Big Bone Leader. One 12-month-old boar by Smooth Progress; April, May, June, and July gilts. Everything guaranteed. A. Buckland & Son, Rt. E, Box 126, Fresno.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

GATEWOOD'S BIG POLANDS—The offering for our February bred sow sale is comprised almost entirely of sows and gilts by eastern-bred sires and bred to King Big Bone Leader, the California champion. Chas. Gatewood & Son, Route G, Fresno.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

A FEW EXTRA GOOD POLAND-CHINA boars, ready for service. Prices reasonable. Write for description and breeding. E. Miner, Lodi, Cal.

ELDERSLY FARM—Big type Poland-Chinas with quality. Young stock from the breed's best big type sires for sale at reasonable prices. J. H. Ware, Live Oak, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N. K. Horan, Lockeford, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Berkshires.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
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In charge of Natomas Land sales.

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MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Pas Robles, California.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Chester Whites.

"BILLIKEN"—CHESTER WHITES — Time to breed for 1919 spring farrows. Do you need a boar that will produce those fine growthy pigs? Have only 10 yearling boars left. For December delivery have a nice lot of yearling gilts that are bred for March farrow. Weaned pigs, both sexes. C. B. Cunningham, Mills, Cal.

THREE BIG-BONED mature sows, bred for early March farrow. One growthy June boar pig. Several fine September farrow. S. F. Bonner, Gridley, Cal.

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DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

OPEN GILTS and young boars from Taxpayer 13th, Burks Good Enough, Kings Col. strains; one dandy boar sired by Kings Col. de Lux, out of Miss Good Enough II, by Burks Good Enough. Shipped on approval. F. W. Gardiner, Rt. 4, Box 735, Sacramento.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

ONE SERVICE BOAR—Leader 101, a son of Modesto Chief, one to be proud of at head of any herd. Price $200—papers sent with him. Mrs. G. C. Peters, Winton, Cal.

START RIGHT—Registered Duroc-Jersey weanlings. Three for $35; satisfaction guaranteed. Red Rock Ranch, Glen Ellen, Cal.

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

FOR SALE—Few Duroc Gilts, 5 months old, good ones. Recorded and crated, $25. C. E. Christley, Orland, Cal.

NO MORE BOARS sired by my 1917 State Champion, but can furnish a few sows. J. M. DeVilbiss, Patterson, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

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HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

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REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

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MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

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STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

EL DORADO HERD OF HOLSTEINS—Alex Whaley, Tulare, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

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YOUNG SONS of Prince Gelsche Walker 11th and out of A. R. O. dams, for sale. Write me for prices. J. M. Campbell, Escalon, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

Jerseys.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

FOR SALE—Young registered Jersey bull. Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

Guernseys.

WANTED—25 Guernsey cows, fresh or due to freshen shortly. Must be bought subject to tuberculin test. Write or phone M. H. Adamson, 1120 Trust & Savings Building, Los Angeles, California.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, 333 Vicente Road, Berkeley.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

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BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

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GEORGE CALLAHAN, Breeder of registered Herefords, Milton, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

WANTED—500 to 1500 head of sheep on shares on good coast range, with an abundance of feed. Address, Sheepman, care Rural Press.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders, importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep.

HORSES.

FOR SALE—Fine team bay mares; splendid workers; weight 1200-1300 lbs. Sunnybrook Ranch, Willits, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

FIFTEEN GRADE POLAND-CHINA SOWS, bred to Giant's Wonder. Also two 3-year boars, one Poland, Giants Wonder, one Berkshire, Iowna Royal 23rd. Penniman Stock Farm, Santa Clara.

WANTED—Brusher goats—Angora does. Give price F. O. B. cars and particulars. F. B. Plant, 178 Kempton Ave., Oakland.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE SMILE THAT SAYS, "SHOW ME!"

The average farmer smiles when he is told that he can make a good profit on a flock of hens. Moreoyer, his smile has that look which says as plain as words, "Show me." This is because he can figure out how many bushels of barley, or how many pounds, he can grow a hog from farrowing to slaughter for, and just about how many pounds of pork the hog will weigh when it is killed. He can perhaps tell to a trifle how much a pound he will get for the hog. All these things he has sized up from practical experience in handling. But chickens—well, they are supposed to pick up their living on the average farm, and there is no account kept of either cost or profit.

Now, unless it is a large farm and there is much waste in feeding other stock, the living the chickens pick up is too precarious to enable them to startle the farmer enough so that the profits do really "show him." But if he would take the trouble to feed and care for a flock of poultry the same way he does his other livestock, giving them clean quarters, rainproof and decently sheltered, then keep accounts, the farmer would find that, taken as a whole, the poultry is more profitable than the hogs. Poultry profits, unless in the case of a large shipment of turkeys, come in small sums, hence are not conspicuous, and as a people we deal in large items.

AMERICANS LEARNING THRIFT.

If this war does nothing else but teach the American people thrift, it will not have been in vain. We are getting down to details and learning that "every little makes a mickle." It is not to our credit that we have wasted all the parts of an animal that were a little trouble to clean and make worth while. Last week a lady wrote me from Idaho telling me her little girl had just sold a yearling steer for $38.50, and she added: "We had the head for ourselves. Just think of us eating the head!" If she had said the real reason we never did eat a steer's head before was because we were too lazy to clean it or too indifferent, it would have been true. It is the same with chickens. Years of plenty, millions of acres of land in this big country, the very vastness of everything, and the prolific manner in which nature responds to our efforts, has trained the American farmer's mind to neglect the smaller details for the larger matters.

MAKING PROFIT IN POULTRY IS A MATTER OF SMALL DETAILS.

Leaks are allowed, the profit soon goes, and no one is any the wiser. A farmer soon spots a brood sow that bears but one or two pigs at a litter and fattens her up for market, but because he does not take much interest in his poultry he never learns how to spot the hen that lays but a few eggs, and those in spring time. So he keeps feeding her with the few good hens. Perhaps he has fifty hens and the good layers and poor ones are fifty-fifty. He is feeding and housing fifty hens for the bare product of twenty-five. "Bare," because if two-thirds the feed served to the fifty were given to the twenty-five good ones he would get a far more generous response from them in the number of eggs.

PICKING OUT THE LAYERS.

It requires a little judgment to pick out the good from the poor layers, but it can be done by anyone who is observant enough to watch the hens. A good layer is always a good eater. A hen that does not eat well cannot possibly lay many eggs, because the eggs are the sole product of what she eats. It is simply the hen's ability to convert feed into eggs or meat that concerns the one who is choosing, and a hen that has large capacity is registered by the distance between her pelvic bones and the breast bone by placing the hand cross-wise. Note how many fingers' width there is between the bones. If there is room for five fingers, or the whole hand, we say this hen has big capacity, but the capacity is or may be for either eggs or meat, unless this capacity is followed by other signs.

MEASURING LAYING CAPACITY.

A hen with this large capacity and thick, blunted pelvic bones, and narrow between the bones, will use all the feed you serve to her in making a good table fowl. She will lay a few eggs in the spring, just enough to perpetuate her specie, and then stop.

BLACK TURKEYS WANTED.

To the Editor: I have been watching your paper for an advertisement of black turkeys. Have been raising bronze for a long time and want to cross them with the blacks. Can you tell me of anyone who raises them?—Mrs. R. E. W., Healdsburg.

[Black turkeys are not very much in evidence on this Coast. Perhaps some of our readers may know of some which they will tell us about, but I do not know of any breeder who raises them.]

Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

WHITE LEGHORN CHICKS—hatched in January and February are money-makers if stock is good and right care given. We are equipped to fill large as well as small orders—and to your satisfaction. Write for special letter on them, also circular describing Brown and Buff Leghorns, Rhode Island Reds, White and Barred Rocks, Black Minorcas. Price and quality will both please you. Booking orders now for 1919 season. Be forehanded. The Mission Hatchery, Box 17, Campbell, Cal.

BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks, Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

MODEL POULTRY FARM—White Leghorn specialists. Our fifteenth year. Baby chix and hatching eggs for sale. Also first-class breeding cockerels. Our prices are right. W. C. Smith, Prop., Corning, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

HIMALAYAN fur-bearing and eatable rabbits. Pedigreed, prize-winning stock for sale cheap. L. M. Brinstad, Rt. 3, Box 81, Healdsburg, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

FOR SALE—Golden Bronze turkeys. Big boned breeding toms of America's best strain. Eggs in season. M. M. Reiman, Planada, Cal.

WHITE CHINA GEESE, PUREBRED—For quick sale, $15 a trio. In city limits so must sell. Susan Swaysgood, Pomona, Cal.

Chickens Sick?—Use Germozone
Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library.
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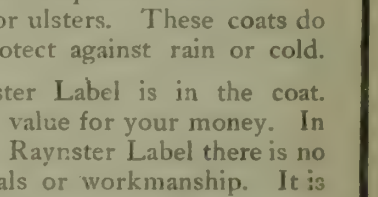

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THE HOME CIRCLE

"GOOD-NIGHT."

The strenuous day is past;
The march, the fight.
The bugle sounds at last.
Lights out. Good-night.

The sky is white with stars;
The tents gleam white.
Tired captain from the wars,
Sleep through the night.

Sleep till the shadows take
Their endless flight;
Until the morning break,
Good-night! Good-night!

THE RAINY-DAY VISITOR.

Probably Ernest was as scarlet as grandma's tomato pincushion by this time! Minnie watched the little rivers run down the garden path into the little lake at the gate. She sighed. Scarlet fever was the only thing Ernest had not divided with her in all the nine years of their twin lives.

Grandpa was asleep on the sofa, with a newspaper over his face; grandma dozed in her easy-chair by the fireside. It seemed as if they were always asleep. She thought of Mrs. Todd's baby, who was always taking a nap when she wanted to take him riding. "People seem to sleep a good deal at the top and bottom of their lives," she said to herself, and sighed again.

Grandma sat up with a start. "Why, child," she exclaimed, picking up her knitting, "I must have closed my eyes for a second. I was just wondering," she went on briskly, smiling down at the doleful little face, "if you wouldn't like to read the diary your mother wrote when she was ten years old."

Minnie with wide eyes followed grandma to the bookcase. A mother only ten years old made one feel solemn. After a few minutes' search the book was found. It was of faded red leather with "Diary" printed across the back in gold letters. There was a red pencil tied to it with a ribbon that had once been blue.

As soon as she began to read, Minnie forgot that it was raining, forgot that she was lonesome and homesick.

"Ester Brown and me are going to kepe a diry," it began. Minnie stopped reading. Could that possibly be Aunt Esther Brown, who lived at Waterlee, "our adopted aunt," as the twins called her?

"That is just who it was," said grandpa, waking up from his nap in time to hear Minnie's excited question.

She could hardly let the book go long enough to eat her dinner. At the very end of the book came the most exciting part. She was going slowly to make it last as long as she could when she read this:

"Ester Brown and me are too old to play with dolls eny more, so we are going to put our paper dolls all in the seekerit drawer of the old sekeritaree, and never look at them again. Cross youre harte and hope to di."

"Grandpa, grandma, grandpa!" cried Minnie, dancing up and down. "Is there a secret drawer in the secretary?"

"Yes, yes," said grandpa, rubbing his chin. "Let me see. Pull out the second drawer from the top. It's right in back of that."

Minnie did so, trembling with excitement. She found a little narrow drawer, but it was empty.

At the sight of her disappointed face grandpa came to help her. They hunted for half an hour, but no other secret drawer could they find. They were about to give it up, when grandma, who had joined in the search, said suddenly:

"Father, didn't she mean the 'old' secretary? You know we bought this one the spring after she was nine, and she and Esther had the other in the attic to play with."

Up into the dark, musty attic went the three. There in the dormer window stood the secretary, covered with dust and cobwebs. If Minnie had hard work to keep from screaming downstairs, she had harder work now, as at last grandpa opened the secret drawer and handed her a pile of what seemed to be dusty papers.

It was indeed the paper doll family put there so long ago by the two little girls.

When they were dusted, they appeared as good as new, and Minnie spent the rest of the day playing with them. She laughed and laughed at the queer style of the clothes they wore. At bedtime, when she gathered them up, she said to her grandmother, "It was just like having my little girl mother come to play with me."—Anna Louise Berray.

CONSERVATION WEEK—DEC. 1-7.

At a meeting held in San Francisco last Friday, which was addressed by Dr. R. L. Wilbur of the National Food Commission, he said that the United States would be called upon this year to furnish 20,000,000 tons of food for export to Europe. To do this the utmost caution must be used in order to make the supply stretch out so that all nations may participate in its use. Dr. Wilbur stated that it is planned to enlist the aid of churches, schools and civic and quasi-public organizations of all kinds to spread the gospel of conservation during the national week, December 1-7. Further than that, the administration heads will send out instructions to housewives, restaurants, big camps and to all persons in charge of food supplies, mapping out ways and means for the further conservation of essential foodstuffs.

Restrictions prohibiting the sale of powdered and bar sugar have been rescinded. All grocers are now permitted to sell powdered and bar sugar on the same allotment basis as that regulating sale of other sugar, which is three pounds per person per month until December 1, when the quota will be increased to four pounds per month.

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Most Brilliant Light Made

Brighter than the brightest electricity. More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

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No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. —will last a lifetime.

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Greatest Winter Underwear HANES Sold at Popular Prices
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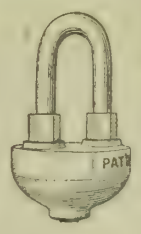

Peaceful Thanksgiving

The heart strings have been pulled to the breaking point, but the strain has been removed. We can breathe again and resume the normal, for "daddy boy" is coming home. So, mother girl, keep the home fire brighter than ever, the same old stove with a wonderful fire, but without the muss and fuss and expense. Let's turn it into a gas stove; a clean gas of your own making, in the simplest way, with "The Simplest Thing in the World"—a "Premier" Burner.

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Agricultural Summary

Grain Price Situation Murky.

Replying to the inquiry of one of our subscribers relative to the report current that the Government was buying barley at $2.38 cwt. for export to England, the Food Administration Grain Corporation sent the following answer, which illustrates the condition of confusion which beclouds the existing grain marketing situation:

Answering your letter of the 19th inst., the Grain Corporation is buying barley from time to time, as orders are received, for export, in parcels of 1000 tons or more, of certain grades only, delivered at Port Costa warehouses, inspected and certificated by the San Francisco Chamber of Commerce. The barley must be No. 1, weighing 44 pounds or more to the bushel. In order to fulfill these requirements a large percentage of the California crop of this year has to be cleaned and graded by the machines at Port Costa. Would advise that you offer your barley through regular channels to the grain trade, and if the grain is suitable any of the exporters will be glad to buy same, in making up parcels for sale to the Grain Corporation. As exporting firms are working on a competitive basis, business is done on a close margin, and producers will receive just as much for their barley through the grain trade as if we were buying direct, in which case it would be necessary for us to charge a selling commission for attending to the many details connected with the purchase of many small lots.

To Permit Dried Fruits Exportation.

The War Trade Board announces, after consultation with the United States Food Administration, that it will now consider applications for licenses to export canned vegetables and dried fruits, with the exception of dried apples, dried peaches, and dried prunes, to all countries, except the United Kingdom, France, Italy and Belgium proper and the Central Powers. Purchases of the above-named commodities for shipment to the United Kingdom, France, Italy and Belgium proper will continue, as heretofore, to be made by the Allied Provisions Export Commission, acting on behalf of the governments of these countries.

Thanksgiving Turkeys Fly High.

So high that only an aviating pocketbook could reach them. At 50c a pound "and up," the redolent odor of this aristocrat of the poultry yard was missing from the Thanksgiving table of many of provident habit rather than epicurean taste. The demand for the bird was good, nevertheless, and the market not oversupplied. It is generally believed that the scarcity of supply will continue over the Christmas holidays with the correspondingly good prices.

Hop Growers Smile Again.

The end of hostilities in Europe has meant a cash asset for California hop growers. A few months back hops were quoted at 10c on a draggy market. A dispatch from Santa Rosa dated November 25 notes a sale of 2190 bales of hops at 26c a pound, spot cash. This sudden change in market values has caused some hop growers to think they have uprooted their vines prematurely.

Who Gets the Money?

Late investigation at Chicago into the reasons back of the present unprecedented high cost of butter and eggs have brought forth assertions from produce dealers in Chicago that the farmer is receiving 80 per cent of the abnormal increase. The remainder was said to be divided among manufacturer, jobber, wholesaler and retailer.

To Stabilize Egg Quotations.

In order to prevent baseless fluctuations and advances on all grades of fresh eggs, the San Francisco Dairy Produce Exchange, at the suggestion of the Food Administration, is considering making the market quotations once weekly only, instead of daily.

Breeding Ewes on the Toboggan.

The market for breeding ewes has undergone a decided drop in the last year, notably in the Pacific Northwest. They are now quoted at $15 to $16 a head, as against $18 and $19 at that time.

THE MARKET REPORTS

Where commodities are consigned on a commission basis, the only price obtainable is the San Francisco price, from which customary charges are deducted to ascertain actual price paid to producer. Lines of commodities sold on exchanges, as butter, eggs, cheese, grain, etc., are priced according to exchange figures, which are not the prices paid to grower. From these figures must be deducted the legal percentages permitted to be taken by wholesalers before remitting balance of sale price to shippers. Schedules of discounts governing these transactions may be obtained from the offices of the Food Administration or of various exchanges.

SAN FRANCISCO

San Francisco, November 27, 1918.

WHEAT.

Per bushel—

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 2	2.09

Recleaned for seed, per ctl.—

California Bluestem	$4.15@4.25
Early Baart	4.15@4.25

BARLEY.

The growers are holding their stock firmly and choice feed stiffened up a little this week. One reason for this condition is the fact that the bulk of the stock on hand is not regarded as choice and this is causing the farmers to hold the latter more firmly.

Choice feed, per ctl	$2.12½@2.22½

OATS.

Oats are inactive and unchanged, although there has been some inquiry for seed.

Red feed, per ctl	$2.30@2.50
Red for seed	2.80@3.00
Black for seed	2.80@3.00
Recleaned Red or Black for seed	3.35@3.50

CORN.

The corn market continues dull, although the brokers and dealers are now quoting choice white Egyptian at $2.75 to $3 and milo at $2.70 to $2.75. The removal of restrictions regarding the feeding of wheat to poultry has had a depressing effect on corn. This, added to the changes regarding substitutes for wheat flour, will, it is believed, keep the price of corn at a much lower level than last year's crop.

Egyptian, choice	$2.75@3.00
Milo	2.70@2.75

HAY.

Receipts for the past week were 731 tons, compared with 644 the previous week. These are small receipts for the time of year and normally would make a very strong market, but in the present condition of trade the arrivals are ample to take care of the demands. Late arrivals have been less damaged by the rains. Alfalfa has been more or less stained. While this is excellent for feed, its appearance is not such as to allow its being sold without concession in price. The purchase by the Government of several thousand tons of hay in this market has been of considerable benefit to the holders of hay in interior districts.

Wheat No. 1	$26.00@28.00
do, No. 2	20.00@24.00
Choice tame oat	25.00@27.50
Wild oat	20.00@22.00
Barley	20.00@22.00
Alfalfa	18.00@22.00
Stock	18.00@21.00
Barley straw	.50@ .80

FEEDSTUFFS.

There was no change in the feedstuffs market this week. The early rains are reported to have brought up the grass in many sections, which may have a later effect upon the general market.

New alfalfa meal, per ton	$35.00@36.00
Coconut cake or meal	Nominal
Cracked corn	$86.00@88.00
Oilcake	77.00@78.00
Rolled barley	45.00@47.00
Rolled oats	55.00@57.00

POTATOES, ONIONS, ETC.

Potatoes are reported without demand. Prices on the wharf sagged and there is no prospect of an immediate advance. Fancy onions were strong and in good demand. Garlic is strong and some fancy is said to have sold at 35c, but the bulk is selling at 20c to 25c. The holiday demand for vegetables has been good, but hardly up to the expectations of the commission men.

String beans	10@12c
Lima beans	7@8c
Carrots, per sack	85c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
Pumpkins	75@90c
Cucumbers, hothouse, box of 30	$2.50@3.00
Eggplant, per box	1.25@1.50
Livingston	None
Lettuce, per doz	25@40c
Celery, bunch	20@25c
do, crate	$3.00
Tomatoes, per crate—	
Bay	$1.50@2.25
Potatoes—	
Garnet, Chile, on street	None
Fancy whites	$1.75@2.00
Choice	1.40@1.65
Sweets, per sack	2.90@3.00
Onions—	
River Reds	None
Yellows	90c@$1.00
Australian Browns	90c@$1.00
Fancy	$1.15@1.30
Garlic, new	20@25c
Green corn, Alameda, per sack	Nominal
Okra, per box	None

BEANS.

The Government has been in the market this week for beans and these sales have had a strengthening effect on the whole market. Several descriptions were advanced somewhat in price, but unless purchasing for shipment East begins in the near future it is expected that prices will quickly slump to the former level and that they may go even lower.

Bayos, per ctl	$7.25@7.50
Blackeyes, new crop	5.50@5.75
Cranberry beans	8.50@8.75
Limas (south, recleaned), new crop	$10.50
Pinks	$6.75@7.00
Mexican Reds	$6.75@7.00
Tepary beans	5.00@5.50
Garbanzos	8.00@8.75
Large whites, new crop	8.20@8.30
Small whites, new crop	9.40@9.60

POULTRY.

The turkey market has been very strong this week, as was expected. However, not so many turkeys arrived as were looked for and prices were somewhat higher than expected. In the meantime 12 carloads of general poultry arrived from the East this week and depressed the market for hens, roosters and broilers.

Turkeys, live, young spring, lb	36@40c
do, old	36@38c
do, dressed, old	45@48c
Broilers, 1½ to 2 lbs	39@42c
do, 1¼ lbs	43c
do, ¾ to 1¼ lbs	45c
Fryers	35c
Hens, extra, per lb., colored	33c
do, Leghorn	33c
Smooth young roosters, per lb. (3 lbs. and over)	33c
Old roosters, colored, per lb	24c
Geese, young, per lb	28@30c
do, old, per lb	28c
Squabs, per lb	55@60c
Ducks	30@32c
do, old	27@30c
Belgian hares	22@23c
Jack rabbits	$3.25@3.75

BUTTER.

Butter continues strong, with an active trade. Receipts are about normal. The price was advanced a cent on Monday.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	61	—	61	62	62	62
Prime firsts	59	59	59	Nom.	..	..
Firsts	58	58	58	Nom.	..	..

EGGS.

After the slump of last week, eggs resumed their upward tendency and again passed the 80c mark, closing at 81c. This strength on the last day before the holiday was not expected, as eggs have receded in price on that day for several years past. Some of the San Francisco papers last week announced that the exchange had decided to confine the call of eggs to Monday of each week, as is now the case with butter. The matter was informally discussed by some of the members, but as yet no action has been taken. It is stated also that there is no official communication from the Food Administration regarding the matter, as the local dailies claimed.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	76½	—	80½	79½	80½	81
Extra lsts			Nominal			
Firsts			Nominal			
Extra pullets	62½	—	63½	63	64	65½

CHEESE.

Cheese is quiet, with small demand. Changes in prices are but slight this week.

California Cheddar, flats, fancy	32c
Fancy California flats, per lb	32½c
First California flats, per lb	Nominal
California Y. A. fancy	Nominal
Oregon triplets, fancy	34½c
Oregon Y. A. fancy	Nominal
Monterey cheese	22@25c

FRESH FRUITS.

Apples have been arriving in good volume this week and prices have been maintained firm and unchanged. There has been a good demand throughout the week. There have been but few berries in the market this week and these were sold by the drawer. There has been a fair demand for other fruit.

Peaches, 4-box crate	None
Figs, black, per box	None
do, double layer	None
do, Single Row Whites	None
Strawberries, per drawer	90c
Blackberries, per chest	None
Raspberries, per drawer	50@60c
Plums	None
Cantaloupes, flats	None
do, ponies	None
do, standard	None
Watermelons, per lb.	None
Pears, Bartlett, per box	None
Winter pears	$2.00@3.00

CITRUS FRUIT.

The holiday demand for citrus fruits, especially oranges, has not been sufficient to keep navels or mandarins at last week's high standard. Lower prices are looked for next week. Lemons and grapefruit are unchanged.

Oranges	Nominal
do, navels	$6.00@8.00
Mandarins	2.00@2.25
Lemons, fancy	5.50@6.50
do, choice	5.00@5.50
do, standard	4.00@4.50
Grapefruit, new	$2.00@3.00

HONEY.

Honey dealers say that the removal of some of the restrictions regarding the sale of sugar and the probable further extension of this action has had the effect of making honey very much cheaper. Bakers and confectioners are no longer buying honey and many of them are offering some of the stock that they had already bought. This has caused honey to sell at 3c or 4c cheaper than a week ago.

DRIED FRUITS.

Dried fruits continue firm at unchanged prices. Apples are somewhat slow, but there is a good movement in all others.

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop, at mill	7.00

LOS ANGELES

Los Angeles, November 26, 1918

BUTTER.

The market is higher this week. The receipts were much better, 336,604 pounds, against 251,400 pounds the same week last year. This increase in the fresh supply was without influence upon price making, as the cold storage stocks have been pretty much exhausted and the Eastern markets are all higher. Chicago advanced 2½c on extras up to Monday and New York 3c. There was taken into cold storage during the week 261 pounds, while the same week last year there was taken out of cold storage 54,918 pounds. The cold storage holdings now are 136,009 pounds, against 182,167 pounds this time last year. Under this showing and a good markets, extras sold on 'change Monday at 60c, an advance of 1½c, and what was offered was soon disposed of.

We quote—

California fresh extra creamery	60c
California fresh prime first	58c
California fresh first	57c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	58½	58½	58½	58½	58½	60
1917—						
Extra	41	41½	42	43	42	42

EGGS.

There was a firmer market had the past week and what few fresh ranch eggs came in were gobbled up as soon as offered. It was pre-Thanksgiving demand and brought on only by scarcity for the moment. The receipts for the week were 1905 cases, against 2345 cases the same week last year. To make up this shortage in the supply of fresh eggs there were withdrawn from cold storage during the week 4580 cases, against 249 cases this time last year. The cold storage holdings now are 33,054 cases, against 23,281 cases this time last year. The advance in San Francisco, Chicago and New York had a sympathetic influence upon the market here.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	72	72	72	72	72	73
Case count	60	63	63	63	63	69
Pullets	58	58	58	58	58	60
1917—						
Extra	55	55	55	54½	54	54
Case count	51	50	50	50	51	51
Pullets	48	48	48	48	48	48

VEGETABLES.

Offerings were light of everything save winter vegetables, which were in good supply, but most of them were slow of sale. Receipts of potatoes were heavier and the market was slow and lower. Onions, on the other hand, were scarcer, higher, and in good demand. White Globe were especially scarce and firm at the higher range of prices. Lima beans were steady but dull; so were string beans. Peppers are steady and selling fairly. Cabbage is dull and lower. No. 1 tomatoes are in fair demand. Cauliflower is coming in more freely; demand fair. Celery is steady at last week's prices.

We quote from growers:

Bell peppers, per lb	5@6c
Chile peppers, per lb	4½@5c
String beans, per lb	7@8c

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, November 25, 1918.

On account of considerably lighter offerings during the past week, the highest prices for the season were obtained on good stock of both pears and grapes, but a decided slump was noticeable and a falling off in the demand on ripe fruit.

The market on storage Emperors did not react over the week previous, the trade still being skeptical as to the keeping quality.

Lugs of Emperors and Malagas seem to have first call and the demand was spirited throughout the week for this style of package; in fact, Cleveland paid the highest price of the season—$4,600 for one car of mixed varieties.

Grape shipments have discontinued for the season, and it is estimated that there still remain but five cars of pears, which will wind up the season, which was the heaviest in the history of the fruit industry and unquestionably, all things being considered, one of the most profitable.

Averages for the week:

Chicago: Grapes—Emperors, crates $2.63; Cornichon, crates $2.93; Malagas, crates $2.79; Tokays, lugs $2.60, crates $2.17; Malagas, lugs $3.65.

New York: Grapes—Emperors, lugs $1.67, crates $1.87, kegs $4.63, drums $4.07; Malagas, crates $1.83, lugs $1.93; Tokays, $1.33; Cornichon, $2.03; Alicante Bouchet, $2.27. Pears—Winter Nelis, $3.66; E. Buerre, $3.55; Glout Morceau, $4.30.

Boston: Grapes—Emperors, drums $3.52, crates $2.19; Malagas, $2.25; Tokays, $1.56; Cornichon, $1.90. Pears—Winter Nelis, $3.05; Glout Morceau, $3.15.

Total shipments from November 14 to 20, inclusive: 10 cars pears, 81 cars grapes. Total shipments to date, 1918: 28,975. Total shipments to date, 1917: 24,139 cars.

Livestock Shipments Heavy; Must Be Heavier

Contrary to the general impression, receipts of livestock at stockyards have increased during the past year. For the ten months' period ending October 30, 1918, 44 markets show an increase of 8.9 per cent in cattle, 14 per cent in hogs, and 7.2 per cent in sheep compared with the corresponding period of 1917, as will be seen from the following table:

	1918 CATTLE	Increase or Decrease	1918 HOGS	Increase or Decrease	1918 SHEEP	Increase or Decrease
September	2,638,806	+18.19	2,219,768	+44.4	2,238,589	+21.55
October	2,564,686	—11.01	3,190,927	+25.5	2,791,325	+ 3.29
Ten-month period	19,027,934	+ 8.91	33,004,456	+14.0	15,770,012	+ 7.22

These figures, however, must not be taken to indicate that there is an over-abundance of livestock, or even an adequate supply. Peace demands for meat and fats will be so much greater than war demands that, as Secretary of Agriculture Houston puts it, "We should not fail to adopt every feasible means of economically increasing our livestock products."

Lima beans	5@6c
Potatoes, northern, per cwt.	$2.10@2.35
do, Idaho Russets, per cwt.	2.00@2.15
Sweet potatoes, per cwt.	2.00@2.25
Garlic, per lb.	20c
Onions—	
Australian Brown, per cwt.	$1.50@1.60
White Globe, per cwt.	3.00@3.25
Cabbage, per 100 lbs.	.75@ .90
Celery, crate	3.50@4.00
Tomatoes, No. 1, lug	80@90c
do, No. 2, lug	25@35c
Cauliflower, standard crate	$1.50@1.75

POULTRY.

There was more life to the market the past week than for some time. Dealers took all offerings at good prices in preparation for the Thanksgiving trade. In some instances turkeys brought a little more money, but the premium will be off after this week. Receipts were light.

The following prices were agreed upon last Friday, November 22, and hold good until the coming Friday:

Broilers, 1@1¼ lbs.	37c
Broilers, 1½@1¾ lbs.	41c
Fryers, 2@3 lbs.	33c
Roasters (soft bone), 3 lbs. and up	30c
Stags and old roosters, per lb.	20c
Hens	28@32c
Tom turkeys	31@34c
Ducks	22@28c
Geese	28c

FRUITS.

Little is now coming in from the country save apples, which are meeting with a good demand. There are no more figs or grapes, and what pears are on sale are out of cold storage. Some Japanese persimmons and pomegranates are selling fairly well.

We quote from growers:

Apples—	
King Davids, 4-tier	$2.75@3.00
Black Twigs, 4-tier	2.75
Baldwins, 4-tier	2.00@2.25
Red Pearmains, 4-tier	1.75
White Pearmains, 4-tier	2.00
Rhode Island Greenings, 4-tier	1.50
Yellow Newtown Pippins, 4-tier	1.75
Bellefleur, 4-tier	$1.75@1.85
do, 3½-tier	1.75@1.90
Gravenstein, 4-tier	2.00
Japanese persimmons, per lb.	5@8c

BEANS.

There is no shipping demand and the approach of the holidays caused the home trade to hold back.

We quote from growers—

Limas, per cwt.	$10.00
Large white, per cwt.	9.00
Small white, per cwt.	8.00
Pink, per cwt.	6.50
Tepary, per cwt.	4.50
Blackeyes, per cwt.	5.00

WALNUTS.

The trade is pretty well stocked up and the market is hardly so firm. The association is finishing its deliveries, shipments running only about three to four cars a day. What few nuts to be had from independent growers sold about 1c lower. Culls are the only walnuts to be had now in any quantity and they are bringing 14@15c a pound.

We quote f. o. b. California points:

	1918	1917
Fancy budded	33c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

HAY.

Prices were advanced $1 a ton all 'round. The rain checked shipments, which influenced higher prices. There is a feeling that present prices will not last.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$24.00@25.00
Oat hay, per ton	26.00@28.00
Alfalfa, northern, per ton	21.00@22.00
Alfalfa, local, per ton	22.00@24.00
Straw, per ton	9.00@10.00

COTTON.

After a weak opening of our review week, the market took on renewed strength upon the announcement that all restrictions on exports had been removed and the early weakness was recovered. The ginning report showed that there had been ginned so far only 8,681,005 bales. This is considered high and added to the firmness of the market. On Saturday, December cotton in New York sold up to 28.50c and January to 28.35c. In New Orleans December closed at 27.58c and January at 27c. Monday opened the current week with good buying both in New York and New Orleans. December closed in New York at 28.45c and January at 27.65c. In New Orleans December closed at 27.95c and January at 27.15c.

Special Livestock Market Report

San Francisco, November 27, 1918.

CATTLE—The cattle market is strong and advancing, a situation due to the abnormal scarcity of good cattle. This advance has been anticipated for some time. California has been pretty well drained of good beef cattle, and Oregon is offering but few. At the present time slaughterers are looking to Nevada and Utah for their supplies. This week's quotations are:

Grass Steers—	
No. 1, weighing 950@1050 lbs.	12½@12¾c
do, weighing 1050@1200 lbs.	12¾@13c
do, second quality	11@11½c
do, thin	9½@10c
Cows and heifers—	
No. 1	9@9½c
do, second quality	8@8½c
do, common to thin	6@6½c
Bulls and stags—	
Good	6½@7½c
Fair	5½@6½c
Thin	4½@5½c
Calves—	
Lightweight	11@11½c
Medium	10½@10¾c
Heavy	8½@9c

SHEEP—The sheep and lamb market is steady. Better pasturage has enabled buyers to get more easily what they need to supply the consumptive demand, which continues comparatively limited.

Lambs—	
Yearling	12@12½c
Milk	14@14½c
Sheep—	
Wethers	11½@12c
Ewes	9@9¼c

HOGS—Hogs are coming in in good supply and of very good quality, but the packers are not able to handle all that are offered. The agreement entered into between the San Francisco and Los Angeles packers and the Food Administration, whereby packers agree to buy hogs between now and January 1, 1919, on the basis of a minimum drove cost of 16½c for No. 1 hogs weighing between 150 and 300 pounds, will, it is believed, serve to stabilize the hog market and furnish growers with a fixed basis to work on.

Hard, grain-fed, 100@150	16c
do, do, 150@300	16½c
do, do, 300@400	15¾c

Los Angeles, November 26, 1918.

CATTLE—A steady and firm market was had the past week for all choice steers. The few fat steers offered brought full quotations. The market for thin and medium cattle is still dull and weak.

Per cwt. f. o. b. Los Angeles—

Beef steers, 1000 to 1100 lbs.	$9.00@12.00
Prime cows and heifers	8.00@ 9.00
Good cows and heifers	7.00@ 7.50
Canners, per cwt.	5.50@ 6.00
Calves, per cwt.	8.50@10.00

HOGS—A very good run of good hogs was had the past week. Cooler weather improved the demand for fresh pork and encouraged active buying. Last week's prices were fairly sustained throughout the week.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 275@300 lbs.	$14.00@15.00
Mixed, 225@275 lbs.	15.00@15.50
Light, 175@220 lbs.	15.00@16.00

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—A better quality of sheep and lambs was had this past week. Demand fairly active for all good fat stuff and prices steady.

Per cwt. f. o. b. Los Angeles—

Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	15.00@16.00

Portland, November 25, 1918.

CATTLE—Weak; receipts, 1780. Steers, prime, $12.25@12.75; good to choice, $11.00@12.00; medium to good, $10.00@11.00; fair to medium, $8.50@9.50; common to fair, $6.00@8.00; cows and heifers, choice, $8.00@8.50; medium to good, $6.50@7.50; fair to medium, $5.50@6.50; canners, $3.00@4.00; bulls, $5.00@7.50; calves, $9.00@12.00; stockers and feeders, $6.00@8.00.

HOGS—Weak; receipts, 4280. Prime mixed, $17.00@17.15; medium mixed, $16.75@17.00; rough heavies, $15.00@16.00; pigs, $14.00@15.00; bulk, $17.00.

SHEEP—Steady; receipts, 1660. Prime lambs, $11.50@12.75; fair to medium, $8.50@10.50; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.50@8.50.

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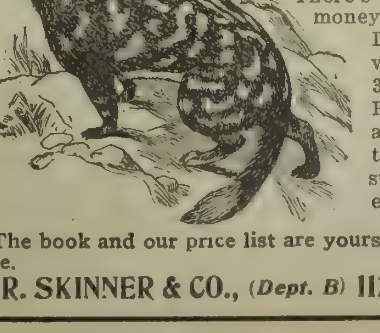

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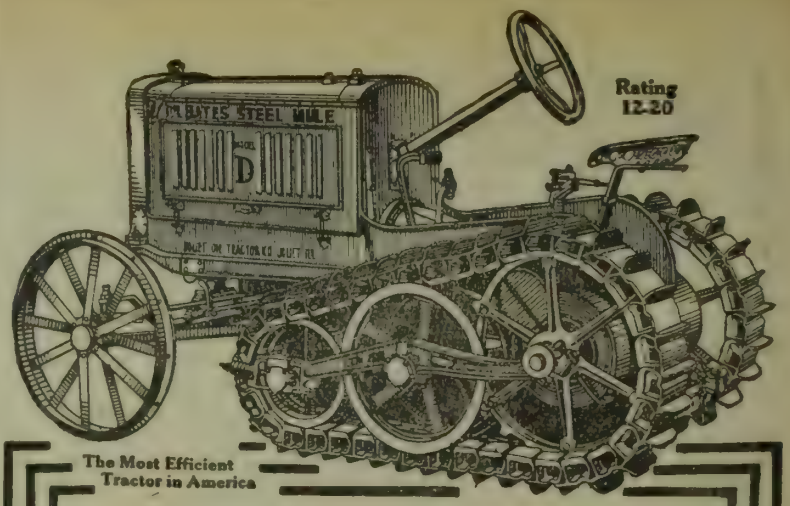

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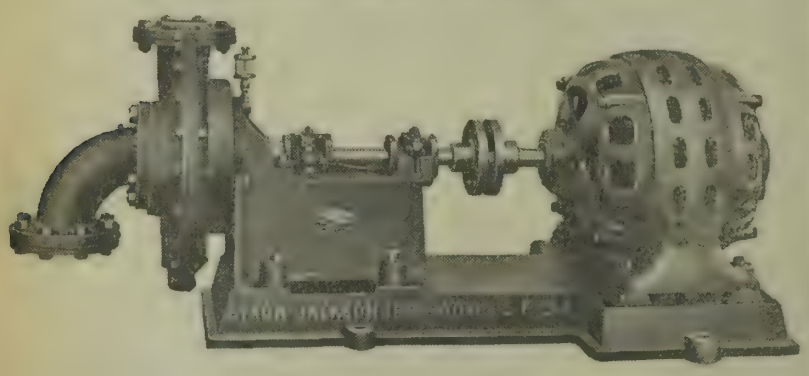

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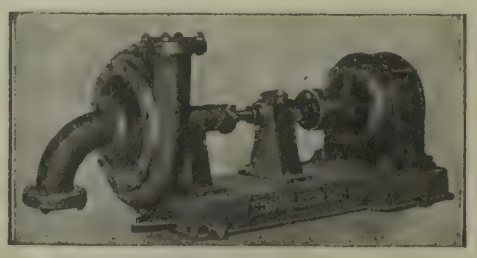

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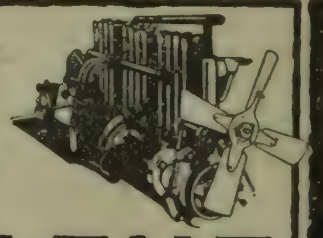

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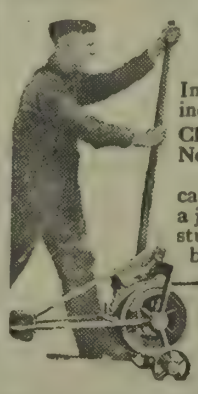

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Pacific Rural Press
525 Market Street San Francisco

Vol. XCVI—No. 23

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO — DECEMBER 7, 1918 — LOS ANGELES

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What Co-operation Has Done for Prunes and Apricots

Written for Pacific Rural Press by John J. Fox

THE DRIED PRUNE (and apricot) industry, which has grown in forty years from very small beginnings to a giant industry, found itself, after many discouraging vicissitudes, when the leading growers in each prominent county gave up their time and united energies to form an organization on the co-operative plan, whereby they might have some voice in the marketing of their own products. This State-wide organization followed many former minor attempts of prune districts, some of which were so small that they amounted to pools only, but none were of sufficient magnitude to make an appreciable impression on the market.

> "Competition is the soul of trade." This was a true saying when selling was not undermined by intrigue to restrain competition and distribute the market to the few large buyers. Competition is now transferred to the production of quality in our orchards.
>
> A growers' organization is democratic, in that its aim is to benefit each one of its members and to serve the public with the best that can be produced; and to guarantee its quality and price, the latter within stated times, thereby freeing the market of speculation and consequent fluctuation at growers' expense.

"It Is Naught," Saith the Buyer.

Now, it takes money to conduct any business, and money was one thing that was difficult to get under earlier trials. Growers were entirely ignorant of the market and distribution of their own wares, of foreign and home demands, of foreign crops and of competing commodities. So in 1916 a Prune and Apricot Growers' Information Bureau was established—members paying a small fee for working expenses—that they might be enlightened as to the above and general crop conditions and thus be in a position to market their wares intelligently. Up to this time growers had been compelled to get this information—more or less—from the buyer. Well, no live man is in business for his health, least of all such strenuous work as fruit buying.

Leading Up to a Selling Organization.

The growers after one season found the information bureau so useful that they asked themselves the question: "Why should we hand over our affairs to a few private buyers who appear to have apportioned the territory amongst them for the purpose of controlling our output of fruit, and who are able thus to manipulate the market for their own benefit? We can do as well and divide the profits of processing and marketing amongst ourselves instead of handing them over to a disinterested party. We can, if enough growers unite, do this business ourselves. We can then standardize our fruit and guarantee its quality. With control of the market we can guarantee prices and do away with unholy speculation and reduce relative cost to the consumer. We ourselves can do business through the brokers, jobbers and wholesalers that form a part of the great distributing system that has grown up. And, more than that, we can, by co-operation, advertise our wares under a brand that has the whole industry back of it as a guarantee and thus extend our markets into unserved spheres to keep pace with our rapidly increasing product."

Let's Do It Ourselves.

Then why keep on selling to the independent packer, whose only reason for being in the business is to rake off the difference between what he can squeeze the grower down to and what he can work the market to pay? He never advertises and if we are to depend on him to open markets for our gathering tonnage we are truly in a parlous state! Also, as it takes less capital to handle cheaper fruit, the disinterested marketer sees that prices are made accordingly.

This Growers' Information Bureau, established at San Jose, was the beginning by which the growers learned that by co-operation and combination in a selling agency they could stabilize and increase their profits and at the same time reduce the relative cost of their fruit to the consumer. They looked into the modus operandi of the Raisin Growers' Association and received aid and encouragement from that young giant. They found that only through control of a large majority of the output of prunes and apricots would they be able to carry out their desire of establishing a growers' selling organization. After a good deal of spade work, a mass meeting of growers was called at San Jose and, to make a long story short, the Prune and Apricot Growers' Association, Inc., was formed and legally established on May 1, 1917.

The First Season of the Association's Activities

a large proportion of the dried prune and apricot production of the State was marketed in the face of most adverse conditions. At the opening of the European war the burthen of the packers' plaint was "export trade was shut off," and later that transportation could not be provided, so that a large proportion formerly exported would be left on hand for home consumption, thus weakening the prices. Yet the seasons of 1914, 1915 and 1916 have shown us that export markets were maintained and fair prices ruled. But in 1917, after the United States entered the war, an embargo was placed on all shipments to neutral and Scandinavian countries, all shipping space was commandeered for the allies and we were practically excluded from export trade. Buyers would not buy and sellers could not sell.

The handsome offices and headquarters of the California Prune and Apricot Growers' Association at San Jose; built and owned by the growers—a monument of co-operative achievement and progress.

The First Year's Business.

For six years prior to the season of 1917 more than 70 per cent of the dried apricots were shipped abroad. Of about 190,000,000 pounds produced in the six years previous to 1917, some 115,000,000 pounds were exported, leaving an annual consumption in the domestic market of from 10,000,000 to 12,000,000 pounds. In 1917 it became necessary to market over thirty million pounds of dried apricots at home, yet this great crop was marketed at prices not materially lower than those of recent years.

In the season of 1917 the production of prunes in California was over two hundred million pounds, probably the largest crop ever harvested in the State—possibly equalled in tonnage but not in quality by the crop of 1912. This large crop has been marketed by the association with a net average result to the grower of slightly over a 6c basis on the better grades.

Effects on the Market.

The most important effect of the co-operative marketing under the new association was the stabilizing of prices under guarantee while still giv-

(Continued on page 622.)

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EDITORIALS

EQUILIBRIUM.

THE world-pendulum swinging between autocracy and anarchy seems to be tracing shorter arcs this week and discloses a very promising disposition to rest ere long upon the central point of democracy. The kaiser can be pulled out of the cottage-cheese whenever he is wanted and his heir is fastened up in a parsonage on a sea-girt island where he can meditate on his immoralities and general worthlessness. The better-minded Germans have frustrated a plot to restore the militarist regime and seem really to be in earnest to fix the blame and properly punish the crime of causing the war. The allies have established their occupation of Germany for twenty miles beyond the Rhine and are maintaining beneficent supervision in the interests of law and order. The great world-feeders, Mr. Hoover and his associates, in allied countries are writing menu cards for all the hungry Europeans they can reach, and food cargoes are already arriving from this country. There is, of course, deplorable political conflict ahead in all the liberated countries east of the Rhine and some of the liberated clans seem to be persecuting the weaker groups which they enclose in campaigns of frightfulness which they have themselves experienced. All this is grievous and will be suppressed and punished so far as the very crackers on the whips which the allies are wielding can reach—but revolutions are hard to regulate. It is the ultimate outcome in which beneficence is to be hoped for and that is increasingly promising.

EQUALITARIAN.

AS WE write on Tuesday, President Wilson goes afloat on a good old Yankee boat, topped by a powerful wireless outfit and under-run by a private cable so that if it becomes necessary to appoint a couple of postmasters or talk with Sammy Gompers about the threatened Mooney strike it can be easily done without stopping his world-job. No one can doubt the efficiency of our chief magistrate: he rates about 101 per cent—all there is and then some! It is to be hoped that the captain of the ship has a good tank of oil along to keep the sea quiet, for our President surely has no time to overhang the rail. The President gave Congress a good talking to before he sailed and he set forth grandly American plans and purposes in eloquence which will surely ring down the ages. But we must express the wish that he had been a little less self-conscious and had given the American people a little more credit for the principles of permanent peace which all the world's pigeons seem disposed to perch upon. If we remember correctly, personal humility and self-forgetfulness have clothed our great statesmen of the past. We are perhaps too near the event to see clearly, but we have a notion that if the President had called to sail with him as American representatives our two ex-Presidents, Roosevelt and Taft, he could at least have tripled the scenic impressiveness, in European sight and thought, of the world's new sunrise in the West! Not for half a century, if ever, has the United States had three men of presidential grade in active life at one time. What a chance we have lost to show the Europeans that in the midst of their throne-wrecks and skull-cracked potentates there is a land where men may come and men may go, with one love of country and devotion to humanity to inspire their thoughts and impel them to public service. If the "George Washington" could have sailed for Europe in this supreme official way with three great Americans, wide apart in politics but one in patriotism, on the hurricane deck, the wireless above them sizzling with godspeeds from Cape Cod and Norfolk, and the "kitchen cabinet" below stairs helping the cook with the garnishment of a truly American bird for the Paris thanksgiving, would not the world have gained new realization that Americans are broadly equalitarian in their mutuality of purpose and devotion?

EQUATIONISM.

BUT there are many things which the President set forth in his address to the Congress on Monday which the country will enthusiastically approve and some things which California will echo as a world policy and of which, as anticipated in her own civic experience, she is justly proud. California is an equationist of the equality of the sexes in public affairs because her theoretical belief therein, which actuated her adoption of the policy some years ago, has now become a durable conviction based upon full proof of wisdom and practicability. Therefore, we quote with great satisfaction this declaration of President Wilson:

> And what shall we say of the women—of their instant intelligence quickening every task that they touched; their capacity for organization and co-operation, which gave their action discipline and enhanced the effectiveness of everything they attempted; their aptitude at tasks to which they had never before set their hands; their utter self-sacrifice alike in what they did and in what they gave? Their contribution to the great result is beyond appraisal. They have added a new luster to the annals of American womanhood.
>
> The least tribute we can pay them is to make them the equals of men in political rights, as they have proved themselves equals in every field of practical work they have entered, whether for themselves or for their country. These great days of completed achievement would be sadly marred were we to omit that act of justice.

When we remember how women have almost on their knees for decades besought Presidents and Congresses for recognition of their rights, this noble declaration will be appreciated. There is, however, chagrin that the United States as a whole has to follow other nations in such justice to women when it should have led them to it.

EQUANIMITY.

THERE is another grand thing about President Wilson's farewell address to the Congress and that is the evenness of temper and composure of spirit which it manifests. He is unaffected by the dreams of visionary reconstructionists who wish to regulate everything even to the "infiltration" of soldiers who have finished their job abroad—which has recently given us some concern. Those who believe in regulating everything should consider these paragraphs:

> I have heard much counsel as to the plans that should be formed and personally conducted to a happy consummation, but from no quarter have I seen any general scheme of "reconstruction" emerge which I thought it likely we could force our spirited business men and self-reliant laborers to accept with due pliancy and obedience.
>
> While the war lasted we set up many agencies by which to direct the industries of the country in the services it was necessary for them to render. * * * But the moment we knew the armistice to have been signed we took the harness off. Raw materials upon which the Government had kept its hand for fear there should not be enough for the industries that supplied the armies have been released and put into the general market again. * * * It is surprising how fast the process of return to a peace footing has moved in the three weeks since the fighting stopped. It promises to outrun any inquiry that may be instituted and any aid that may be offered. It will not be easy to direct it any better than it will direct itself. The American business man is of quick initiative.

President Wilson is evidently appreciative of individual initiative and the services it has rendered in the development of this country and does not propose to displace it with paternalism, and that may be a good thing to remember.

EQUALIZATION.

THERE is, however, one thing which seems to have escaped his mind at the moment and that is the declaration of a year ago that "food will win the war" and the exhortation to farmers to produce it in unlimited quantities. If food did win the war, he forgot to mention the fact. He did, however, say this, in connection with removing restrictions from manufacture and trade:

> It has not been possible to remove so rapidly or so quickly the control of foodstuffs and of shipping, because the world has still to be fed from our granaries and the ships are still needed to send supplies to our men overseas and to bring the men back as fast as the disturbed conditions on the other side of the water permit; but even there restraints are being relaxed as much as possible and more and more as the weeks go by.

It would have been very pertinent to have stated what farmers are expected to do in view of the fact that "the world has still to be fed from our granaries." Perhaps Mr. Hoover has not yet had time enough to measure up that matter and we may get an exposition of it later. It should, however, be remembered that all possible speed in the matter of buying either by the Government or releasing private buyers from their holding restrictions should be realized. It may be thought that as most of the farmers' holdings are edible he cannot starve while holding them—but the farmer cannot eat his tax bills: they are more apt to eat him, and they are coming on him with sharper teeth than ever, as a detailed statement on another page of this issue indicates and as the internal revenue collectors will still further remind him next month. If there is to be a great call for feeding Europe, the Government ought to remember the injunctions of its light-brigade and "shop early." It ought to fix a price which it will pay for all commodities its purchasing agents will need on European account and thus start up the markets which are now listless, or it ought to set commercial buyers free to gamble on the European demand and start movement that way. If something is not soon done, farmers will have no money for large cropping in 1919 and no courage to start crop growing for a dead market, even if they have money enough. The price which they had to pay for labor and all other supplies to get the crops they are now holding is making them very shy. It is hard to hold back a man who has made a good crop-sale and just as hard to start up one who has not. Therefore, though it was perhaps very wise for the Government to tie up the speculative trade last year and to help the farmer by fixing prices and buying direct, there is a dog-in-the-manger aspect of the way in which several staples have been forced to drift during the last few months. Relaxing restraints on consumption is, of course, helpful, but what the farmer needs is relaxation of restraints on trade in his products and exports of them, or much freer Government buying than that which has recently started things up a little. It is all right to praise manufacture, trade and labor as possessed of initiative to best do their own reconstruction, but it is surely as important to equalize praise and privilege so the farmers can also come through with their jobs in the ways they wish to do them.

EQUABLENESS.

WE HAVE been reading so hard on President Wilson's philosophy of removing irregularities by putting people up against each other and reaching equable adjustment of strain thereby that we are disposed to invoke it on the settlement of a problem which a mail-carrier brings us as we write. But first President Wilson's way:

> So far as our domestic affairs are concerned, the problem of our return to peace is a problem of economic and industrial readjustment. That problem is less serious for us than it may turn out to be for the nations which have suffered the disarrangements and the losses of war longer than we. Our people, moreover, do not wait to be coached and led. They know their own business, are quick and resourceful at every readjustment, definite in purpose and self-reliant in action. Any leading strings we might seek to put them

in would speedily become hopelessly tangled because they would pay no attention to them and go their own ways. All that we can do as their legislative and executive servants is to mediate the process of change here, there and elsewhere as we may.

It looks to us like a workable and very equable policy. Try it on these two letters which have just arrived:

To the Editor: I do not like your continual knocking of tepary beans. In nearly every bean article you have you give this bean a cheerful knock. They are worthy of serious consideration both as to food value and the ease with which they can be raised. They are a sure crop and when cooked right are not inferior to any other bean.—R. G., Salida.

To the Editor: I note that A. T. G. of Chico advises making the Germans eat barley to get rid of our surplus. My suggestion is to make them eat tepary beans. In that way we would not only get rid of beans that are hard to sell but we could partially get even with the Germans!—S. A. S., Thermal.

We have, then, the President's assurance that these two responsive readers "would become speedily entangled" if we attempted to put them in leading strings and "would pay no attention to them and go their own ways"—and that is really the American way, and the only people who do not seem to get anywhere with it are the American farmers. They do not agree even on beans.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Peanuts a Problem.

To the Editor: How about growing peanuts? I have some fine sandy sub-irrigated land that I think would be good for peanuts and, judging by a few bunches I have seen growing in this vicinity, they should yield a heavy crop. What time are they planted and how—that is, by a hand planter or bean planter? How far apart are the rows and how far apart in the row? What variety is best for market? How many does it take for an acre? How are they threshed off the vine? Would an ordinary bean thresher thresh them as set up for beans or by changing the teeth in the cylinder?—Reader, Hughson.

Peanuts as a commercial crop are a thing which should be undertaken with great care and hesitation unless one has a good deal of experience to guide him and such experience is very likely to guide him toward not undertaking it at all. There are two reasons for this. First, to get a good crop of large, light-colored, well-filled nuts, the soil must be light enough not to bake and crack and fine enough in texture to hold moisture well and to bring moisture up from a good supply in the subsoil, which is most apt to be found in river-bottom lands, but wet lands are not suitable. Second, we are in sharp competition with Japanese peanuts and in danger of prices so low that they will not meet the cost of hand labor, which is largely required and very high-priced in this State. The variety called "California" is best for local conditions. Peanuts are started by planting shelled kernels in rows from three to four feet apart, with the kernels about sixteen inches apart and covering in proper soils about three or four inches. About 30 pounds of seed are required to drop an acre. They must be planted after frost danger is over in the spring and they require about six months before fall frosts. They are cultivated like corn and kept clear of weeds in the rows until the bloom-spikes appear and are not disturbed afterwards. If irrigated, the water must be applied in furrows between the rows and not flooded. The ripe crop can be plowed out, lifted to the surface and cured under the tops for ten days and then combed off the roots by hand or special picking devices and sacked. They cannot be handled with such machinery as you describe. A bean thresher might have to be modified as much to handle peanuts as to pack eggs.

Winter-Growing Peas.

To the Editor: I have a very productive sandy soil, under irrigation, and am considering planting some variety of field peas for a spring crop. What would be the best and what are the market conditions for the same?—Subscriber, Chowchilla.

You do not say whether you are thinking of growing peas for a dry seed-crop or for a green crop for the market or the canneries. If the former, the varieties available are the Niles and the Canada. Dry peas are usually rather low in price, for the local demand is not large and chiefly filled by by-product threshings from the green pea acreages. If you are thinking of a green pea product, do not go far before you get a contract from some cannery to buy them and plant the variety which they desire to buy. There are two other reasons why we should go slow on peas in your district: first, peas are better suited with coast than interior valley conditions; second, for a good winter growth the crop should have been started a couple of months ago to make a fall growth before cold weather. Peas are hardy against injury by frost before podding, but the way they can stand still during dry, cold weather almost passes belief. We should not risk more than enough to get experience from, or to be satisfied with if you finally had to plow them under for the good of the soil. If you are willing to risk them as an investment for a cover-crop with a chance of leaving them for seed if they look well in the spring, go to it: it is reasonable.

Silo Sorghum: Not Beets.

To the Editor: Can good silage be made from sorghum and should it be put into silo as corn or should there be some straw cut with it? What stage of ripeness, also what variety, is best? How about beets for silage, and which is the best variety? Are they cut alone or with straw?—J. A. S., Wells, Oregon.

Good silage can be made from any kind of sorghum by waiting until the seed is ripe. Cut too early, there is apt to be too much acid developed. Unlike corn, sorghum retains enough moisture in the stalk after the grain matures. It is not necessary to cut in straw. Let the stock have the run of the straw pile. If there is much dry leafage on the sorghum, it is desirable to cut in some water. There is no object in siloing stock beets—especially in a country where they can be kept fresh without pitting or cellaring. Beet pulp is siloed in shallow receptacles. It siloes itself by crusting over. The best stock beet is the one which grows largest in your location, because the more of it that grows above ground the cheaper it can be handled. Any large mangold or tankard is good if it gets big enough.

How Much for One Irrigation?

To the Editor: How many gallons of water to the acre is required for one irrigation of alfalfa?—I. S., Templeton.

There is great variation in practice according to the character of the soil and the heat and dryness of the atmosphere of the region. It is usual to state the amount in acre-inches, which is in depth of application—like measurement of rainfall. One acre-inch over the whole surface of an acre is equal to 27,150 gallons. The number of acre-inches at each irrigation in the Sacramento Valley is 6 to 9 on medium loams; 3 to 4 on gravelly or sandy soils, and 2 to 4 on heavy soils. In the latter two soils from 2 to 3 irrigations are given per cutting, because sandy soils will not hold (and heavy soils will not take) so much at a time as a deep loam. Multiply the number of acre-inches by the gallons in one acre-inch and you have your answer.

Value of Grape Pomace.

To the Editor: What is the approximate value of grape pomace as fertilizer, apart from its humus? What is the best time and method of application?—F. P. I., Sebastopol.

Fresh grape pomace, after fermenting and pressing, may be worth $4.60 per ton. This includes its nitrogen content. Old grape pomace, but not too long exposed, may be worth $8.67 per ton. The difference is mainly due to the greater water content of fresh pomace. These calculations include the nitrogen content and are based upon mixed barnyard manure at $3.15 per ton, so you can make comparisons for relative value. Fresh pomace is often very sour and has to be used carefully unless treated with lime. Now is the best time to make application, to be plowed under at once or later in the season.

Alfalfa and Overflow.

To the Editor: I have a piece of ground bordering on a creek which overflows from three to five days during the winter months, before draining off, that I wish to plant to alfalfa. Would I be safe in doing so? How long will alfalfa stand overflowing during the winter months?—H. G. T., Sacramento.

Alfalfa will stand much longer overflow than that when it is dormant. It may endure for weeks, but there are two things you ought to be sure of: One is that the plant will really be dormant at the time of submergence; the other is that after the overflow disappears the land will not stand waterlogged too long, for that will rot the roots. What you need to know is how near the surface the water stands and how long after the overflow. If it remains a long time, red clover is a safer plant.

Almond Planting.

To the Editor: I wish to plant ten acres of almonds near Orland. The soil is medium clay loam, with just a little gravel. The piece is 1250 feet long and has a fall of three to three and a half feet and can be irrigated from one end to the other. Is there fall enough? Why do they use the peach root? Has it any advantages and is it better for wet soils? What three varieties would you plant?—R. G., San Mateo.

Your land has grade enough for the length of water-run which you propose, but the desirability of it depends upon how the soil takes water. If it takes water freely, it is likely that the higher part of the tract would get too much while it is being run long enough to get through. If you find that the case, stop off the ditch across the top of the tract and carry the water along to another cross ditch half way down and fill the lower ends of the furrows from that. You must learn how your soil takes water by experience unless you can borrow results from some neighbor who has become locally wise in the same way. The peach root is better on a soil underlaid by a tight layer because it is not quite so sensitive to too much water at times underneath. If your soil is open all the way down, the almond is well suited. Probably the three best varieties for you will be Nonpareil, Ne Plus Ultra and Drake.

Bark Cleaning Spray.

To the Editor: I have apricots and peaches six to ten years old. They have not been sprayed and are in good health. I would like to spray this for the first time to prevent the bark from cracking or drying. What shall I spray with, and what time to apply, and how strong without injury?—C. B., Senger.

Presuming that you are right that your trees are not infested with scale or some other pest which causes the bark to crack, gum and be otherwise diseased, you can clean the bark of algæ which have a tendency to crack the bark by spraying with caustic soda, one pound to ten gallons of water, after the leaves have fallen. This gives the tree a very clean appearance.

A Willow Borer.

To the Editor: I have a four-year-old weeping willow tree affected with some kind of worm in the heart of the limbs, causing them to die. Can you give me a remedy to destroy the pests?—G. K., Linne.

We are not acquainted with such a pest. Mail us a piece of wood with the worm inside so that we can determine its kind and we may then be able to indicate a treatment.

Sell Us Your Time

During the past six months a large number of our subscribers have taken up our work of attending to renewals and securing new subscriptions. They have done well—many making more than they ever earned before.

We are just starting a big subscription campaign and can use a few more ambitious, energetic men. Experience not necessary; we give you proper training. Must have an automobile, and be able to devote entire time to the work.

Straight salary; permanent work. Write for particulars and tell us a little about yourself. You'll be glad you investigated this money-making opportunity.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 3, 1918:

Stations—	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	...	7.60	10.38	60	34
Red Bluff	...	12.72	6.01	68	36
Sacramento	.01	5.77	3.92	62	36
San Francisco	.02	8.30	4.41	64	44
San Jose	...	8.84	3.52	68	32
Fresno	...	2.39	2.15	66	32
San Luis Obispo	...	5.47	3.67	82	36
Los Angeles	...	2.50	2.50	86	46
San Diego	...	2.59	1.44	78	42

Cover Crops for Citrus and Deciduous

Written for Pacific Rurul Press by John J. Fox

WE HAVE recently mentioned having seen citrus and deciduous fruit orchards with alfalfa growing between the trees. The reasons given by some men for doing this are that they get that much more from the land; or it shades the ground; or, with citrus men, that it helps prevent the cracking of fruit. So far as we have been able to observe, some orchards get away with it all right and others do not. The man that grows trees and alfalfa together has to be a very careful, painstaking man, with his first consideration for his trees. He must also have plenty of water and absolute control of it. For the one thing any tree needs, and particularly citrus trees, is as nearly an equable condition of soil moisture as can be obtained. A growing crop of alfalfa through the hot days of summer is evaporating the moisture through its dense masses of foliage at a very rapid rate, which moisture must be replaced very regularly by irrigation — and judiciously. If the farmer has some stock to help out in keeping up the fertility of the soil, the alfalfa generally receives more attention than it is entitled to—especially at haying time, when the surface of the ground needs to be dried out to harvest the crop quickly. Then, if there is a layer of clay or hardpan three or four feet down, in nine cases out of ten the land will be waterlogged for a day or two when water is applied, to be followed regularly by a drying out process. No living tree is going to enjoy such conditions, though some will put up with it. We have seen orange trees dug up that looked sickly and have found water had practically rotted off the roots where there was a pocket in the red clay.

Heavy growth of Malva or Mullen in a citrus grove. Ready to turn under before it becomes woody.

THE CRACKING OF FRUIT.

We know that plums, prunes and cherries crack from late irrigations, and the dryer the ground has been before the worse they crack after irrigation. Yet they can be irrigated quite late if moisture has been kept in the soil throughout by early irrigations. This is a long preamble, but is intended only to emphasize the fact that alfalfa and fruit don't jibe with a man who has his eye on the alfalfa. Therefore, on a small 10- or 20-acre fruit ranch something besides stock must be relied upon to furnish the humus necessary to the well-being of the orchard. We lately had a talk with D. D. Sharp, Horticultural Commissioner of Riverside county, in which he remarked that even at present prices alfalfa hay (loose) was the cheapest form of organic fertilizer that could be applied.

For his district he would apply three tons to the acre in orange and lemon groves in the following way: Say three irrigations a year are given, he would apply one ton of chopped alfalfa hay at each irrigation—chopped in an ensilage cutter so that it would not interfere with subsequent cultivation.

This would provide three tons to the acre each year. The mulch of humus would help to prevent evaporation. It could be supplemented with artificial manures or a winter cover-crop, or clean cultivation could be practised. Mr. Sharp suggested that if four men with 10-acre orchards each owned jointly 12 acres of good alfalfa it could be cut and hauled to the orchards loose and then chopped and applied as desired.

FRUIT SETS BETTER WHERE THERE IS AMPLE HUMUS.

We noticed at the experiment station at Riverside that where humus had been supplied to the soil adequately the trees looked better and there was a much better set of fruit. On one section that had no aid at all in the shape of fertilizer there was no crop at all, though the trees were adjacent to those that had a fair setting across the road. We noticed also at Porterville, Lindsay and Exeter that the set of fruit was much better in groves where there was plenty of humus. Here we also noticed that where manure had been applied the cover-crops were already luxuriant—mullen knee-high in some places and both trees and crops looked well. We saw in various orchards barley, rye, vetches, peas and clovers, also in some a natural weed growth that appeared to have followed dressings of manure. It all looked good to us deciduous men as we drove by. We all want to add humus to our soil at the cheapest possible rate for the most valuable form, and we think Mr. Sharp's suggestion worth passing on.

Alfalfa hay spoiled by the rain has a distinct shipping value for manurial purposes which can doubtless be dealt with by the growers' organizations. Chopped alfalfa applied as a manure certainly appears to the writer more than growing it between the trees—for the average man—because the experience of many years has taught us that moisture conservation and distribution is of paramount importance in California. We can mention one orchard that we have seen recently that did not seem to have suffered from alfalfa having been planted between the trees. It is in East Bakersfield and belongs to Dr. C. W. Kellogg—18 acres of nine-year-old oranges. The trees were carrying a fair crop of good fruit and we did not notice any split fruit; also the drop was said to have been negligible. It is watered very regularly. We also recently mentioned another near Lodi. But these orchards have had exceptionally careful treatment in the matter of applying water and do not represent the average care.

ANOTHER REASON WHY ALFALFA AND TREES DO NOT MIX.

In the case of alfalfa in deciduous fruit orchards, it makes summer spraying (for red spider, thrips or what not) difficult, as the crop would have to be trampled to get through with the spray outfit and the spraying would probably be delayed till the crop was off. Bad policy, as every fruit man knows.

Then if the orchard happens to be prunes, walnuts or almonds, there is bound to be a big added expense in harvesting the crop.

Some of the crops of mullen and weeds we saw were advanced enough to turn under and then there would probably be another good crop to turn under by spring.

Cross-Pollenization of Pears in Nevada Co.

[Written for Pacific Rural Press.]

Accompanied by D. F. Norton, Horticultural Commissioner of Nevada county, we visited some of the young pear orchards in the neighborhood of Grass Valley and Nevada City just at the close of the season. The one which interested us most was the Loma Rica Ranch, under the management of A. L. Wisker. In addition to apples, cherries and plums, Mr. Wisker has 130 acres of young pear trees that will produce heavily in a few years, being on a deep sandy clay loam soil. He will plant out 150 acres more (60 acres are already cleared and ready to plant), using the new Chinese root, Pyriurisiensis, whose native habitat is Manchuria. This stock is said to be blight-resistant and the young tree will be built and top-worked to Comice, Winter Nelis, Beurre d'Anjou and Bosc, as well as Bartletts. The varieties will come in multiples of two rows, so as to facilitate working and harvesting, and their alternate distribution is calculated to increase the setting of fruit—a practice now generally recognized as being advantageous. At least 40 per cent of the entire orchard will be in fall and winter pears, which make a firm, well-colored, shapely fruit in this section.

VARIETIES.

The Beurre d'Anjou is such a shapely pear and easy to pack, of good quality and apparently as prolific as the Bartlett, that it seems strange more have not been planted. It forms a strong, thrifty, shapely round-headed tree and the fruit is of a beautiful complexion — clear, whether green or tinted, and does not "go" so readily at the core. The Bosc pear has been bringing good prices, but the shape makes them harder to pack, being long in the neck. The Comice is a good all-around pear and has been bringing good prices. Mr. Wisker says the Bosc does especially well at Placerville.

He also told us that 92 per cent of the shipping fruit from Grass Valley is pears, 95 per cent of the older orchards being Bartletts. As this is a late district, many of the new orchards are set to late varieties, especially those mentioned above—not more than six rows of Bartletts being planted to two of the other varieties for cross pollination. Mr. Wisker also told of the Forelle pear having sold at $7.95 per half box (25 pounds), as they color very beautifully here. It is probably color that sells this second rate pear. This section is 3000 feet above sea level.

Mr. Wisker is keen on cover-crops in his orchard and we noticed a good stand of vetches among the trees, which has appeared since the rain. When all the young trees in this section come into bearing a few years from now, there will be busy times in Grass Valley. Probably also a large evaporation to take care of the culls.

The Sperry Flour Co. sold over 5,000,000 pounds of seed wheat during October, 1918, from the Stockton mills.

The War Is Won

But the consumer of Food
Must Still Economize

and the producer of Food
Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.

While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.

Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

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FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

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PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

Sec'y of Agriculture on Livestock Problems

Written for Pacific Rural Press

The report of the Secretary of Agriculture, just issued, shows striking results of efforts to secure an ampler supply of meat and dairy products. Milch cows increased from 20,700,000 in 1914 to 23,300,000 in 1918; beef cattle from 35,900,000 to 43,500,000; hogs from 58,900,000 to 71,400,000. Sheep decreased from 49,719,000 to 48,900,000, but showed an increase over 1917 of 1,300,000. In spite of the large exportation of horses and mules, the number remaining on farms is estimated to be 26,400,000, compared with 25,400,000 for the year preceding the European war.

In terms of product the results are equally striking. The amount of beef for 1918 is given at 8,500,000,000 pounds, as against 6,079,000,000 for 1914; pork, 10,500,000,000, as against 8,769,000,000; and mutton, 495,000,000, as against 739,000,000; a total of all these products of 19,495,000,000 for the last year and 15,587,000,000 for the year preceding the European war.

An increase is estimated in the number of gallons of milk produced of 922,000,000, or from 7,507,000,000 to 8,429,000,000, and in the pounds of wool of 9,729,000, or from 290,192,000 to 299,921,000. The figures for poultry production have not been accurately ascertained, but it is roughly estimated that in 1918 we raised 589,000,000 head, compared with 544,000,000 in 1914 and 522,000,000, the five-year average, 1910-1914, while the number of dozens of eggs increased by 147,000,000, or from 1,774,000,000 in 1914 to 1,921,000,000 in 1918, and, in the last year exceeded the five-year average by 226,000,000.

These figures, however, should not be taken to indicate an over-production. The records of stock on farms in 1918 is for January 1, and the figures for meat production for 1918 are tentative estimates based upon 1917 production and a corresponding comparison of slaughter under Federal inspection for nine months of 1918 with the corresponding nine months of 1917. It is not thought that livestock production has kept pace with consumption during recent months, and now that we have a starving world to feed and many more ships will be available, it is expected that the demand for meat, dairy products and breeding stock will be greater than ever, and will continue heavy for a long time. Even with our increased production we shall not be able to supply the demand, and still further expansion along livestock lines will be necessary.

STOCKYARDS AND PACKING HOUSES.

The comments of Secretary Houston on the stockyard and packing house situation are interesting, and he makes some excellent suggestions, as follows:

"Under the authority conferred upon the President by the Food Control Act, substantial progress was made by the Department of Agriculture in the regulation and supervision of stockyards and of commission men, traders, order buyers, packers, and others handling or dealing in livestock in or in connection with stockyards. The important results already accomplished in the improvement of livestock marketing conditions, and in the elimination of many uneconomic and unfair market practices demonstrate the effectiveness of the form of control which has been exercised under the war power and the desirability of continuing it or a similar form of supervision. Not only the stockmen who patronize these great centers of livestock trade, but also some members of the trade themselves, have recognized the possibilities for betterment of marketing conditions through their regulation by the department, utilizing its corps of supervisors clothed with the requisite authority. Besides the protection thus extended to consignors of livestock for sale at the markets, the opportunity is afforded for improvement in methods, facilities, and trade practices incident to the handling and sale of livestock involving many millions of dollars daily.

"Closely associated with the supervision of livestock markets is the problem of a similar authority over the slaughtering, meat-packing, and related interests which are centered at the principal livestock markets. Under the regulations applied to meat-packing establishments by the Food Administration, limitations have been placed on profits on meats and by-products handled by these establishments, the installation of uniform accounting systems has progressed with comparative rapidity, and the centralization of control by a small group of packers has been materially checked. The economic welfare of meat production and distribution would be promoted by the continuation and development in some form of the supervision over the packing industry. Such control should be closely co-ordinated with that over the livestock markets. There is need, in connection with this supervisory system, of a central office to which packing concerns should be required to report currently in such form and detail that it would be constantly informed concerning their operations. Such an arrangement would afford protection to producers and consumers.

"The restoration and maintenance of conditions which will justify confidence in the livestock markets and meat-packing industry is the greatest single need in the present meat situation in the United States. It seems desirable, therefore, that the necessary legislation be enacted at the earliest possible moment. The assurance of open competition and the stabilizing of prices in the livestock markets, the elimination of evil practices, the adjustment of charges for market services, and the restoration of confidence in market conditions generally, apparently require three remedies, namely, regulation, information, and voluntary co-operation. Federal regulation, organized and administered as indicated above, exercised in close harmony with the regulatory bodies of the various States, is the most essential feature.

"Constant publicity, under Government direction, of current market prices, supplies, movements, and other conditions pertaining to the marketing of livestock, meats, and animal by-products, would add immeasurably to the effectiveness of any form of regulation. It would also be a means of stabilizing the marketing of livestock and its products and of making available the information required by producers and distributors for the most intelligent and economical marketing of their products. Progress already has been made in the creation of machinery for such service at market centers in all parts of the United States. Legislative authority for its further development in connection with livestock market supervision should be continued and extended.

"Finally, better organization of livestock producers and closer co-operation between their organizations and those representing the different classes of intermediaries, all working in harmony with agencies of the Government directly concerned, will also increase the effectiveness of regulation and publicity, make for the maximum of efficiency, and conduce to the welfare of the packers and distributors as well as of the producers and consumers."

A FEDERAL FEED LAW.

Secretary Houston's suggestions for a Federal feed law are equally valuable, and will be read with interest by California livestock men, as it has been planned to put through a State law of this kind at the coming session of the State Legislature. He says:

"At present, in order to secure for the public the benefits of the provisions of the Federal Food and Drugs Act with reference to animal feeds, it is necessary to rely on the appropriate statutes of the different States. These are not uniform, and there are a few States which have no laws that can be invoked. It is believed that it would be wise to have a comprehensive Federal feed law placed upon the statute books, under which the Government could proceed in a uniform manner and secure to consumers adequate protection against misbranded, adulterated, and worthless feeds entering into interstate commerce. It is probable also that similar legislation would be feasible and valuable with reference to fertilizers passing into interstate commerce. It is obvious, of course, that if such laws could be enacted they should result in the protection not only of the consumer but also of the honest manufacturer and distributor."

National Survey of Field Crops

[Written for Pacific Rural Press by R. E. Hodges.]

Farmers certainly outdid themselves in acreage planted to the leading field crops in 1917 and again in 1918, as shown in figures given by U. S. Secretary of Agriculture D. F. Houston in a report dated November 15, 1918, and now on the press. In the first year of the war 283,000,000 acres were planted—22,000,000 acres more than in the preceding year and 35,000,000 acres more than the five-year average, 1910-1914. In 1918 5,600,000 acres more were planted than in 1917.

In wheat acreage that of 1917 was slightly less than in the record year of 1915, but it exceeded the five-year average, 1910-1914, by 7,000,000 acres. In 1918 the wheat acreage was increased by 3,500,000 acres, and the indications are that acreage planted during the current fall season will considerably exceed any preceding fall planting. What the Government shall desire with regard to spring wheat planting will be announced in plenty of time but after as much as possible of the winter effect on fall planting has been observed. This will not affect the California planting much anyway, as only in the northeastern part of the State is there usually any considerable spring planting. The 1918 season was good for wheat generally and 918,920,000 bushels were harvested. The previous year had not been so favorable, and the yield was 650,828,000 bushels. The 1916 yield was 636,318,000.

KING CORN.

Corn has long been the leader in acreage planted and in yield. The 1918 acreage in the United States was less than 1917, being 113,835,000, as against 119,755,000, and against the five-year average, 1910-1914, of 105,240,000. The 2,749,000,000 bushel crop in 1918 exceeds the five-year average preceding the war by 17,000,000 bushels. It also exceeded by 3.4 per cent the quality of the 1917 crop, when about 900,000,000 bushels were soft, due to early frosts. Stocks of corn on the farms November 1, 1918, were 118,400,000 bushels, as against less than 35,000,000 bushels in 1917 and 93,340,000 bushels as a five-year average. Only 12 per cent of the corn crop is used as human food, according to Secretary Houston, and not more than 26 per cent ever leaves the farms.

BARLEY.

Acreage of barley planted in the United States in 1918 was 9,180,000, as against 8,835,000 in 1917 and

(Continued on page 623.)

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Don't Let Surplus Apples Go to Waste

Written for Pacific Rural Press by W. V. Cruess, University of California

The apple is often called the king of fruits and apple juice the queen of drinks. True it is that few fruits approach the apple in popularity, and few fruit juices compare with fresh apple juice or sweet cider in flavor and thirst-quenching quality. It is good on any sort of a day; the weather does not have to be hot for one to enjoy sweet cider.

SWEET CIDER is of course best when it first comes from the press, although many of us may have a failing for "sharp" cider—that is, the juice that has stood several days and has just begun to develop fermentation. It is possible to retain nearly all of the flavor and apple aroma of fresh cider by bottling or canning it. This bottled or canned juice can be kept many years if necessary, and if we put up a stock of it in the fall we can have it throughout the year for use on the table or as a summer beverage. No expensive apparatus is necessary. Most of the needed equipment will be found in the kitchen or about the place. Because of its food value and its pleasing qualities, apple juice should be made from the sound fruit that cannot be packed because of size or slight blemishes.

CRUSHING.

Apples for sweet cider should not be overripe but should have a moderate degree of acidity. The Newtown Pippin produces better cider than does the Bellflower. If a small amount of juice is to be made, an ordinary food chopper or grinder can be used to crush the apples. The apples must usually first be cut in half or quarters when crushed in this way. An Enterprise fruit crusher will crush and press the apples in one operation. It is not expensive and can be had from any hardware store. We have found such a press very useful in making up a few gallons of juice from any variety of fruit. Where a large amount of juice is to be made, an apple crusher will be needed. These cost from $25 upward. They consist of a crusher and press mounted on the same frame. The smaller outfits are operated by hand while mechanical power is necessary for the larger units. These machines may be had in San Francisco from one of the large cannery supply firms.

PRESSING.

In the household the apples may, after crushing, be pressed in a small fruit or meat press that many kitchens possess. The Enterprise meat press is suitable. The crushed fruit should be placed in the press between layers of cheesecloth and the layers of crushed fruit should be about two or three inches thick. The fruit will press much more completely and easily if it is heated to about 150 or 160 degrees Fahrenheit before pressing. A dairy thermometer must be used to test the temperature. Heating to boiling will spoil the flavor. The pressed pulp may be broken up with the hands and pressed a second time to recover all of the juice.

Special press cloths and racks are used in the large presses and very high pressure is applied to the crushed fruit. A ton of apples will yield by heavy pressing 160 gallons or more of juice.

CLEARING THE JUICE.

Apple juice owes a great deal of its flavor to the flavor contained in the particles of pulp suspended in the juice. To improve the appearance of the product most of this pulp, however, should be removed. The juice will have a more pleasing flavor if it is not made perfectly clear, although a moderate amount of filtering does not injure it.

The juice contains a large quantity of material that becomes coagulated on heating and settles to the bottom of the container. This should be removed before the juice is placed in the bottle or can.

Heat the juice to 160 degrees Fahrenheit, using a dairy thermometer to observe the temperature. Allow the juice to stand over night. This will permit the coagulated material to settle. Pour the juice from the sediment and strain it through a jelly bag or heavy cloth. Usually two or three filtrations are desirable.

BOTTLING.

The most satisfactory bottles for fruit juices are those that are sealed with what is known as the crown cap. A special capping machine is needed for this style of bottle. Small hand power cappers for crown finish bottles can be bought from bottle dealers. Most drug stores have them or can order them on request. They cost about $5 each. Caps may be had from the same dealers at about 30c per gross. They are much cheaper than good plain corks and more satisfactory. The crown bottle is the one used commonly for soda water, commercial fruit juices, beer, etc. In Oregon home-made cappers are made from a short piece of water pipe and a wooden mallet; at least it is rumored that many a man who cannot give up his "hopped beverages" makes his own beer and bottles and seals it with the home-made device just mentioned.

Ordinary bottles and plain corks can be used. In this case boil the corks in water for ten minutes before using them. This will destroy all molds that would otherwise almost certainly spoil the product after the juice has been bottled. The corks must be tied down with a string to prevent their being blown out during sterilization. The bottles in any case should not be filled to more than about 1½ inches below the cork for quarts and pints and about 1 inch for half pints and quarter pints. The bottles must be clean and should preferably be scalded before use.

PASTEURIZING.

The juice will not keep unless it is subjected to a sterilizing temperature in the sealed bottles. This process, when applied to juice, is spoken of as pasteurization.

A wash boiler or large pot makes a satisfactory pasteurizer. Place a false bottom in it as for canning fruits or vegetables. A few slats cut to the length of the boiler and nailed together in the form of a grating will serve. A dairy or other thermometer will be necessary. Drug stores carry these.

Place the capped or corked bottles in a horizontal position in the pasteurizer. They may be piled several layers deep. Fill the pasteurizer with cold water sufficiently to completely cover the bottles with water. Heat the water, carefully watching the temperature during the heating until the temperature reaches 170 degrees F. Keep the water at this temperature for 20 minutes. Remove the bottles and if plain corks have been used, seal them with melted paraffin by dipping them in the paraffin immediately after the bottles have come from the sterilizer and once again when they are nearly cool. Store in a dry place. The juice will keep indefinitely.

CANNING SWEET CIDER.

Sweet cider is put up in great quantities in Oregon commercially in ordinary fruit cans. Two styles of cans are suitable for farm use. These are the sanitary cans and the solder top cans. The sanitary cans may be sealed with a special capper which may be had in hand-power size. This size costs about $15. Cans cost at present about 4c each. The strained cider is placed in the cans after it is heated to about 150 degrees F. The cans are sealed at once and sterilized in a pasteurizer as described for bottles.

Solder top cans are more difficult to use than are the sanitary cans. A capping steel, tipping steel, gasoline blast lamp, soldering fluid and wire solder are necessary. The use of the outfit really requires personal instruction from a plumber or someone else familiar with the use of soldering outfits. The sealing of cans will be found well illustrated and described in Circular 158 of the University of California Experiment Station. This will be sent free of charge on application to the College of Agriculture, Berkeley. Heat the strained juice to 150 degrees F. and fill cans with hot juice. Seal cans and pasteurize as directed for bottles.

Wax top cans and ordinary fruit jars can also be used. In the case of wax top cans, merely heat the cider to 180 degrees F. in a pot and fill the cans immediately from it. Seal at once with wax. If jars are used, fill them with the strained cider, which has been warmed to about 130-140 degrees F. Seal the jars, hot, with rubbers and caps. Place them in the pasteurizer in an upright position. Cover them completely with water. Heat the water to 170 degrees F. and keep it at this temperature for 30 minutes.

SUGGESTIONS.

Temperatures above 170 degrees F. badly injure the flavor of the cider. If a thermometer is not at hand, heat the water in the pasteurizer to the simmering point. This will be a little too high for the best results as regards flavor, but a fairly good product can be obtained if the juice is not kept at this temperature too long.

The pulp obtained after pressing the apples may be used for jelly. The pulp may be boiled with sufficient water to prevent scorching; the softened pulp may be pressed, and the resulting jelly juice pasteurized in jars or bottles as described above for fresh apple juice. This material can be used at any time for jelly or can be added to other fruit juices to increase their pectin content.

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Horticultural Jottings

Apple prices continue to range fairly strong on Eastern markets in consuming markets.

Elmer Bros., nurserymen of San Jose, report orders coming in for nursery stock pretty fair and inquiries coming in by the dozens.

Albert F. Etter of Briceland writes us that he has made arrangements for the Kellogg Co. of Michigan to distribute his strawberry plants through the East.

Owing to scarcity of labor, H. A. Hyde, the nurseryman of Watsonville, has sent a crew of men to Shasta county to dig and pack his banner berry plants for his trade.

In the orange business at Porterville experienced workers are making from $8 to $10 a day. Pickers where crop is short are working on a minimum guarantee of $4.50 a day. Ten cents a box is paid for packing.

The saving of fruit pits of all kinds and shells of nuts, which was urged by the Government in the aid of the manufacture of gas masks for the soldiers in France, may now be discontinued, it is officially announced.

Governors of all States have been asked to co-operate in a plan to plant memorial trees to the nation's dead heroes along transcontinental highways and public roads as a perpetual reminder of their sacrifice in the cause of liberty and humanity.

Information is not yet available whereby the peach growers can arrive at any decision as to their prorata deliveries made necessary by the season's shortage in the crop of that fruit. Some definife announcement is expected by the end of this month.

Walnut thieves have been operating in Los Angeles county, stealing the harvested product by the sack. In one instance, it is said, the thieves stole two sacks after having been shot at. This was at Santa Paula. These nuts are worth probably $27 a sack.

It is expected that the orange standard may be altered next year. The general opinion among experts is that color test must be added. Experience shows, according to O. W. Newman of the State Commission of Horticulture, that the 8-1 test cannot be accepted arbitrarily.

The Rio Vista Canning Co. will build a reinforced concrete fireproof cannery. Also 40 first-class bungalows are to be erected at once in connection therewith and extensive improvements are planned for the comfort and entertainment of employees and their families.

In the recent war fund drive at Lindsay, Tulare county, it was decided by the members to send greetings and a box of oranges each to President Wilson and General Pershing. President Wilson received his at Thanksgiving and General Pershing will be regaled at Christmas.

The California Associated Raisin Co. applied for a partial relaxation of the embargo on raisins shipped to Canada. It has been lifted as the result of an agreement between the War Trade Board and the Food Administration. More than 4000 tons of orders for raisins are affected. Good news!

The Butte County Citrus Association reports the first two carloads of oranges shipped as bringing $7.50 a box f. o. b. Thermalito—believed to be a record price for this section. Their "Gold of Ophir" brand is earning a reputation for quality. The next four cars sold at $6.50 a box f. o. b. Thermalito.

H. F. Ellis of the Stewart Fruit Co. at Lodi reports a carload of grapes sold in Chicago, November 9, for $2,683—the highest price ever paid for Lodi packed grapes. Tokays averaged $2.15, Missions $1.95, Cornichons $2.40, and Emperors $3.15. The grape season is now over for this section.

Professor F. Flossfeder of the University of California has been demonstrating the pruning of Sultanas, Thompsons, Muscats and Malagas at some of the Farm Bureau Centers in Fresno county, and A. E. Way has demonstrated at others. Mr. Way is in charge of the experimental vineyard at Kearney Park.

Prices paid for California fruits this year are unprecedented. Some fruits sold for twice as much as they bring in normal years and the buying public have had the money to spend. Grapes have sold at from $1,600 to $2,500 a carload. Cherries brought up to $3,500 a car and peaches reached from $800 to $2,200 a car.

Word is received of the appointment of H. J. Ryan to fill the vacancy caused by the death of Horticultural Commissioner William Wood of Los Angeles county. Mr. Ryan has been stationed at Alhambra and his appointment by the County Supervisors is noted with satisfaction, as his experience with citrus pests will contribute largely to his work in the new capacity.

Bulletin No. 732 from the U. S. Department of Agriculture, by G. P. Rixford, covering "Smyrna Fig Culture" in California, has just been received. Mr. Rixford has made a most intensive study of figs for a number of years and the results of his observations are embodied in this bulletin. Fig growers should send to Washington for a copy, which is sent free upon request.

A chemically imperfect liquid furnished to the Palermo Citrus Association to test oranges under the 8 to 1 test made it necessary for 200 boxes of oranges to be sold for marmalade, entailing a loss upon the grocers. The question of the liability of the wholesale druggists who furnished the Palermo association the liquid for damages for the loss of the oranges is now being investigated.

Tulare county has constructed many miles of paved highway particularly to serve the highly productive fruit sections. Very few growers have long hauls over dirt roads, so that fruit can be taken to the packing houses on trucks, no matter what the weather conditions are. Kings county has also a large section of county-owned paved highway. This looks business-like and spells prosperity.

This year's estimates on honey production indicate that there will be near twelve millions of pounds or approximately 100 carloads. California furnishes 90 per cent of all the honey domestically consumed in the United States and 25 per cent of the country's crop, including exports. Four carloads of honey from Southern California were recently shipped in one week. A large part of this year's crop is being shipped to Europe because of sugar shortage there.

The "Palm Ranch Company," a concern capitalized at $480,000, recently filed its articles of incorporation. George W. Henderson, president of the company said: "We are merely putting the ranch on what business men call a business base." The company will own, operate and manage orchards, vineyards and farming lands. It will grow, pack and carry on a general commerce in fruits and other products without dependence on outside firms or corporations. Office headquarters will be at Fresno.

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Sprouting Walnuts for Planting

[Written for Pacific Rural Press.]

To the Editor: Please state method for sprouting black walnuts. I failed to read of any in your weekly.—H. O., Ingomar.

In case others may also have overlooked the descriptions we have previously given, we give the detailed suggestions which Prof. R. E. Smith has compiled from wide observation of California experience:

"Walnuts to be used for planting should, after gathering, be kept in sacks or other receptacles in a cool, not too dry place until planting time. If allowed to become extremely dry after gathering the nuts germinate much less easily than otherwise. They will usually keep in good condition if tied up in sacks and piled in a cool, shady place. It may be found desirable to allow the outer hulls to dry somewhat before sacking up the nuts, especially in the case of large hybrid nuts, since if sacked and put away quite green the hulls decay and become extremely soft and mushy. Early in the winter, not much later than January, the nuts should be layered in sand or light strawy earth in order to sprout them and segregate the best ones from those that germinate feebly or not at all. This is most conveniently done by constructing a frame about 18 inches deep, either above or below ground, in the bottom of which should be placed three or four inches of sand, then the layer of nuts, which may be either one or several nuts in depth, according to the available space. The nuts are then covered with three or four inches of sand, which should be washed down thoroughly between the nuts by means of a stream of water. The whole bed will thus be in a well-soaked condition by the time it is done. Instead of placing the nuts directly in the bed, it is more convenient in getting them out to put them in shallow boxes or flats, imbedding these in the sand as above described. If this is done it is much easier to get the nuts out for planting than if they are placed directly in the sand. Other materials may be substituted for sand, such as earth mixed with fine straw or manure, or any substance which holds moisture well, and from which the nuts can be easily removed. The bed should be so arranged that water will drain away from it and not accumulate sufficiently to rot the nuts, and it should be protected from rain if there is any danger of such an effect from that source. The nuts need to be constantly well moistened, however, in order to start germination, and if drainage is good there is not much danger of getting them too wet. The bed should be located in a place where it will receive the heat of the sun in order that it may not be too cold for germination, and it may be underlaid with manure if it is desirable for any reason to hasten the sprouting of the nuts. Nuts of the different species vary quite widely in respect to freedom of germination, those of the Southern California black walnut being especially quick to sprout. These also rot more easily than other black walnuts. They need not, therefore, be put into sand so early and should not be kept as wet as Northern California blacks or Royals. The latter especially need much moisture and warmth to make them sprout. For prompt and uniform germination they should be put into the sand quite early, in a single layer of nuts, and be kept well moistened and as warm as possible. Otherwise many will not sprout until the second or even third year, if they be put into the ground before starting to germinate."

Sulphuring Rain-Damaged Prunes

[Written for Pacific Rural Press.]

Directly after the big rainstorm in November we visited the various prune-growing sections and at Napa, amongst other methods, we found W. D. Butler, Horticultural Commissioner of the county, conducting experiments with sulphur in an effort to salvage rain-damaged prunes. The fruit he was working on had been fully exposed to the whole storm and was a very hopeless looking bunch of stuff. We asked him to let us know the results of his experiments and have received the following letter:

To the Editor: In compliance with your request, I wish to let you know the results of the experiments with the wet prunes after the September rain.

As you know, we gave eight different lots a sulphur bath, beginning with fifteen minutes and ending up with the last batch remaining in the fumes two hours. The results were not satisfactory. No noticeable effect in the killing of the fungus on the short exposure batches was evident and while the long exposures dried fairly well and fairly quick they were bleached to the extent that they were rusty and off color, which, together with the effect of the rain, made them no more merchantable than those which received no treatment.

If there was a market for the bleached French prune and the equipment was at hand, I am certain that heavily rained-on prunes could be saved without loss by a very heavy sulphur bath such as is given to the silver and 'cot.—W. D. Butler, Horticultural Commissioner, Napa county.

Rodent Control in Tulare County

[Written for Pacific Rural Press.]

Horticultural Commissioner Chas. F. Collins reports as follows: "There has been a lull in the rodent control work recently for two reasons—first, the past few weeks have not been the most favorable time and conditions for this work, and, secondly, owing to my inability to secure efficient help, I have been compelled to transfer several squirrel inspectors to the orange inspection during the interval of a few weeks.

"The county has recently purchased two carloads of carbon bisulphide and sufficient waste balls for use of same, and we are now prepared for a strenuous winter campaign with this material, with which we hope to finish the good work which has been done with poisoned barley during the past year. Now that the results of our work are apparent, we are securing much better co-operation and consequently encountering much less difficulties. Many of those who bitterly opposed the work at the start are now enthusiastic in securing a complete eradication of the pest.

EXPECTATIONS FROM PEARS.

To the Editor: How much of a crop can be expected from mature pear trees and how old are they before their crops pay the cost of caring for the orchard.—H. L. P., Stockton.

[Hayward Reed, whose pear orchards in Sacramento and Yuba counties have been among the best known in California, says that with variations due to climate, soil, drainage, variety, etc., a pear tree is mature at 12 to 15 years of age and will average eight or nine boxes of 50 pounds each. It pays for its care at seven to ten years of age.]

Condition of the orange crop in Florida is 84 per cent—the same as October. California estimates 72 per cent, as compared with 66 per cent in October.

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THOS. F. DUANE

MARTINEZ CALIFORNIA

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

The Muscat Raisin Crop.

There is 40 per cent of No. 1 and 35 per cent more of the total crop of raisins injured by rain safely harvested, according to Horticultural Commissioner F. P. Roullard of Fresno county, who has his force now busy testing oranges. The Associated Raisin Company estimates the loss in San Joaquin Valley by rain at between five and six million dollars. Most of the seedless raisins had been safely harvested. The damaged fruit will have to be sold on sample and will undoubtedly all be disposed of at good prices. The weight loss on damaged goods is at least 15 per cent.

Pruning for Fruit.

We recently went into the young orchard of Richter & Crane, comprising 160 acres of plums, peaches, apricots and nectarines, and found them forced into fruiting at a very early age before the trees had made the growth we thought they should have. The reason given—and a satisfactory one—was that the owners wanted to take off as much fruit as possible while prices were high. I was not able to get figures on production, but was assured that an enormous quantity of fruit had been shipped from these precocious young peach trees at four years old.

Best Walnut Stock; Experiments.

E. S. Kellogg, Horticultural Commissioner of Santa Barbara county, has experimented largely with hybrids and says that the "Royal" crossed with the "English" makes the best stock for Santa Barbara. Russell Rowe of Goleta has 10 acres of black walnuts which will be used as an experimental orchard and M. Kellogg is doing the work—grafting over to different varieties and cross pollinating. Mr. Rowe had 17 tons of Santa Barbara soft-shell walnuts this year from a 20-acre orchard—clean, smooth fruit, of good quality.

Fighting Brown Rot.

"Remove all mummified fruits and burn them. Don't bury them in the orchard. The fungus will live on the old plums for 18 months when buried in the ground. This also applies to mummified peaches." This is the advice of Horticultural Commissioner D. F. Norton of Nevada county. The State Commission says of this: "There is no single factor which so largely promotes "brown rot" as that of permitting infected fruit to lie on the ground—to incubate the following spring and give off their spores to infect the new crop of fruit."

To Prevent Breakage of Fruit Boxes

This year, owing to excessive overloading on the cars, the amount of breakage in packed fruit boxes has been unusual. One car inspected by George P. Weldon of the State Horticultural Commission had about 50 smashed boxes. He says: "There were 1000 boxes in the car—5 per cent loss. Who pays for it?" It is suggested in the North that box strapping may be resorted to next year to prevent breakage.

Durham State Settlement.

Twenty-eight more farms have been awarded to applicants on the State Land Settlement at Durham, as reported by Superintendent George C. Kreutzer. This is the second drawing for tracts in this colony and there were 82 applicants for the 28 farms, which vary in area from 20 to 160 acres. There were also a number of two-acre tracts allotted as homesites for laborers at the colony, who will find all the work they can attend to right at hand.

Storm in the South.

November 24 a very heavy windstorm was experienced in Southern California, said to be the hardest in thirty years. The orange crop suffered to some extent, ripening oranges being blown off the trees. At the Los Angeles Liberty Fair several stock sheds were blown down, also one of the large tents and several small ones. The loss to the fair was estimated at $25,000.

This Is Good News.

"California canned and evaporated fruits are very popular, and it is believed, when the direct steamship line between Bristol (England) and Pacific Coast ports—using the Panama Canal—is restored this trade will meet with a very satisfactory increase. California dried fruit has also been received to take the place of that heretofore received from Turkey." This message, through the Bureau of Commerce, comes from Bristol, England.

The Red-Humped Caterpillar.

Horticultural Commissioner A. L. Rutherford of Stanislaus county reports that the infestation of red-humped caterpillar, which made its first appearance in June, appeared again in October and attacked the foliage of walnuts, apples, plums, cherries and apricots. A number of orchardists sprayed with Paris green with good results; finding this form more economical than arsenate of lead.

More Peaches Wanted.

The demand for drying peaches both by the association and the trade is strong and will lead to an extended area of planting. The canners also want more cling peaches—the whole crop was absorbed rapidly this year. They all hope that commercial varieties of peaches will be adhered to.

Kern County Oranges.

Horticultural Commissioner Norman G. Bulin reports the run of oranges in Kern county as of fine quality, uniform in size and smooth. The first carload sent out tested 12.6—1.

Pruning of Peaches.

The pruning of peach trees so as to concentrate all the energies of the tree in fruit wood is becoming more and more widely practised. Less time is consumed in pruning the tree and in thinning the fruit, which is also easier to harvest.

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Massachusetts Plans Farms for Soldiers

[Written for Pacific Rural Press by Prof. B. J. Morris, Ph. D., of Harvard University.]

The national back-to-the-farm movement inaugurated by Franklin K. Lane, Secretary of the Interior, which I see you have commended in the Pacific Rural Press, has met with a ready response on the part of Massachusetts. Governor McCall has appointed a committee composed of the State Commissioner of Agriculture, the Landscape Gardener, the State Forester and the Chief Engineer for the State Department of Health to serve as a commission to gather information in regard to the acquiring of land by the State to be improved and sold on very reasonable terms to returning soldiers. It is the plan of the commission to recommend the acquisition by the State of about 200,000 acres of farm land which, allowing for roads and other improvements, would provide about 4000 farms of forty acres each.

When the United States entered the war there were in Massachusetts more than 30,000 farm laborers, many of whom have enlisted and are now at the front. Leading public men of the State are of the opinion that many of these men will be glad to avail themselves of an opportunity on their return home to obtain a farm of their own. At the present time Massachusetts has about 36,000 farms. Unless the State can do something to assist the returning soldier in buying a farm, it would be impossible for many of the men with their limited means to ever think of owning a farm. Many of them will not be content to become common farm laborers again. For this reason the State proposes to acquire one or two tracts and divide them into small farms, prepare the ground for cultivation, provide farming implements and offer to sell the improved farms to ex-soldiers at reasonable terms extending over a period from thirty to forty years.

A MODEL FARM.

To guard against possible failure the commission will recommend to the Legislature the establishment of a central farm, where a school will be maintained for the purpose of training men in modern methods of farming. Each returned soldier or sailor will be allowed to attend the school and while there decide for himself whether or not he wishes to buy a farm. Those who, after completing the school, decide to settle on farms will be given the opportunity to select a farm and pay for it as mentioned above. In addition to the school, the State proposes to establish a supply depot at which modern farm machinery will be stored ready to be rented to ex-soldiers at cost. While the commission has not as yet purchased any land, they have in mind several large tracts which are available and as soon as the commission receives the approval of the Legislature the tracts will be taken in charge and a plan drawn up for improvements. Work will be started as soon as possible. It has been suggested that the soldiers be allowed to improve the farms before being discharged. This is a matter that will have to be settled by the Federal Government. If the Federal Government does not wish to do the work in this way, the State may provide the means whereby the men could be employed by the State while they are doing the work of improving the farms.

Another plan has been suggested which proposes to loan money to the men at a small rate of interest and let the men improve the farms themselves. This proposal has not met with ready response because of the unsatisfactory conditions that followed the Civil War when soldiers were given unimproved land. The leaders in the project in Massachusetts hold that the farms should be well improved and turned over to the men in such a way that a crop could be harvested the first year. Other States of the Union will no doubt be much interested in the plans as Massachusetts works them out.

A QUARANTINE OFFICER BORROWED.

George Compere, deputy quarantine officer at San Francisco, has been borrowed from California at the request of the Federal Horticultural Board in the port of New Orleans to institute an inspection service at that port similar to that conducted in San Francisco. Mr. Compere will be gone three months.

Increased planting of barley is being urged around Modesto because that section is able to double-crop to barley.

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"No, not by magic—and the land's the same old stuff.—I've been using my head a little and planting my new orchards in *blasted* holes instead of by the old 'spade dug' method. It's easier, takes less help, and the trees grow better and bear sooner. You can see for yourself that the fruit has improved in quality. Wish someone had told me about dynamite twenty years ago;—I'd be richer than I am now."

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can be used for planting trees, clearing land, digging ditches or cellars, breaking up stubborn subsoils, or cultivating between the rows of bearing orchards,—in fact, it can be used in so many ways and for so many purposes that you would find it the most valuable "hired man" that you have ever employed.

At this time of food and labor shortage it is not only good business but good, patriotic common sense to use every means at your command to produce the largest and best crops at the least possible expenditure in time and cash. And this can only be done by using the best modern methods.

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Officials Did Not Take Rice Waters

To the Editor: We note in your issue of November 9, in an article entitled "Rice Harvest Shows Good Conditions," by M. S. Cowen, the following statement:

"Lack of water some two months ago caused considerable consternation to the growers—this was caused by some water companies closing their canals by order of the Railroad Commission. This resulted in lack of irrigation to a considerable acreage, but a large portion of same was rescued before it had gone to utter ruin, as other ways and means for securing water were obtained, but at great expense. The major portion of the crop was not affected, however."

May I ask permission to correct the impression that the statement leaves? Both the Railroad Commission and the Food Administration were called in in a number of instances during the past season to safeguard water supplies for rice crops, in case of Yolo county, water being obtained through the instance of the Food Administration for 10,000 acres of rice that otherwise would not have been planted. In every instance the efforts of the Railroad Commission and the Food Administration were directed toward increasing the supply of water available to rice rather than in taking any water away from rice. In a few instances where rice areas had been overplanted—that is, where more land had been planted to rice than water was available for under terms of the existing agreements or orders—owners found it necessary to eliminate some land in order to have a sufficient supply for the remainder of their holdings. This was true in both Yolo and Glenn counties. In a few instances some land planted to rice was not matured through lack of water in the expected sources but not through withdrawal of water by the Railroad Commission or any other public agency. In Butte county, at one time, it seemed as if a large acreage of rice would have to be sacrificed through shortage of water, but a representative of the Railroad Commission and the Food Administration was able to adjust matters between the two main companies supplying water so as to be able to save not only all of the rice acreage but also furnish water to general crops. In order to mature the rice crops, however, water was withdrawn from general crops to a certain extent in both Yolo and Glenn counties and also in a small way in Oakdale Irrigation District. This withdrawal was acquiesced in very patriotically by nearly every user and in the long run very little substantial damage was done to anybody.—Frank Adams, Berkeley.

Beans Increased on Worn-Out Land

[Written for Pacific Rural Press.]

How worn-out hillside grain land that would not produce more than six or seven sacks of barley or five sacks of small white beans per acre in a favorable season was induced to yield 12 sacks of small whites per acre on 30 acres during the past unfavorable season, is told by S. O. Pugh of Monterey county. This land has raised beans in three of the past four years and part of it has raised beans during all four seasons with no irrigation or fertilization. The soil is a clay loam, formerly covered by timber. It yielded 16 bags of wheat per acre for three successive seasons after Mr. Pugh cleared it, nearly 30 years ago. Twenty-five years of grain cropping practically destroyed its humus and fertility until the crops were hardly worth harvesting.

In 1915, a more favorable season for small white beans than that of 1918, 30 acres of this worn-out land were planted to small whites and pinks. They yielded five sacks per acre. In 1916 bluepods were planted and they yielded about eight sacks per acre. The 1917 crop of bluepods was about 10 sacks per acre, while in 1918, after a very dry winter, the yield was 380 sacks on 30 acres.

The increased crop has been due to Mr. Pugh's system of farming the soil under his old barley field. Here is how he describes the work:

The first operation is a good plowing, 10 inches deep, in January or February. Rains would then pack the humusless soil; and the late rains, which are most desired, would be likely to run off. To avoid this, as well as to sprout weeds so hoeing will be minimized, a disk cultivator is run over the ground after every rain that would crust it. This season it was harrowed and then disked only twice. When rain is scarce but weeds come, an underground weed cutter keeps the ground clean. This was used four times in the spring of 1918. A duckfoot cultivator would be fine, for the object is to stir the soil without turning it up to the surface where it would dry. No cultivation was necessary after the beans came up except two hoeings, and the crop was free from weeds at harvest time. Too much packing of the sub-surface soil is bad practice where it contains any clay, says Mr. Pugh, so no extra effort is made to pack it here. Only 12 pounds of seed are used per acre.

Proposed Seed Law

[Written for Pacific Rural Press.]

In sowing a certain lot of alfalfa seed at the rate of 20 pounds per acre, a test recently showed that a man would have planted 483 weed seeds per square rod!

After two or three years of study and consultation with seed growers, dealers, and users, the State Horticultural Commission has prepared the draft of a proposed law enabling users of field seeds but not of vegetable or flower seeds to know with considerable accuracy just what they are buying. If enacted into law as proposed, it will compel sellers to label their seed "not clean seed," or "not tested seed," or to label the containers with a statement showing (1) the commonly accepted name of the seed, (2) the name and address of the seller, (3) the approximate percentage of germination, with the month and year it was tested, (4) the approximate proportion by weight of foreign matter and other seeds distinguishable by their appearance, (5) the proportion by weight of weed seeds alone, (6) the names and approximate number per pound of noxious weed seeds (which are named in the bill, with provision for the State Horticultural Commissioner to name others).

Enforcement of the law is put into the hands of the State Horticultural Commissioner and his deputies, including trained botanists to conduct the tests in laboratories to be provided.

Any citizen of the State would have the privilege of submitting to the State seed laboratory samples of agricultural seeds for such test and analysis as the Horticultural Commissioner may find desirable. Any person may guarantee the approximate percentage of purity and viability of seed he wants to sell, but the seed must come reasonably close to the guaranty. If you want to know what sort of seed you are buying, let us hear from you!

Little Rock, in Los Angeles county, is turning her attention almost exclusively to pears. The elevation here is about 2800 feet and is pumped from 200 feet. Over 50 carloads were shipped this year and are said to have realized an average of $80 a ton—all Bartletts. Two irrigations a year are given.

$315.00 **Beeman Garden Tractor**

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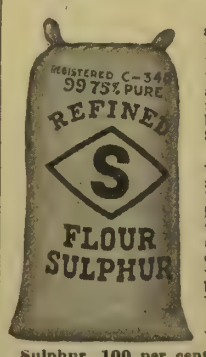

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For Lime Sulphur Solution, use our DIAMOND S Brand Refined Flour Sulphur. We can furnish you this sulphur at such low price that it will pay you to mix your own solution.

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The State Moves to Reduce Taxation

[Written for Pacific Rural Press.]

Retrenchment in the operating expenses of the State, which in the past few years have been growing by leaps and bounds and which, as a direct result, have boosted tax rates and made possible the expenditure of vast sums of money, is indicated by the action of Governor William D. Stephens in appointing a committee "for the improving of the administration of the State's affairs and for introducing such economies as are possible without prejudice of the public welfare or impairment of present efficiency."

The committee is as follows: A. E. Boynton, president of the Commonwealth Club, San Francisco; Herbert W. Clark, director Taxpayers' Association; Frank P. Flint, former United States Senator; Dr. John R. Haynes, Los Angeles; Percy V. Long, San Francisco; Lee A. Phillips, Los Angeles; U. S. Webb, Attorney-General; John S. Chambers, State Controller; Marshall Demotte, Clyde L. X. Seavey, Edward A. Dickson, members of the State Board of Control.

Necessity for such action on the part of Governor Stephens has long been apparent, the many committees, bureaus, commissions and State officials having of themselves become a maze of conflicting and overlapping effort. This duplication of duties has become so marked that it has in reality in some instances amounted to something only short of chaos, and in the meantime the expenses and costs have been mounting with alarming regularity.

INCREASE IN EXPENSE.

So much so is this the case that a comparison of the cost figures during the past several years, from 1902 to 1917, shows gains in operating and maintenance expenses out of all proportion to the increasing population of the State and with the labors and duties performed.

From 1902 to 1913 a consolidated statement of expenses and outlays, recently compiled by the Taxpayers' Association of California, shows normal increase of expenses and population. From 1914, however, the costs and expenses assume a ratio entirely out of balance with the growth of the State either in population or in the matter of added industry and developed resources and commercial endeavor.

In the year 1914 the expenses and outlays of the State for permanent improvement amounted to $6,830,040.70. This jumped in 1915 to $11,012,387.99, and has since slightly fallen off, so that in 1916 we find the expenses amounting to $9,631,167.98, while in 1917 the figure was reduced to $5,461,073.49.

PER CAPITA COST GROWS.

During this time the population of the State increased year by year, from 1,673,343 in 1902 to 3,029,032 in 1917, the figures being estimated by the United States Bureau of Census, and the expenses increased from $8,611,719.04 in 1902 to $28,727,932.02 in the year just passed. As in the case of permanent improvements, however, the peak of the expense column was reached in 1915, when, with a population of 2,938,654, nearly thirty-one million dollars were spent. Cost per capita has also increased at an alarming rate, from $5.146 in 1902 to $9,484 in 1917.

The cost of the big exposition was, of course, responsible in a certain degree for the increase during the years 1914-1915, and a comparison of the amounts spent for expositions in the State since 1913 shows to just what degree this is the case. The following figures illustrate this statement. For expositions:

1913	$ 906,925.47
1914	2,034,478.11
1915	2,280,261.61
1916	11,893.10
1917	301.70

There are at present 126 officers, boards, bureaus and commissions existing in the State. In the duties of these there are many duplications.

HEAVY OVERHEAD EXPENSE.

Relative to this, a bulletin published by the Tax Association, says:

"The presence of great numbers of independent boards, bureaus, officers and commissions indicates undue overhead expense, and where it is shown that two or more bodies perform all or parts of functions that could be performed by one the absence of efficient organization and the certainty of needlessly high expenses becomes still more readily apparent."

A further recommendation of the Tax Association is contained in its report:

"These departments should, of course, be divisionally organized," it says. "Excepting those which deal largely with important matters of policy, the departments should be single headed. Responsibility for executive and administrative action would thus become fixed and localized. The functions now or hereafter to be performed by the State should be transferred to the proper department. Inasmuch as a very large number of the governmental units here considered exist by statute, the next Legislature could go far toward effecting the reorganization suggested."

COST OF STATE GOVERNMENT FOR ELEVEN YEARS.

Year—	Population	Cost	Cost Per Capita
1907	2,125,238	$12,117,671.93	$5.701
1908	2,215,618	12,448,176.53	5.618
1909	2,305,999	15,570,076.81	5.884
1910	2,396,379	15,791,904.11	6.589
1911	2,486,758	14,889,071.30	5.987
1912	2,577,137	16,430,140.69	6.375
1913	2,667,516	20,397,961.78	7.646
1914	2,757,895	26,176,787.57	9.491
1915	2,848,275	33,719,461.74	11.838
1916	2,938,654	30,797,387.97	10.480
1917	3,029,032	28,727,932.02	9.484

INCREASE RATE HUGE.

Referring again to the cost of the many boards and commissions, it is discovered that the rate of increase in expense in the last decade has been colossal, the cost to the State for such bodies in 1907 having been $319,637.69, against $2,597,672.14 in 1917, each of the years in question showing a marked increase out of proportion with the earlier years of 1900 preceding. Figures of expenses for commissions in 1902 show that $228,416.83 was spent in that year, and the rate of increase to 1906, when $283,223.24 was expended, was gradual.

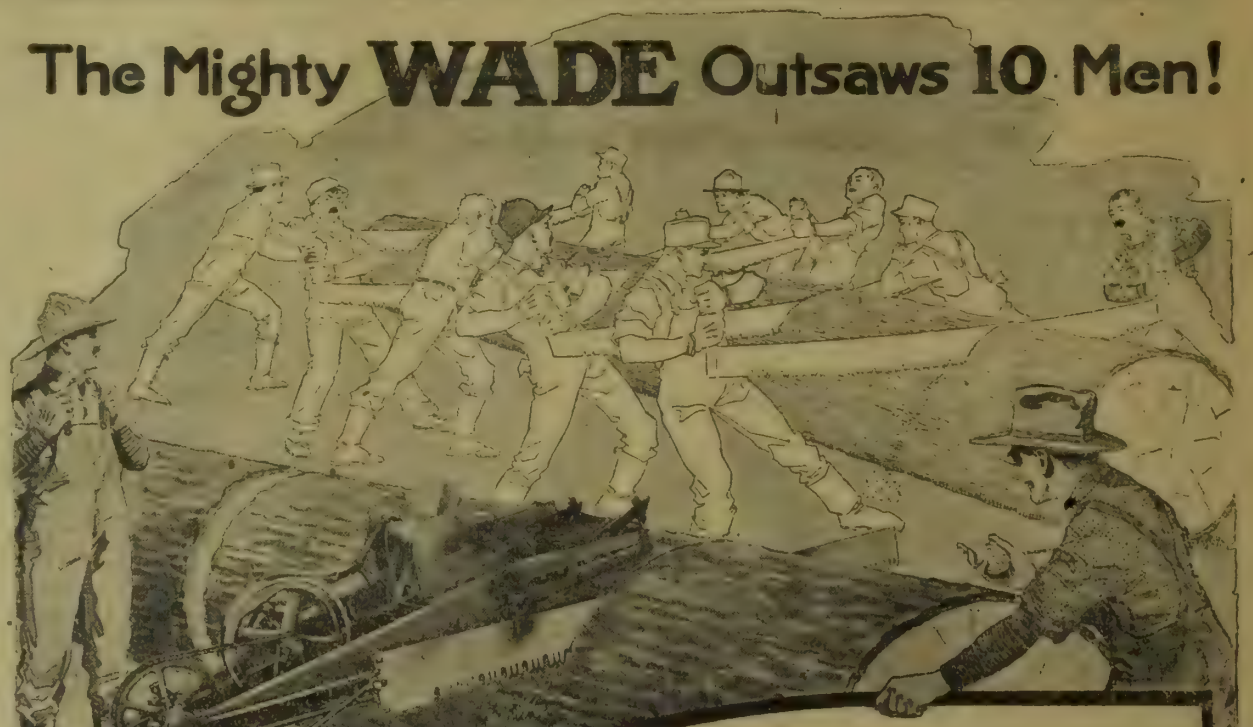
LINDSAY ORANGE GROVE RETURNS.

A gross return of $15,000 from his 10 acres of Valencia oranges is claimed by Charles O. Cowles on this year's crop. The crop was allowed to ripen thoroughly and graded high.

A GOOD WALNUT CROP.

About 30 tons of walnuts from a 40-acre orchard is expected by Mrs. Julia Hogan of Santa Ana this year. The fruit is of excellent quality and she has sold it at 27c a pound—orchard run.

The Mighty WADE Outsaws 10 Men!



A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the United States—in the woods of the Pacific Northwest, California, Minnesota, Arkansas, New York. When not in use for wood cutting the 4-H.-P. motor will run feed mills, feed cutters, pumps, etc.

Read What These Owners of WADE DRAG SAWS Say:

"One afternoon my brother-in-law and I took my WADE into the woods and sawed three hard maple trees into 16-inch blocks, the trees averaging about two and one-half feet at the stump. He expected it would take me from eight to ten hours to do the job, but it was all done in three hours.—F. W. Hiller, Vernon, N. Y.

I cut thirteen and one-half ricks of cottonwood in six hours. —J. W. Stratton, Atkins, Ark.

One gallon of gasoline will cut six to ten cords of wood; it depends on the kind of timber you cut.—W. D. Thomas, Bull Run, Or.

My WADE saw paid for itself six times over.—F. W. Taylor, Swisshome, Or.

I am making $250 a month with my WADE.—F. A. Storts, Orville, Cal.

Thirty-six inches in diameter, yellow birch, is the largest I have cut and I cut down to six inches.—P. L. Cote, West Duluth, Minn.

I cut down to eight inches in diameter.—F. T. Swank, Park Falls, Wis.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free book, "How Dan Ross Cuts 40 Cords a Day." Full details and special price.

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A 53 YEAR REPUTATION BACKS THE WADE

Field and Garden Suggestions

[Written for Pacific Rural Press.]

Onion Crop Survey.

California led all the States except New York in acreage of onions harvested in both 1917 and 1918. In 1917 the total acreage, not counting those grown for seed, was 7100; and the total yield greater than any other State, being 2,797,400 bushels of 57 pounds each. This year, as estimated by the U. S. Bureau of Crop Estimates about November 1, the California acreage was reduced to 6900 and the production to 2,415,000 bushels. Our yield per acre is 350 bushels in 1918, as against 394 in 1917. Utah and Idaho beat us in 1917 with 400 bushels per acre. Nine States beat us in 1918 on yield per acre, the highest being Idaho and Utah with 575 and 510 bushels per acre respectively. Their acreage, however, is nominal. States having over 1000 acres in 1918 are as follows, named in order as to amount: New York, California, Ohio, Massachusetts, Indiana, Minnesota, Colorado, and Michigan. Total acreage harvested in the United States was 35,830, as against 39,500 in 1917. Total yield in the United States was 13,438,200, as against 12,308,900 in 1917. With a smaller acreage and larger crop in 1918, the season was in general very favorable.

Rose Bushes to New York and Back

A carload of 55,000 rose bushes was shipped to New York, November 30, by Gill Bros. Nurseries of Santa Clara county, who grow a quarter of a million rose bushes annually, according to J. P. Moniz. These will be put into cold storage and sold in the spring. The company who bought them says that California stock does not die back in cold storage as the European stock does. The latter in normal times can be laid down in New York cheaper than California rose bushes can be bought on the Western coast. Ruehl-Wheeler Nurseries joined Gill Bros. in shipping a carload East earlier in November. Many of these will be bought back to California by innocents.

Drastic Potato Wart Measures.

Eight or ten years at least will be required to stamp out the potato wart disease recently found in Pennsylvania, according to Economic Zoologist J. G. Sanders of that State. This is one of the diseases whose importation from Europe has long been dreaded by horticultural quarantine officials. Fortunately, it has not been found in the United States outside of certain Pennsylvania mining districts surrounded by wild, uncultivated territory. The entire section will be quarantined with certain districts designated as "prohibited areas," where no potatoes may be grown. Growers elsewhere in the quarantined territory will be licensed and their crops kept under close surveillance from growing to marketing.

No Government Bean Prices.

The policy of the Government in buying beans this year is to take advantage of the lowest bids; and no prices will be fixed. The recent buying announced in last week's issue was not for the army and navy, but for allied governments, and it included 10,000,000 pounds of pintos, all or practically all from Colorado. Late reports to the California Bean Growers' Association indicate that already about three-fourths of the Michigan crop has been sold. The U. S. Shipping Board is providing ships for shipment of our beans from Port Costa, and the ocean market is sure to become stronger.

Celery Prices East.

Carlot shipments of celery reported by the U. S. Bureau of Markets, November 29, were 18 from New York, 4 from Michigan and 10 from California. Most of this is called the "Golden Heart" and the "Golden Self-Blanching." The California stock runs 4 to 6½ dozen bunches per crate and selling mostly at $5 to $6.50 per crate in Eastern and Central Western markets.

What One Farm Ass'n Has Done.

The Acampo National Farm Loan Association, operating in one supervisorial district of San Joaquin county, has secured loans for its members aggregating $75,000, with applications pending for $30,000 more, as stated November 29, 1918, by Secretary-Treasurer J. B. Jorz. Our readers will remember that this association was used in our issue of November 18, 1916, as an illustration of how farmers could secure loans from the Federal Land Bank.

Bean Production Cost Doubled.

To the Editor: Answering your request for a statement of the cost of raising beans now and before the war: In 1913, taking 20 sacks per acre as an average yield and $20 per acre rent, I could raise an acre of beans for $41.60. This year it will cost me $76.90. Rent has raised to $35 and $50 an acre cash or one-third to one-half share rent. Wages for horses and men are twice as much. Machinery costs twice as much. Seed was 4c in 1913 and 11½c this year.—A. L. Roddick, Soledad.

Cost of Raising Barley.

When labor was cheap a few years ago and sacks not over 10c, it cost $1.35 per 100 pounds to raise barley, according to E. Clemens Horst, one of the largest barley handlers on the Coast. That cost price did not include compensation for reduced fertility.

Red Oats Preferred in Hills.

Red oats do better in the hills than black oats, according to C. J. Lundgren of Santa Clara county. Mr. Lundgren has cut hay from one field of 14 acres every year for 24 years. He used to bluestone the seed, but now he insists on buying clean seed and does not treat it.

RURAL PRESS IN OREGON.

To the Editor: While we have some good farm papers in the Northwest, the Pacific Rural Press is valuable here in Bates county.—J. A. S., Wells.

WITTE IRRIGATING ENGINES

Kerosene-Distillate 2 to 30 H.P.

Pump your water with a WITTE. All you need is a centrifugal and my Special Model Kerosene-Distillate Engine. I can lay your engine down at least cost. Save the middleman's profit—Get your engine NOW, while prices are favorable. Have reliable power for all your work. Made in standard sizes—2, 3, 4, 6, 8, 12, 16, 22, and 30 H. P. Battery or magneto equipment. I am in a position to offer you the best prices and make Quick Shipment. 90-Day Trial — 5-Year Signed Guarantee. Largest exclusive engine factory in the world selling direct to user. Terms: Cash or payments as arranged for. Don't make a deal until you have investigated my offer.—Ed. H. Witte, Pres.

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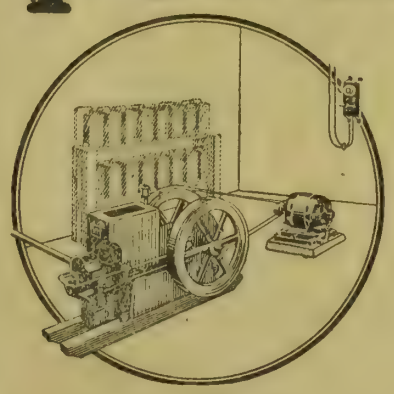
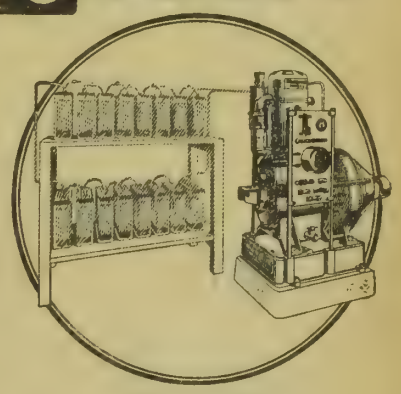


Belted

Careful Buyers Prefer to Have a Choice of Plants



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Get the plant that fits your needs. Don't fit your needs to any particular plant.

A "bull-tongue" plow won't do good work in meadow land; neither can a strong arsenate spray be used on budding trees. The right tool for the work—that's the right idea! And it is this idea that's behind our selling plan for electric plants.

If a man has an engine, we are content to sell him the necessary electrical equipment; no reason why he should buy another engine. If, however, he wants a complete plant, we offer him two kinds:—(1) the belted type where the engine is belted to the generator and is readily available to drive other machinery. (2) the direct connected type, with engine and generator built in one unit.

We are not interested in selling any one particular type of plant. You can choose the one that will best serve your needs.

And remember that the Western Electric Company with its forty years experience, offers you not alone its line of power and light plants, but its motors, water system, milking machine as well as a complete line of electrical labor saving appliances for the home—all bearing the familiar trade mark, Western Electric, your guarantee of satisfaction.

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What Co-operation Has Done for Prunes, Etc.

(Continued from first page.)

ing a fair return to the grower. Commercial packers, in competition with the association, found it necessary to pay prices materially above that paid by the association in order to secure any proportion of fruit from non-members. The trade can now buy with confidence and fill their orders to cover business up to the guaranteed date without fear of a fluctuating or speculative market, instead of buying in fear and trembling from hand to mouth. The guarantee also covers the "pack" under the "Sunsweet" brand. The business handled by the association at the end of the first year was, in round numbers, about nine millions of dollars.

It now possesses thirteen packing houses in different districts of the State, equipped with machinery for manufacturing and packing the finished product. During the first year this work was done by contract at private plants, but, recognizing the lack of economy under this arrangement, a subsidiary corporation was formed, known as the Growers' Packing and Warehousing Association, Inc., which financed the purchase of plants to the extent of some half a million dollars.

BY-PRODUCTS.

In addition to the packing of dried prunes and apricots, the association has widened out into the handling and manufacture of by-products, which must also become a vast industry. Apart from the apricot pits which the association now handles and which will probably net growers $40 a ton this year, it has developed a plant where the kernels are extracted for sale to the trade. In another plant the small, undesirable apricots are being manufactured into jam and prunes are being canned. There is a wonderful future for these products and the jamming and preserving will give an outlet for fruits that would be otherwise difficult to dispose of—fruit of good quality but small in size.

It had been the intention this year to carry out an elaborate scheme of advertising and educating the consuming public in the value and quality of its products. This plan will have to be considerably curtailed now, owing to the season, but will be carried out so far as means will allow and will increase as time goes on.

The association has at present over six thousand members with whom it holds contracts for fruit delivery. Naturally the recent catastrophe suffered by the prune growers by the unseasonable rains and bad weather caused a corresponding setback to the association. Instead of handling products of a potential value of twelve million dollars, it will handle probably less than half that value, but will go through the trouble with the same dogged persistency as was displayed in the formation of the organization. Expert accountants auditing the books of the association at the end of the first fiscal year reported most favorably on its finances and business methods.

Every thinking prune and apricot grower must recognize that this association, of all the leading men in their business.

GIVES STRENGTH AND STABILITY TO THEIR ENTERPRISE.

It has relieved them of the anxiety of wondering whether the prune buyer was going to show up at blossom time or wait till the fruit was on the trays—of wondering what sort of a telegram was going to be pulled on them from foreign parts describing the deplorable state of the market and the enormous overproduction in Servia—all very entertaining but unconvincing. Or, as Pooh-bah said, "Merely corroborative detail, to give artistic verisimilitude to an otherwise bald and unconvincing narrative."

Now we feel that when we get official reports from our associates they can be relied upon to be as accurate as any that can be furnished. And, above all, we feel that we are in charge of our own affairs.

The writer has followed and taken part in prune growers' troubles and vicissitudes for many years and regrets that space forbids a more detailed account of their earlier troubles and endeavors. As a summary of the foregoing article regarding growers' returns during the two seasons the association has been operating, it is not claimed that they have vastly improved the industry from a standpoint of growers' returns. War conditions and a mandate from the Government (this last year) have done that. But it is clear that the credit of trade relations has been established for an organization through which it will be possible to develop and maintain markets vastly better than might result from continuance under the old speculative system. This particularly in view of enormously increased production due in the next few years, as tens of thousands of acres of young prunes come into bearing. The organization by co-operation can find markets for this by going after them and by advertising—the latter being denied to the efforts of private firms for obvious reasons.

FARMERS' FEDERATION LAUNCHED.

[Written for Pacific Rural Press.]

Affiliation of California farmers' organizations for the purpose of securing due consideration of producers' interests in the reconstruction which is to follow the war was definitely inaugurated at Modesto, December 4, after threshing the question all day in a meeting of 100 to 150 people representing all who responded to invitations sent to 98 California farm organizations by the Farmers' Union. A committee of five was appointed to draft by-laws and submit them to every farm organization in the State, with a call for each to send a delegate to a meeting to thresh them over, adopt them as amended, and elect officers. The name proposed is "California Federated Farm Organizations." Urgent need for such a body was shown, to look after such questions as affect farmers in general. Among these are (1) disposition of railroads, (2) control of ocean boats and rates, (3) development of electric power by irrigation districts and others, (4) control of the crude oil which supplies power for our gas engine machines, (5) tariff, (6) taxation when Liberty Bond liquidation begins, etc.

The proposed Federation is not expected to concern itself with marketing and will not duplicate nor compete with the "California Federation of Farmers' Co-operative Marketing Associations," which is studying those questions especially with relation to shipping our products in entire cargoes and developing markets in Europe, South America and the Orient for California products.

No partisan politics will be countenanced, but it is hoped that legislators and commission members may be chosen and supported with regard to their sympathy with producing interests.

Representatives of the State Federation of Labor spoke at the meetings, but so far as we could learn no attempt was made to form closer affiliation of farmers with labor unions than now exists in the California Union of Producers and Consumers.

A strong resolution was unanimously adopted endorsing a proposal to erect a "Temple of Agriculture" near the Capitol at Washington, D. C., to serve as headquarters for representatives of American farmers' organizations in looking after their interests in Congress and gathering information vitally needed by them as commercial interests and labor are already effectively represented at Washington.

The rains of the last month have caused much rice to become soft and therefore not fit for milling.

Agricultural Notes

Twenty-five sacks of rice per acre on 800 acres is the yield reported by T. P. Mortimer of western Merced county.

Eastern Merced county grain warehouse reports recently showed 23,500,000 pounds of barley awaiting a market.

Wind following recent rains in Stanislaus county dried the beans and rice, so the threatened damage did not materialize.

Farm implements and garden tools may now be imported into Mexico, all restrictions having been removed from these articles by the War Board.

The renewal of sugar land leases on the Hawaiian Islands this year are being made at a considerable advance, in some cases as high as 100 per cent.

The Hollister Canning Co. recently shipped a carload of canned tomatoes to Duluth, Minn., having been released from part of their Government requisitions.

The United States Department of Agriculture calls the attention of farmers to the fact that they are now free to buy all the lime needed for fertilizing their soil.

The Farm Bureau of Imperial county is stimulating an interest in the raising of sorghum cane and the manufacture of honey sorghum as a profitable side issue for ranchers.

Forest Supervisor J. R. Hall has announced that all rangers in the service of the Santa Barbara Forest Reserve who are now in the army will be given their old jobs back as soon as they are discharged.

The signing up in Yuba county of leases amounting to 5000 acres for rice culture in 1919 is an indication of the popularity of this industry. The terms of the leases all run for three years, with an option to purchase at the end of the first year.

The California rice committee of the United States Food Administration has sent out notice to California growers that hereafter a deduction of 2c per bag will be made for all rice sacked in nine-ounce bags and 3c for all rice sacked in second-hand ten-ounce bags.

Farmers have borrowed $159,378,000 from the twelve Federal Farm Loan Banks since their organization in March, 1917. Farmers are making payments promptly. Report shows only $86,000 in loans was overdue. Delinquency occurred almost entirely in sections where there had been crop failures.

This season's cotton crop on the plantation of the Dodge Land Company seems to justify the belief that the climatic conditions of certain districts of Northern California are well adapted to cotton culture. Effort is being made to concentrate on the variety best suited to that section.

The J. I. Case T. M. Company will hold a Short Tractor Service School at their branch at Fifteenth and Kansas streets, San Francisco, from December 10 to 14, inclusive. The course will include study of the motor, ignition system, fuels and carburetion, cooling system, tractor chassis, operation, work and implements.

Big increases in all classes of freight rates (with three exceptions between California points) have been announced by the State Railroad Commission. With San Francisco or Oakland as a basic point, the rates to or from Sacramento were increased 130 per cent; to or from Stockton, 220 per cent; to or from Fresno, 66 per cent; to or from Los Angeles, 143 per cent; and to or from San Jose, 514 per cent.

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These prepared tree sprays are ready for use. They are scientifically blended. Just the right proportions to accomplish your purpose, as proved by years of experience.

ORCHARD BRAND tree sprays are the materials we sell and the measure by which the price is gauged. But the service that goes with them is next in value. Beneath it all is the solid foundation based on General Chemical success with tree sprays all over America, wherever fruit is grown.

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You will want authoritative information on such matters. Hence, will do for your orchard.

You will want to make inquiry, to learn how to counteract tree diseases, and how to control the harmful elements which destroy devel- we invite you ta write to us, giving the condition of your trees as you understand it. Our entomological department will then send you bulletins and authoritative data that will aid you in solving your problems.

Many years of scientific research, and practical experience on the Pacific Coast, beside the nation-wide experience, and the proper laboratory equipment, are at your service. Write to us now about your tree troubles.

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NATIONAL SURVEY OF FIELD CROPS.

(Continued from page 613.)

7,593,000 for a five-year average, 1910-1914, preceding the war. The yields are estimated at 236,505,000 bushels in 1918, 208,975,000 in 1917, and 186,208,000 in the pre-war five-year average.

OTHER CEREALS.

Rice acreage planted in the United States jumped from a five-year pre-war average of 733,000 acres to 964,000 in 1917 and 1,120,400 in 1918. Rice yield jumped from the five-year average of 24,378,000 bushels to 36,278,000 in 1917 and 41,918,000 in 1918.

Rye acreage planted in 1918 was 6,119,000; in 1917, 4,480,000; and in the five years preceding the war it averaged 2,562,000 acres. Yields jumped from 37,568,000 bushels pre-war average to 60,145,000 bushels in 1917 and 76,687,000 in 1918.

"Kafirs" were planted on 3,944,000 acres in 1916; on 5,153,000 in 1917, and 5,114,000 in 1918. The yield jumped from 53,858,000 bushels in 1916 to 75,866,000 in 1917 and dropped to 61,182,000 in 1918.

FIELD VEGETABLES.

Potatoes lead all other vegetables. The five-year pre-war average planted was 3,686,000 acres. In 1917 4,390,000 acres were planted. This figure was reduced in 1918 to 4,113,000 acres. The average yield in the United States during the five pre-war years was 360,772,000 bushels. In 1917 442,536,000 bushels were produced. The 1918 crop is estimated at 390,101,000 bushels.

Fall onions produced in the United States jumped from 7,833,000 bushels, as reported in 1916, to 12,309,000 in 1917, and 13,438,000 in 1918.

The sugar beet average for five years, 1910-1914, was 5,391,000 tons. Production in 1916 was 6,228,000 tons; in 1917 it was 5,980,000 tons; and in 1918, 6,549,000 tons.

THE DEMAND.

"During ensuing months, we know," says Secretary Houston, "that the nation is likely to be called upon for large quantities of available foods and feeds to supply not only the peoples with whom we cooperated in the war, but also those of neutrals and the central powers. This will involve a continuance of conservation on the part of our people, and probably the maintenance of a satisfactory range of prices for food products. It is impossible to say when the nations of Europe will return to somewhat normal conditions and resume the planting of bread and feed grains enough to largely meet their requirements. It is impossible now to say whether the shipping will open up sufficiently to permit the free movement of grains from distant countries like Australia, India, and Argentina.

"While the problem of immediate distribution of available foods demands urgent consideration, the production program for next harvest should also receive no less common and urgent attention. We must not fail to secure an adequate supply of feedstuffs for fat livestock, of which the world will be certain to have a particular need."

NURSERY NOTES.

Tehachapi is increasing her acreage of pears and apples—the fruits best suited to this section, which has an elevation of over 4000 feet.

The Peak's cling is coming into vogue on its merits. It is very much like a Phillips cling, but matures two or three weeks earlier and is claimed by its admirers as the best midsummer cling peach. It originated at Selma.

An increased area will be planted to almonds in the Paso Robles and Templeton districts this year. El Pomar, east of Paso Robles, looks like a promising country for the industry. It is better suited to the almond root stock than peach.

William P. Stark, formerly of Louisiana, Mo., has associated himself with the Cottage Gardens Nursery of California. He takes the position of operating manager and sales director and will have entire charge of both production and sales. He will dispose of his interests in Louisiana and give this his entire attention. We welcome Mr. Stark to California.

There is an increased demand for Muir peaches in the Fresno section. The reasons are that the present prices for dried peaches are now profitable and the Muir is one of the best dryers because of its small pit and firm flesh. Also the pit is so easy to take out. The chief reason, however, is that the new peach-peeling machine, for which the Peach Growers' Association has the patent, can do better work on the Muir than any other peach, and this has given the above variety a boost by creating an increased demand.

Pear Trees

There's money in pears if you get started right.

Elmer Bros. Trees are the best you can plant. Grown on virgin soil and

Blight Resistant

Pears have been grown in this valley for forty years and blight has never made its appearance. That's why our pear trees are so much in demand.

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Breaking virgin sod, sun-baked for years, on the prairies of the West—deep-plowing the much tilled land of the smaller farms of the East—year after year of the hardest kind of farm work has proved the supreme fitness of OilPull Tractors.

This dependability and service has been remarkably demonstrated by the first OilPull built, that is still working in South Dakota, and by old OilPull No. 11 still on the job in Michigan—year in and year out continuous performance that gives the only real basis upon which a tractor can be judged. In these ten years the OilPull Tractor has built up a record of continuous, reliable, economical operation unequaled in the tractor industry.

Backed by a Written Guarantee

As if it were not enough that throughout all these years the OilPull has proved its ability to operate successfully on all grades of kerosene, the makers give you an absolute guarantee that it will do so. The fact that this is the only tractor company that gives such a fair and square, iron clad written guarantee tells a big story in itself.

And you will find near at hand Advance-Rumely service—established and maintained through 26 branch offices and warehouses, where complete stocks of machines and repair parts are always on hand.

The Rumely OilPull Tractor may be had in sizes from three to ten plow, standard as to design and construction. A post card will bring you the OilPull catalog.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

SUCH PLOWING ONLY AFTER TRACTORS.

[Written for Pacific Rural Press.]

Clods of hard, dry adobe that would not go into a moderate-sized wash tub were turned by the tractors at the Los Angeles Tractor Demonstration last fall. Only a tractor could plow such ground. The advantages of plowing most

Showing a plowing operation in hard, dry, refractory adobe, possible only with the modern tractor.

California soils dry at greater expense possibly than after they become wet by fall rains are distinct and numerous. (1) The plowing gets done. Any acreage desired can be plowed before seeding time. (2) Ground thus plowed up in hard clods will weather and slack and "melt" in the average fall and early winter rains, forming a well-aerated, well-compacted sub-surface seedbed as good as any implement could reasonably make it and at absolutely no cost. After such weathering the surface inches can be worked down easily and fine to receive the seed. (3) All fall and early winter rains are caught and held in a soil reservoir under the seedbed. As the amount of moisture is probably the greatest factor in California grain farming determining the yield, dry fall plowing in average seasons or locations of limited rainfall should far more than repay its greater cost except in cases where other factors may counter-balance even this advantage. (4) The power required in dry plowing where the tractor has good footing is not so much greater on many soils than that required for plowing after those soils become moist, sticky, slippery or boggy.

TRACTORS FOR WET PLOWING, TOO.

Now, the tractors' advantage is not ended when dry plowing ends, for they keep on going as long as the plows will work; and in cases we have observed they have worked when the ground should not be plowed. With the great bearing surface of long, broad tracks or with the multi-various forms of grouzers and additions to width of drive wheels on wheel types, most tractors have footing enough to pull all that should be expected of them. Most tractors do not exert greater pressure per square inch than horses, though they exert it over more square inches. It is, however, no trick to fasten some small-toothed cultivators behind the wheels or tracks to loosen the soil if it be packed too much.

It is not inhuman nor cruelty to animals to work the iron horse in rain, mud, storm, and darkness; nor is it difficult to fix up sufficient protection for the driver, carrying all the equipment necessary for his comfort in varying conditions of weather.

TRACTOR SCHOOL PROVED WORTH SUPPORTING.

[Written for Pacific Rural Press by R. E. Hodges.]

Fresh from the latest of the University Farm Tractor Short Courses, the writer has lost no whit of the enthusiasm born at the first of them two years ago and increased by attendance throughout the course last year. A few other 1917 students came again to review some of the numerous details then given, but not all of which any human brain could retain. One hundred and sixty-five men and women paid their registration fees and took the course November 11 to 21, 1918. They represented Nevada and most of the counties of California from Lassen and Mendocino south to San Diego and San Bernardino, besides several foreign countries, including Chili, British Columbia, Peru, Japan, Mexico and India.

There seemed among them, as noted by Prof. J. B. Davidson, head of the Agricultural Engineering Department at University Farm, an outstanding idea that they were there for business. Students approached by the writer were unanimous in their endorsement of the practical nature of the course—both in the lectures and the practice work. The Agricultural Engineering Department has for a couple of years operated a number of tractors and stationary engines on the several hundred acres in the University Farm, using them for instruction and for Farm work. So the school has not only the advantage of investigations made among users and manufacturers of gas power machines, but also its own experience and experiments.

WHAT SHOULD FARM SCHOOL DO?

When Prof. Davidson undertook to organize the University Farm Agricultural Engineering Department three or four years ago, he planned to carry out experiments and investigations which could not economically be carried out by individuals. There are multitudes of questions that prospective and experienced tractor users ask, that simply cannot be answered because the desired information has never been accurately determined. Questions by the thousands have had to be answered by mail and in person by the staff of this department more or less fully, having been asked by farmers of this State to solve their vital problems. Even in the simple matter of plow adjustment, no one can estimate the colossal loss of energy in California because farmers and even plow manufacturers have rather generally not known how to adjust their plows to best advantage. Thousands of gas engine machines have gone prematurely to the scrap heap because their operators did not know principles that should be known, and could be learned by the proper kind of more or less expensive investigation.

But Prof. Davidson early gave up his hopes of doing much research work. The people of California have rapidly been awakening to the need of it, but their representatives in Legislature and University have not realized the pressing need and have not provided the necessary funds. The work of the department has included the instruction of hundreds of tractor operators—500 students were taught tractor operation last year in this University school of a State where about 1700 tractors were sold. Cheaply constructed laboratories and shops have been put up. For each of the three splendid tractor short courses that have been held at Davis with attendance far exceeding all the other short courses combined, the great University of California has had to approach the tractor manufacturers and dealers with a plea to send their machines to the school free of charge, pay the freight on them, pay mechanics to come with them and help instruct the students. Be it said to their credit that they have responded nobly, 12 or 14 different makes being there this year for students to operate with various tillage implements, and with mechanics to answer all students' questions.

Aside from salaries of the staff, only $1,050 was available for the year's activities of this Agricultural Engineering Department. If the war had not taken so many students—if the normal number had been taught, supplies for the forge shop alone would have cost $500. This $1,050 had to cover postage on thousands of letters answering farmers' questions, pay office incidentals, buy all experimental equipment and all supplies for shops and laboratories, pay all traveling expenses and the cost of special instructors. How far did it go? Some of the most expensive equipment used there is the personal property of the staff and of commercial concerns who have loaned it to the University of California! Over a year ago Prof. Davidson considered organization of moving tractor schools such as are now launched by the State Board of Education, and turned down the idea reluctantly because he had no funds to use that way!

POWER FARMERS SUPREME.

The outstanding significant, characteristic feature that has made American agriculture produce more food per man engaged in it than has been produced anywhere else in the world is power farming. When the world crisis arose, Europe sent to America for men and machines, teachers of American methods of using power and equipment. A former student of agricultural engineering is in France today for the purpose not of fighting Germans or of telling French farmers how to conserve or restore fertility, but to teach them how power farming as practiced in America can solve their food problems. Another graduate of agricultural engineering is teaching Englishmen in England American power farming. The old world looks to America for this information. Educational institutions have lagged far behind the farmers in recognizing the value of this power farming now so widely realized. Other States have beaten California in this respect. Nebraska has just completed a $180,000 plant for agricultural engineering. Iowa has one that cost $110,000. Minnesota has a $225,000 plant: Manitoba has an agricultural engineering plant 160 feet long, 110 feet wide, and three

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Whether your soil is hardpan, black-wax, timothy sod, gumbo or just loam, the Waterloo Boy Kerosene Burning Tractor has the necessary power to farm it. Our thousands of satisfied users all over the United States have given this tractor rigid tryouts in every possible soil condition, and the Waterloo Boy has always pulled through with a record.

Perfect Lubrication Necessary to Efficient Work and Long Life

The teeth of friction get busy quicker on a tractor than on other machines, because of the trying circumstances under which it must work. No matter how well your machine is built, it can not do good work unless the lubricating system is right.

The Waterloo Boy is equipped with the well known circulating splash and pump system of lubrication, which is employed on high class automobiles generally. This constantly maintains a substantial oil flow between all friction points. With dust-proof gears and bearings, it prevents wear, increases power, keeps down repair expense, insures smooth, steady work.

High quality material and workmanship throughout guaranteed.

Write us for illustrated catalog showing many photographic views with letters from users, also details of construction.

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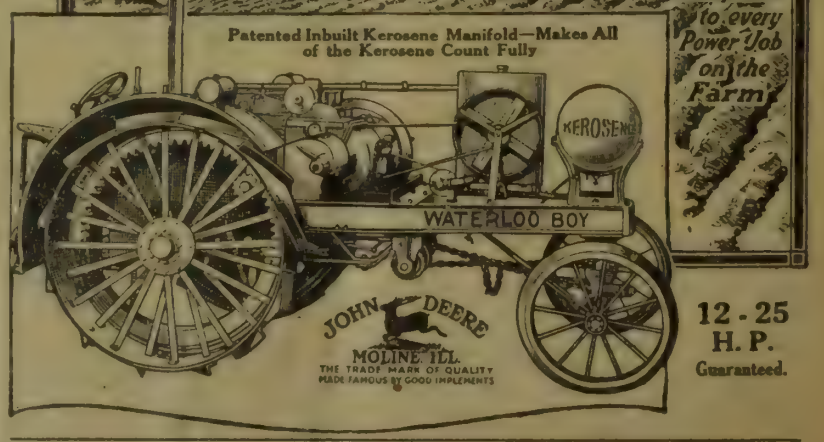

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stories high. Dean Van Norman of the California University Farm School is modestly asking for a $50,000 building and $28,500 per year for operating expenses to build up a department that could answer farmers' power questions with precision. The State Board of Education, using $50,000 of the war emergency money of the Council of Defense, has launched moving tractor schools as a separate organization. Such moving schools are much needed and likely to prove the money well spent, but in a day of attempted reduction of duplicated effort, why, wonders the writer, should not this activity and this money be placed under jurisdiction of the University Department, which has proved itself so eminently practical and popular among those interested in power farming!

We are not in favor of an increase in State expenses, but it seems like there is much money spent nonproductively that might yield a hundred-fold if invested in an adequate Agricultural Engineering Department at University Farm.

Now, if you have been a student at any of these Agricultural Engineering Courses, or if you have not been there but believe that farmers of this State need an experiment station to answer your power-farming questions with precision, clip this article and send it with a letter endorsing it to the Dean of the Agricultural College at Berkeley, that he may use it in convincing the University Regents, the State Board of Control, the Governor, and the Legislature that power farming in California deserves the support asked. You can get it if you want it enough to make this little effort.

REPLACING SPIT-HUB FLYWHEELS.

After removing a split-hub flywheel from any machine, be sure that it is put back with no dirt between the bearing surfaces and with no offset between the halves of the hub. Anything which throws the flywheel ever so slightly out of balance will crystallize its shaft and then the flywheel will surely fly. There is an awful strain on the shaft of a 500-pound flywheel running 500 r. p. m., unless it is perfectly balanced. A piece of dirt on the flange .002 inch thick will throw the rim of the wheel several thousandths out of true. Often the bearing surfaces may be clean, but when the bolt is driven through, even with a light hammer, it may shave off a bit of steel and leave it between the bearing surfaces. Then the flywheel itself may be wrongfully blamed.

KEROSENE EQUIVALENT OF OAK WOOD.

To the Editor: Will you please let me know through your paper how many gallons of kerosene are equal to one cord of oak wood? Also, how many pounds of coal are equal to one cord of wood? —A Subscriber.

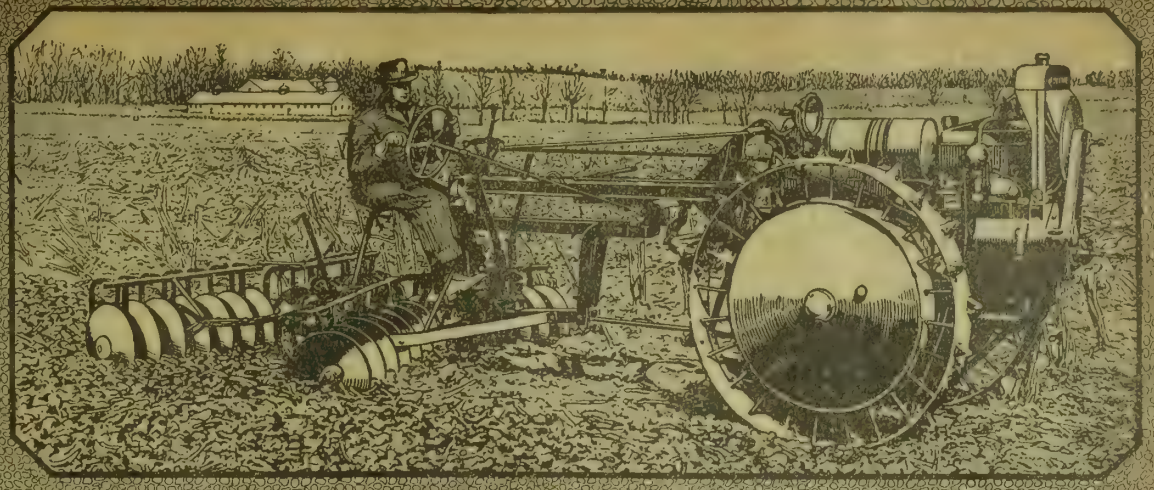
According to Kent, a cord of white oak (air dried) equals from 1540 to 1710 pounds of coal. One barrel of oil (42 gallons, or 315 pounds) equals 499 pounds of coal.

FREE TRACTOR COURSE.

A free service school to cover every phase of tractor equipment, operation, overhauling, and repairing is to be held at the San Francisco office of the J. I. Case T. M. Co., December 10 to 14. The Case company invites all of its customers and others interested in the operation and care of tractors.

About twenty Fageol tractors are now being manufactured every week, and with the loosening of steel restrictions the output is soon expected to reach 40 per week. The Fageol people have been awaiting the results obtained from about 25 of their machines put out in various parts of the State about a year ago for tests by farmers under common farm conditions.

Graphite on the engine gaskets will permit them to be loosened easily when desirable next time.



Moline-Universal Power Lift Gang—Extra strong construction, simple power lift operated by foot lever, equipped with quick attachable shares and combined rolling coulters and jointers. In average soil conditions this outfit will plow 9 acres a day

Moline-Universal Disc Harrow—Strongly constructed with 18-inch blades. Each gang has 3 large dust-proof bearings equipped with wood bushings. Easily and quickly adjusted. Built in 6 and 7-ft. sizes double cut, or 8, 9 and 10-ft. single cut.

Moline Grain Drill—Operator sits behind the drill where he can see work being done. Furnished in a great variety of sizes either as plain or fertilizer drill. Deposits seed with unvarying accuracy. Equipped with either single or double disc furrow openers.

Moline-Universal Tow-Row Cultivator—With this outfit 10 to 20 acres a day can be cultivated. Entire outfit easily handled. Tractor speed easily regulated from ½ to 3½ M. P. H. Cultivator is extra strong and has pendulum foot gang shift.

THE TRACTOR
for ALL Your Work
AND ALL THE IMPLEMENTS to Do It With

Mr Nile Kinnick of Adel, Iowa, operates a 400-acre farm and all the work is done by two men, two Moline-Universal Tractors and one team of mules. This is what he says about the Moline-Universal:

"I was agreeably surprised with the ease with which we could cultivate corn, and for harvesting it far surpasses horses or mules. It appeals to me as an ideal tractor. It will actually replace horses, something that most farmers must consider when they plan to buy a tractor. The ease with which it is handled and the advantage of operating the outfit from the seat of the implement are facts that cannot be appreciated until one has tried it."

This expresses in a nutshell the advantages of the Moline-Universal. It does *all farm work* including cultivating; *one man* operates both tractor and implement from the seat of the implement; it has *ample power* for heavy field and belt work, yet can be operated economically on light work.

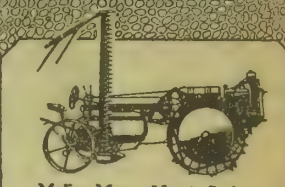
Another big feature that makes the Moline-Universal superior to all other tractors is the complete Moline Line of Implements to be operated in connection with it. This does not mean it is necessary to purchase all of these implements with the tractor, as many horse drawn implements can be used successfully. But it does mean that a Moline-Universal owner can operate his tractor to full capacity at all times and make the best use of the operator's time by using Moline tractor implements. They do better work with the Moline-Universal, are of larger capacity, stronger construction, are designed to run at higher speeds than horse drawn implements, and will pay for themselves in a short time.

For full information Address Dept. 97.

Moline Plow Co., Moline, Ill.

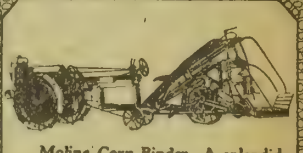
Manufacturers of Quality Farm Implements Since 1865

MOLINE UNIVERSAL TRACTOR



Moline Mower No. 4—Built in 6, 7, 8 and 10-ft. cuts. The largest capacity mower in the world. Proportionately larger and stronger than ordinary mower. Equipped with spring draft rod. One man operates both tractor and mower.

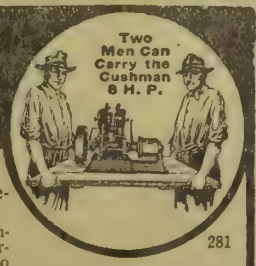
Moline Grain Binder No. 11—Cuts a 10-ft. swath. Extra strongly constructed throughout. Cuts 35 acres a day. Equipped with power bundle carrier. One man handles the tractor and binder easier than he could a binder and horses.



Moline Corn Binder—A splendid outfit for cutting corn easily and quickly. Power bundle carrier deposits bundles away from the path of the tractor. Strong and durable. One man operates the entire outfit easier than with horses.

Moline-Universal Tractor Attachor—A great variety of equipment can be attached to rear crossbars, so that majority of operations in orchard and vineyard work and cane growing can be performed with this one outfit.

A Dwarf in Size A Giant in Power



Only 40 to 60 lbs. per H. P.

Cushman Engines weigh only 40 to 60 pounds per horsepower, yet have plenty of surplus power.

They weigh only about one-fourth as much as ordinary farm engines, but they are balanced so carefully and governed so accurately that they run much more steadily and quietly. They are also the **most durable farm engines** in the world, on account of their improved design and better material and construction.

Easy to Move from Job to Job

CUSHMAN Light Weight Farm Motors

4 H. P. on Binder

This is the famous All-Purpose Cushman that has been used on so many binders. Just as successful for all stationary jobs.

4 H. P. weighs only 190 lbs., being only 48 lbs. per horsepower. Besides doing all ordinary jobs, it may be attached to any grain binder, saving a team, and in a wet harvest saving the crop. Also it may be used on corn binders and potato diggers.

8 H. P. weighs only 320 lbs., being only 40 lbs. per h. p. For all medium jobs. Also may be attached to hay presses, corn pickers, saw rigs, etc.

15 H. P. weighs only 780 lbs., being only 52 lbs. per horsepower. For heavier farm jobs, such as 6-hole corn shellers, ensilage cutters, large feed grinders, small threshers, etc.

20 H. P. weighs only 1200 lbs., being only 60 lbs. per h. p. For heavier duty jobs, such as shredders, shellers, grain separators, heavy sawing, etc.

Cushman Engines do not wear unevenly and lose compression. Every running part protected from dust and properly lubricated. Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and Water Circulating Pump. Ask for Book on Light-Weight Engines.

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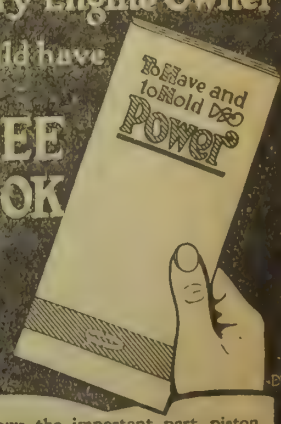
Every Engine Owner should have this FREE BOOK



It shows the important part piston rings play in producing power, saving gasoline and oil. Tells how you can have a clean, dependable motor. It will enable you to judge for yourself the claims of all types of piston rings. For your own satisfaction, profit and protection—send for your copy today.

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McQuay-Norris LEAK-PROOF Piston Rings

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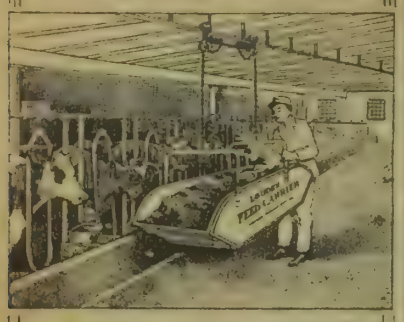

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The Holstein-Friesian Cow is large strong and vigorous, full of energy and abounding vitality. It is able to turn to best advantage the roughage of the farm, converting it into large quantities of excellent milk for all purposes. She perpetuates herself through strong, healthy calves, and when useless in the dairy fattens readily and makes excellent beef.

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Send for our booklets—they contain much valuable information.

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Box 141 BRATTLEBORO, VT.

For Profits Sake Feed Cows Liberally

[Written for Pacific Rural Press by R. H. Whitten.]

As pastures wane and it is necessary to furnish other feed to cows, it is the custom of many dairymen to feed lightly and permit the cows to get in a run-down condition. They figure that they are saving money, but it is really an expensive practice, and as pastures give out other feeds should be used liberally so as to keep the milk flow constant.

Liberal feeding does not mean the lavish use of high-priced concentrates, although under average conditions it well pays to supplement alfalfa with a moderate grain ration.

We have just received from Prof. Woll of the University Farm, Davis, a copy of his valuable paper, "Alfalfa as a Sole Feed for Dairy Cattle," which was read at the annual meeting of the American Society of Animal Production at Ames, Iowa. It gives the results of experiments carried on for several years at the University Farm to determine the effect of an exclusive alfalfa diet on both the body development and the production of dairy cows.

The investigation was begun in April, 1914, with heifers taken about a year before their first freshening dates and carried through two lactation periods. One lot was fed alfalfa alone—green and cured—and another lot received silage and grain in addition to alfalfa.

GRAIN INCREASES SIZE AND WEIGHT.

Larger average daily gains in body weight were secured on mixed rations than on alfalfa alone. The heifers receiving a mixed ration gained 1.11 pounds daily before freshening and 0.60 pound daily for the entire period, as compared with gains of 1.05 and 0.50 pound respectively for those receiving alfalfa alone.

Records were also kept on the measurements of the animals, with the percentages of increase, and the tendency of those on mixed rations was toward a larger body development than those on alfalfa alone. For instance, the former gained 18 per cent in body length and the latter 17 per cent. The former gained 14 per cent in girth and the latter 12 per cent.

INFLUENCE ON CALVES.

The calves dropped by the alfalfa heifers averaged 59.8 pounds at birth, and those by the heifers on mixed rations averaged 64.4 pounds—an increase of 8 per cent in the average birth weight of the latter calves.

The records are not sufficiently complete to show whether or not the heavier calves continued to have the advantage as they grew older, so far as body weight is concerned, but a good-sized, thrifty calf is always considered a desirable asset, no matter whether it is to be raised or vealed.

INFLUENCE ON DAIRY PRODUCTION.

The mixed ration proved decidedly superior to alfalfa in point of production. During the first lactation period the heifers on the mixed ration produced 45 per cent more butterfat than those on alfalfa alone, and during the second lactation period 23 per cent more. The latter figure was considerably reduced because of the failure of one heifer to make a satisfactory production during this period. For some unaccountable reason she fell from 352 pounds during her first period to 167 pounds during the second.

The average daily production for the two lactation periods on alfalfa alone was 17.6 pounds of milk and 0.71 pound butterfat, and on the mixed ration 22.7 pounds milk and 1.00 pound butterfat. Each hundred pounds of dry matter in the alfalfa ration produced 70.7 pounds milk and 2.82 pounds butterfat, and in the mixed ration 79.4 pounds milk and 3.50 pounds butterfat, an improvement in the latter ration of 1.2 per cent in milk and 23 per cent in butterfat.

DOES IT PAY?

But do the benefits obtained from a mixed ration pay for their higher feed cost? That's the important question. The answer depends largely upon the comparative cost of the two rations. The average prices per ton during the years of these investigations were: Alfalfa hay, $10.50; barley, $29; dried beet pulp, $24; coconut meal, $27; wheat bran, $27; and corn silage was figured at $4 per ton. Using these figures and considering the increased production alone, it was about an even break in the economy of the two systems of feeding. But when the development of the heifers, the greater value of their calves and the larger amount of skim milk are taken into consideration, it certainly paid to feed the mixed ration.

Since then the price of alfalfa has increased more in proportion than that of nearly all the other feeds, consequently there is all the more reason now why a mixed ration should be given. Remember how we figured this out for you in a recent issue. The average cow receiving alfalfa alone eats 30 pounds daily. By reducing the alfalfa 10 pounds per day and adding a grain ration of two pounds each of barley, dried beet pulp and coconut meal, you will add 5c per day to the cost of the daily feed. But the cow will give you additional milk worth 16c, so you will make a net profit of 11c per day per cow on production alone. In a herd of 30 cows this means an extra profit of $99 per month.

Suppose you can't buy beet pulp, or you have a large amount of barley that you prefer to use. Go ahead and use it. You can make it pay. One hundred pounds of alfalfa contains 50.7 pounds of digestible material, and at $22 per ton this makes the digestible part cost 2.17c per pound. One hundred pounds of rolled barley contains 79.4 pounds of digestible material, and at $45 per ton the digestible part costs 2.83c per pound. This makes the barley really cost a little over a half cent per pound more than alfalfa, but the feeding of a reasonable amount will increase the flow of milk enough to pay the additional cost and show a good profit besides.

That is, if a cow is giving at least 20 pounds of milk a day. It will hardly pay to grain cows giving less than this. Prof. Eckles of the Missouri Experiment Station, one of America's leading dairy authorities, recommends the following schedule:

For Jersey cow producing 20 pounds of milk daily, 3 pounds grain; 25 pounds milk, 4 pounds grain; 30 pounds milk, 5½ pounds grain; 35 pounds milk, 7 pounds grain; 40 pounds milk, 8 pounds grain.

For Holstein cow producing 25 pounds milk daily, 3 pounds grain; 30 pounds milk, 4 pounds grain; 35 pounds milk, 5½ pounds grain; 40 pounds milk, 7 pounds grain; 50 pounds milk, 9 pounds grain.

For Guernseys and Ayrshires all amounts would be about half way between those for Jerseys and Holsteins.

FEED COWS LIBERALLY AND WELL.

Feed your cows a mixed ration and feed them well. Don't keep them so thin that you can hang your hat on them anywhere. They will not produce as heavily and will not hold up as long as those in better flesh; also they will prove more susceptible to disease.

A good producing cow naturally carries a well-rounded frame—filled out with flesh, not fat—and if kept in this condition she will return a better profit than when fed only enough to make the milk she is producing.

You can bank on this—a liberal mixed ration will pay in the long run in increased production, persistency, greater size and vigor of calves, more regular breeding, and better general health.

Anchorage Farm, Orland, has sold several Berkshires to E. T. Hale of Orland, who is starting a registered herd. He already had a son of Star Leader.

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Advantage in buying a
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Butter-fat is now worth twice as much as it was two or three years ago.

So is labor.

A De Laval saves both.

And never before was there so urgent reason for saving every ounce of butter-fat and every half-hour of time and labor.

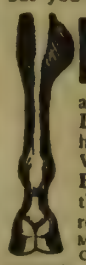
A De Laval will now pay for itself in half the time, compared with former years.

Buy it now and it will save its cost in a few months.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you.

De Laval Dairy Supply Co.
Largest Dairy Supply House on the Pacific Coast
61 BEALE ST., SAN FRANCISCO

YOU CAN'T CUT OUT A BOG SPAVIN OR THOROUGHPIN but you can clean them off promptly with



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Purebred Stock Sales a Specialty
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1501-3-5 So. Main St., Los Angeles, Cal.

Cottonwood Hog Sale a Big Success

[Written for Pacific Rural Press.]

Old timers said it couldn't be done. Timid ones said they were afraid to try. But Parker Talbot, Farm Advisor of Shasta county, said that a successful Farm Bureau auction sale of hogs could be held, and he got busy.

He found the farmers reluctant to consign their hogs at first, many fearing that the buyers would combine against them and queer the sale. But he secured enough hogs to make up three carloads and the sale was announced for December 3 at Cottonwood.

Ord L. Leachman, the live-wire auctioneer of Sacramento, was engaged to cry the sale. There was a large attendance of spectators as well as buyers, many farmers coming just to see what would happen.

Mr. Talbot warmed the people up with a good talk and the sale was on. The first carlot was made up mostly of small feeder hogs, and went to the Willard Commission Company of Portland for $13.50. Then came a carlot of fine big fat hogs, which went to the same buyer for $14.55. The third carlot also was good, but a little light, averaging 187 pounds, and went to the Western Meat Company of San Francisco for $14.50.

The consignors were well satisfied, as the prices mean about $2 more at terminals, and many farmers who were afraid to consign wished they had done so. Another sale will be held soon, and will include cattle as well as hogs.

A prominent breeder who attended the sale said that this moral was impressed upon the farmers: "Don't be afraid to trust your Farm Advisor. He is working for your best interests."

Bull Beauty More Than Skin Deep

[Written for Pacific Rural Press.]

The value of a good sire as proved by the evidence-producing Babcock test is shown in the production of the daughters of the Jersey bull, St. Mawes. He has 20 daughters in the register of merit with a yearly average of over 500 pounds of fat. One of his daughters, St. Mawes' Poppy, made three official yearly records, the highest of which was 952 pounds.

The most interesting fact is that four of his daughters, all out of the same dam, made an average of over 600 pounds of fat. The highest record was 713.84 pounds and the lowest 410.98 pounds.

But St. Mawes went the way of many good bulls — the beefsteak route—before he had had a chance to prove his worth. His owner didn't like his looks and sold him to the butcher before his daughters had been tested.

Perhaps you, Mr. Reader, have just as valuable a bull in your herd. No? How do you know if you haven't tested his daughters? Don't judge by appearances. The Babcock test is the only safe way to determine such things, and it is just as valuable in discovering a good sire as in determining the best females in a herd.

Discovering a good sire is like finding a buried treasure on the farm. Prepotent bulls are none too plentiful, and it is not always the best looking individuals that make the best breeders. Remember what the fellow said when someone asked him if he didn't think the skunk was a beautiful animal. He replied that "handsome is as handsome does." No matter whether you like your bull's looks or not, give him a fair chance to prove his worth. Test his daughters before thinking of disposing of him. You may be on the verge of giving up a gold mine.

LIBERTY FAIR IS ON.

At last the gates of the Liberty Fair at Los Angeles have opened. The fair started on Wednesday of this week and will continue for ten days. The opening was announced by a military salute, followed by a parade through the business district. Governor Stephens was the guest of honor at the formal dedicatory services.

Of course you are going. The judging will have been finished by the time you read this announcement, so you can see the prize winners. The exhibits in all of the departments are high class. You will learn a great deal by spending a few days there.

CALIFORNIA STOCK WINS AT THE INTERNATIONAL.

Three cheers and a tiger! Word has just been received that California Marvel, the Shorthorn steer entered at the International Livestock Exposition at Chicago by the University Farm of Davis, has captured the championship.

This is the second time that this championship has been won by a California steer. The University Farm did not show at Chicago last year, but in 1916 they won with California Favorite, a half-brother of this year's champion.

Other stock being shown at the International this year includes seven other steers, a carload lot of Duroc-Jersey hogs, pens of Berkshire and Poland-China hogs, and 18 fat wethers. A fuller report of the winnings will be given next week.

Prof. Gordon H. True of the Livestock Commission of the local Food Administration states that cottonseed hulls are available in the Imperial Valley at $20 per ton f. o. b.

The JER$EY DOLLAR

JERSEYS make a dollar worth more because they give the biggest yield with the least amount of feed. The only breed for the working farmer. The least expensive breed to keep, the most satisfactory breed to have. Buy one Jersey and you will want a herd. Write to Breeders for pedigrees and prices. Ask us for the facts that have changed many a cow barn from a liability to an asset.

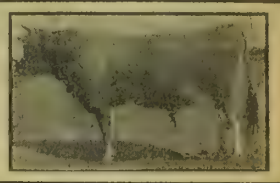
THE AMERICAN JERSEY CATTLE CLUB, 388 West 23rd Street, New York City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited

A. A. JENKINS, R. D. 1, Tulare, Cal.



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Choice young bulls of King's Valet Blood, backed by Records.
Call at the ranch and make selection.

VENADERA HERD REG. JERSEYS
Herd headed by Altama Interest, Grand Champion 1918 State Fair. Awarded two other championships and 10 firsts, including Aged Herd, Breeders' Young Herd, and get of sire. Young bulls for sale from dams and granddams in Register of Merit.
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Bulls for sale from Register of Merit cows. Write for information.
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Young bull calves for sale. Fine individuals with Register of Merit backing.

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Register of MERIT JERSEYS
A limited number of bulls for sale

America's Greatest Farm Auction Sale
Tagus Ranch, Tulare, California
Tuesday, Dec. 10 90 REGISTERED HOLSTEINS

WEDNESDAY, DECEMBER 11—215 Registered Duroc-Jersey Hogs; 200 high-grade Polled Angus Cows; 100 high-grade Shorthorn Cows; 15 Registered Polled Angus Bulls; 3 Shorthorn Bulls.
THURSDAY, DECEMBER 12—17 Registered Percheron and Belgian Mares; 16 Registered Percheron and Belgian Stallions; 100 high-grade Brood Mares, Work Horses and Mules.
FRIDAY, DECEMBER 13—Five 15-35 h. p. Sandusky Tractors; 2 Bull Tractors; $50,000.00 worth of high-class Equipment and Farm Implements for every kind of crop.

Be There! The Buying Opportunity of a Lifetime!

OWNERS:
Pacific States Corporation,
Tagus Ranch, Box D, Tulare, Cal.

AUCTIONEERS: Col. Ben A. Rhoades, Harold B. Rhoades.
SALES MANAGER: C. Ia Hughes, Sacramento, Cal.

His Calves Are Now Coming

King Korndyke Pontiac 20th.

and they are certainly beauties. They not only inherit his type—extraordinary length, depth and splendid vigor—but also the wonderful production breeding that is behind him. Their dams also contribute great producing blood. Most of them are daughters of our senior herd sire, Prince Riverside Walker.

It is not too early to begin to figure with us on one of the young sons of King Korndyke Pontiac 20th for your herd.

Come and see them or write for description, pedigrees and prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED.

Tulare Holstein Farm
W. J. Higdon, Owner TULARE, CAL. H. L. Reed, Herdsman

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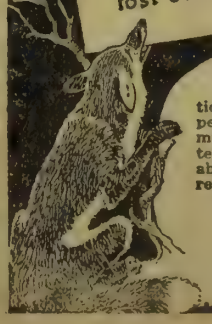

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Feeding Barley for Best Results

[Written for Pacific Rural Press by R. H. Whitten.]

When grain is not self-fed it should be used in the form of a slop.

"You advise us to feed barley to hogs, but you don't tell us how it should be fed," write several subscribers who read our article in a recent issue, entitled "Hogs Convert Barley into Bank Accounts." Right you are, readers, and we are glad to furnish the additional information.

No one is wise enough to be able to say with certainty, "If you feed your pigs exactly this way you will make the greatest possible profit." Home-grown feeds should be used as far as possible, and as crops and conditions on different ranches vary greatly, our suggestions must be general rather than specific.

Several subscribers ask if barley should be fed whole. Because the kernels are so small and hard, they are not thoroughly masticated if fed whole, and they pass through hogs without being digested. Consequently, barley should be rolled or ground. It is preferable in the latter form, although rolled barley gives excellent results.

BARLEY ALONE NOT SUFFICIENT.

But barley alone is not sufficient. It is high in carbohydrates, which give strength and animal heat, but it is low in protein, ash and other properties which are necessary to replace wasted tissues and promote growth. Skim milk is the ideal supplement, and when available it should be used in the proportions of three pounds of milk to one of grain.

Tankage is a desirable substitute for skim milk for brood sows, herd boars and growing pigs. It is also good for fattening, but other feeds high in protein, such as coconut meal or oilcake meal, generally can be used more economically. For regular use, add 10 per cent of the tankage or substitute to the grain ration; for finishing off, 5 per cent will be sufficient.

SELF-FEEDER WILL INCREASE PROFITS.

For fattening hogs the self-feeder will give excellent results. In an experiment conducted at the University Farm, pigs averaging 60 pounds each were divided into five uniform lots. The first lot was fed ground barley alone at the rate of 1 per cent of their weight daily. The second lot received 2 per cent and the third received 3 per cent. The fourth lot was fed all the barley it wanted in a self-feeder, and the fifth lot was fed the same except that the pigs also had free access to coconut meal. The test was carried on for 114 days, with the following results:

Feed—	Weight
1 per cent	95 lbs
2 per cent	125 lbs
3 per cent	155 lbs
Full feed	180 lbs
Full feed and coconut	190 lbs

Of course, the hogs on full feed consumed more grain than those on limited feed, but the important part is that they required less grain for each pound of gain, and consequently made the greatest profit.

SOME ROUGHAGE NECESSARY.

It will not be found profitable, however, to either develop or finish [illegible] alone. It should be used as a supplement to pasture or hay. Pasturage is preferable, and the pasture should be alfalfa if possible. If not, clover, Sudan grass, rye, millet or rape, or a mixture of these, will answer. Rye, millet and rape can be seeded right in with an established stand of alfalfa in the fall or early winter, and will furnish good winter pasturage during the months when alfalfa is dormant.

If no pasture is available during the winter months, alfalfa hay may be fed, but hogs do not eat the stems readily and the waste is great. Chopped alfalfa is better; alfalfa meal is better yet.

BARLEY CHEAPER THAN ALFALFA.

But don't make the mistake of attempting to substitute alfalfa meal for a large amount of barley. Because you can buy alfalfa meal at $36 per ton and ground barley will cost you $47, don't think that alfalfa meal is cheaper. One hundred pounds of barley contains 79.4 pounds of digestible material, which makes the actual cost of digestible material utilized by the hog 2.95 cents per pound. In 100 pounds of alfalfa meal there are 50.7 pounds of digestible material, which makes the cost 3.55 cents per pound. This means that barley at $47 per ton is actually cheaper than alfalfa meal at $36.

So the only object in using alfalfa is to provide a balanced ration, and the best results will be secured when one part of alfalfa to six of grain is used for fattening hogs, one part to five for growing stock, and one part to three or four for a maintenance ration.

SOAK THE GRAIN WHEN NOT SELF-FED.

When the self-feeder is not used, most hog raisers get better results by soaking the barley, using water when skim milk is not available. Tankage or coconut meal should be added to the slop, and if alfalfa meal is used it also may be added.

Don't be afraid to feed barley liberally, even to the young fall pigs. Experiments conducted at the University Farm show that the method of growing pigs on pasture alone and using grain afterwards to secure sufficient weight and finish, actually requires more grain than does the system of feeding grain continually from weaning time, and does not yield as big a profit.

Remember, a hog is a machine for converting grain into gold. But the amount of gold you get out will depend largely upon the grain you put in.

BANKS LEND TO BOYS' PIG CLUBS.

Eight California banks have loaned money to members of boys' pig clubs this year. The average amount loaned per bank was $409.39, and the average number of boys dealing with each bank was about 25.

Our good friend, H. C. Carr, of the First National Bank of Porterville, who is chairman of the boys' club committee of the State Bankers' Association, says: "The consciousness of the banker that he is developing the boy into an independent thinker and actor, and the fact that he is laying a foundation for his clientele for the future, is ample compensation to him for the trouble and investment.

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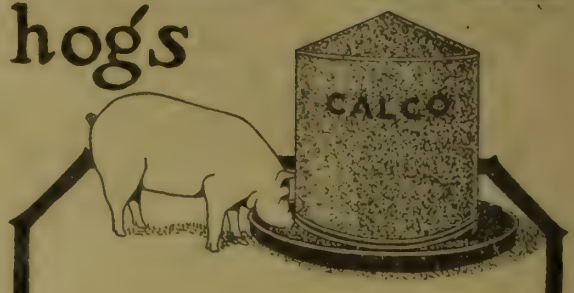
Calco Grain Feeder
for hogs



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—sanitary
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Many sizes, from $2.95 up.
Ask about them.

The Calco Grain Feeder is a grain saver. It will pay for itself in a few months. A metal cone feeds grain to the feeding compartment only as fast as it is consumed.

Calco Grain Feeders are made of strong Armco Iron—durable, sanitary and inexpensive. Sizes from 22 to 46 inches in height, with capacities from 2 to 14 bushels of grain. Easy to move from place to place. Send for literature.

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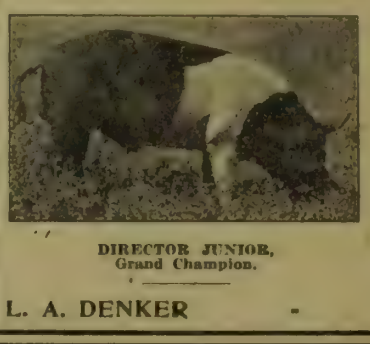

DIRECTOR JUNIOR, Grand Champion.

BOQUET CANYON HERD
HAMPSHIRES
Won Grand Champion on a six-months-old pig—something unusual. Also Reserve Senior Champion Sow, Junior Champion Boar and Reserve Junior Champion Sow.
7 FIRSTS, 6 SECONDS, 4 THIRDS.
We offer choice bred sows and open March gilts that we will breed to any boar in our herd. Also brothers and half-brothers to our Grand Champion boar, Director Junior.
EVERY HOG GUARANTEED TO PLEASE.
L. A. DENKER - - Saugus, Cal.

UNEEDA QUEEN MODEL, Grand Champion, State Fair, 1918.

Uneeda Duroc-Jerseys
Won at Sacramento:
Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.
PIGS BY NOTED SIRES
High Orion (refused price $3,500); Great Wonder, Grand Champion Iowa; King Orion Cherry, First Prize Indiana and Ohio, and other best boars of the breed. Get some of their pigs.
H. P. SLOCUM & SON
WILLOWS CAL.

OAK KNOLL FARM
LAKEPORT CALIFORNIA
We have sold all our young boars and are now booking orders for March delivery. Highlander, the $1,000 Grand Champion Boar, heads our herd of
CHESTER WHITES
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
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HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Sheep Health Means Sheep Wealth

[Written for Pacific Rural Press by R. H. Whitten.]

Puzzle: Find the lamb infested with stomach worms.

Before reading the article, gaze on the illustration which accompanies it. All of the lambs are of the same breeding and the same age, and have been fed exactly the same. The only difference is that the larger ones have been kept free from stomach worms, while the poor little fellow at the left has not. Which kind do you want to raise?

The statement has often been made that stomach worms have done more to reduce the number of sheep than all the stray dogs and other predatory animals. While there may be some question about this, it certainly is true that of all sheep diseases stomach worms cause the greatest losses. There is no moist climate in America in which the crops are not seriously infested with stomach worms, and even the ranges of the West are beginning to be affected.

The stomach worm is reddish-brown, thread-like, about a half inch long and as thick as a horse hair. It lodges in the fourth stomach of the sheep, where it lives and grows by sucking blood from the blood vessels and arteries in the walls of the stomach. It matures within two or three weeks after its first appearance in the stomach. Eggs are laid which pass through the intestines and are voided in the feces. If the temperature is below 40 degrees, the eggs do not develop, but if above that they will hatch. This requires from a few hours to a week, depending on the temperature.

A small worm, or larvae, hatches from each egg, and grows until it is about one-twelfth of an inch long, after which it becomes practically dormant until swallowed by an animal. After being swallowed, it feeds on the blood of the animal, as already described.

A peculiar habit of the larvae which aids in its chance of being swallowed by grazing animals is its ability to crawl up grass stems while they are wet with dew. That is why the ravages of the stomach worm are greater in wet seasons than in dry. Also it explains why the shade in the pasture becomes a serious source of infection for stomach worms. Sheep lie in the shade and naturally a great deal of manure is collected there and the grass becomes rich and luscious. The young lamb, after a rest, jumps up and starts to eating the choicest grass in the pasture, and this grass is heavily infected with the stomach worm larva because so much manure has been dropped there.

I say "the young lamb" because stomach worms rarely cause death in mature sheep, as the latter have considerably more ability to resist them than lambs have. So I shall confine myself mainly to a treatment of the lamb phase.

SYMPTOMS OF STOMACH WORMS.

To the experienced eye there is little difficulty in discovering cases of stomach worms. The infected lamb does not keep up with the rest of the flock, and indicates a general debilitated and languid appearance. It is what shepherds call "off color." There is a marked loss in weight, the walk becomes hesitating and the lamb droopy and feeble. The wool becomes rough, harsh, dry to the touch, and without luster. The skin, instead of being pink, is of a pale color, and a bloodless appearance is noted, particularly about the eyes. The mucous membranes of the mouth also are pale in color. In advanced stages a watery swelling appears under the jaw, and scours ensues, with feces of a dark color.

THE GASOLINE TREATMENT.

One of the best remedies is gasoline. For lambs the dose is two-thirds of a glass of warm, sweet milk, to which has been added a tablespoonful each of gasoline and raw linseed oil. The milk is necessary to prevent the fumes of the gasoline from getting into the lungs of the sheep, and the oil acts as a laxative.

This should be given to each lamb in the form of a drench on three successive mornings, keeping the lambs off feed for at least twelve hours before and three hours after the dose is administered. The amount is sufficient for a 75 to 80 pound lamb. For older sheep increase the gasoline 50 per cent, but use the same amount of the other ingredients. Great care should be exercised in giving a drench. Don't give it too rapidly or hold the head too high because of the danger of getting the liquid into the lungs. This will cause immediate congestion, which frequently proves fatal.

SULPHATE OF COPPER ALSO GOOD.

While the gasoline treatment is effective, the fact that three consecutive doses are necessary makes it laborious and expensive, and the sulphate of copper (blue vitriol) treatment is preferred by some. Dissolve 1¼ ounces of sulphate of copper in a gallon of hot water, and give 1½ fluid ounces of this solution to a lamb or yearling, or a little more to a mature sheep. Administer with a small syringe or a drenching bottle.

PREVENTION MORE IMPORTANT THAN TREATMENT.

The old proverb that "an ounce of prevention is worth a pound of cure" is particularly applicable to the sheep, which is one of the most difficult of domestic animals to treat. Of course, not all infested animals succumb to the disease. Many lambs have strong enough constitutions to withstand the presence of stomach worms and outlive and outgrow their weakening effects. Still it is unfortunate that any lamb should have to fight against the ill effects of internal parasites, and for that reason every effort should be made to keep the lambs growing fast and to lessen to the utmost degree the chance of worm invasion.

Frequent changes of pasture is recommended—every ten days or two weeks if possible, as this is about the time required for the stomach worm to complete its life cycle under ordinary conditions.

The surroundings should be clean and dry, and pure, fresh water is equally important. The all too common practice of allowing the flock to drink from stagnant pools and water holes cannot be too strongly condemned. Water from such sources is almost certain to be contaminated with the eggs of parasites affecting sheep. The water should come from some source where there is no possible chance for pollution with these eggs or with germs of infectious diseases.

Take care also to prevent fouling of the ewe's udder with filth from old sheep pastures, as lambs often become infested at an early age by taking in the larvae as they suckle their contaminated mothers.

A GOOD SHEEP TONIC.

Salt should always be kept before sheep, or, better yet, provide them with a combination of ingredients which will act as a conditioner, a developer and worm preventive, as well as satisfying their natural craving for salt. An excellent tonic is made as follows:

100 lbs. stock salt.
10 lbs. air-slaked lime.
10 lbs. bone meal.
5 lbs. copperas.
2 lbs. powdered sulphur.
1 lb. ginger.

Remember, though, that some lambs become seriously infected before one realizes it. An alert shepherd will sense the trouble before it gets beyond his control. He will catch a few of the lambs occasionally and examine their skins. A clear, bright, pink skin indicates good general health. A dead, light-colored or anemic skin is one of the tell-tale symptoms of stomach worms. A lamb in this condition should be treated at once. Get the worms quickly or they'll get the lamb.

Butte City Ranch has sold a daughter of the Epochal boar, Onward 4th, to Daniel S. Pearson of Sacramento.

Grand Champion
BERKSHIRES

AMES RIVAL 70TH

We have in our herd the Grand Champion Boar, Grand Champion Sow and First Prize Senior Herd at State Fair.
Forty-three litters this year averaged ten to the litter. Let us supply you with foundation sows and boars to head your herd.

JAMES MILLS CO.
Hamilton City : : California

Imported and American Bred Stallions
Percherons - Belgians - Shires

My Fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.

The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.

Correspondence invited and visitors always welcome.
N. W. THOMPSON, Patterson, Stanislaus County, California

Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

The Sheep that bring the Big Prices are the kind to buy
RAMBOUILLETS

I purchased at the Salt Lake sale 31 head of the best (Butterfield, Quealy and Bullard strains) to head my breeding ewes. I have about 100 big, smooth, heavy-wooled rams for sale.
J. BIDEGARAY FRESNO, CAL.

THE POPLARS RANCH
Registered
Hampshire Swine

A limited number of three-months-old weanlings for sale. Am booking orders for future delivery of youngsters by Gen. Tipton. Have a few young boars sired by Duke's Allen, Grand Champion, 1917, Sacramento.
C. J. GILBERT, Lancaster, Cal.

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

S. B. Morrison of Ferndale has recently bought a fine registered Guernsey bull calf to grow out and use on his herd of 20 grade cows.

Grade cows are in great demand and are bringing higher prices than ever before. At a recent sale in Southern California the highest priced grade cow brought $305.

The Associated Dairymen of California have representatives in Napa county interesting dairymen in a branch of their association, which they plan to have include Napa, Sonoma and Marin counties.

The San Joaquin Valley Milk Producers' Association has started work on a new unit to be added to its creamery at Modesto. This unit, which will cost $40,000, will turn out milk sugar and will handle 100,000 pounds of milk a day.

Official Holstein records show that 2028 two-year-olds have been tested and that among the thirty highest the Bridgford Co. of Knightsen have five heifers. This is a record of which both the Bridgford Co. and the entire State of California should be proud.

The annual convention of the California Creamery Operators' Association, originally announced for October 17 to 19, but postponed on account of the influenza, will be held at Visalia, December 12 to 14. A most interesting program has been arranged.

We are sorry to announce that Karl Gotshall, the well-known member of the firm of Gotshall & Magruder, Holstein breeders of Ripon, was an influenza victim. Mr. Gotshall was an enthusiastic Holstein booster and his loss will be keenly felt by all members of the fraternity.

Hereafter Holstein-Friesian dairy cattle will be known as Friesians in England. At a recent meeting of the Breed Association the name Holstein was dropped. New Zealanders call the cattle Friesians and South Africans call them Frieslands. How would it do to call them Liberty Cattle in America?

F. J. Zeehandelaar, Consul for the Netherlands in Los Angeles, announces that there will soon be a considerable immigration of Hollanders to Southern California, nearly all of whom will take up dairying. These people will want good dairy cows. Who will be ready to supply their needs?

Two records above 30 pounds have recently been made in the Holstein herd of James J. Jeffries at Burbank. The senior three-year-old, Piebe Canary Belle De Kol, made 30.61 pounds butter in seven days, and Novelty Pauline 2nd made 30.94 pounds. Six other cows have been on test and made good official records.

In the report of November 16 issued by the Holstein-Friesian Association, the cow Creamcup Vogelschen Cornucopia, owned by K. W. Abbott, whose herd was taken over by Gotshall & Magruder when he joined the colors, holds first place in the full aged class with a record of 28.02 pounds fat from 342.2 pounds milk. K. P. Tola, owned by McAlister & Son, Chino, holds fourth place with 27.18 pounds fat from 569.2 pounds milk. In the junior four-year-old class, K. P. Idyl Segis, owned by McAlister & Son, holds first place with 28.48 pounds fat from 510.8 pounds milk. In the senior three-year-old class, Netherland Tolia, owned by A. J. Stalder, Riverside, holds third place with 20.23 pounds fat from 441.7 pounds milk. Notice that these records give the butterfat and not the butter, which would be considerably greater.

Beef Cattle.

At the annual sale of Shorthorns recently held by Owen Kane, Wisner, Neb., an average of $1,202 was reached, with a top bull calf at $2,500 and a top cow at $5,000. Forty-four head were sold.

Jack Doyle, well known to the sporting fraternity of Los Angeles and Southern California, has decided to go into the raising of beef cattle and will bring out from the Middle West a herd of high-grade Hereford cows and registered bulls.

King G. Gillette, the razor king, has extended his livestock operations to Santa Barbara county and has purchased approximately 3200 acres of the old San Julian ranch. A quarter of a million dollars was involved. Beans, grain and cattle are raised on the ranch.

At the sales held in connection with the American Royal Show at Kansas City 42 head of Shorthorns brought an average of $790, with the winning futurity bull calf topping the sale at $2,575. Sixty-five Herefords averaged $1,350, and the top, the winning senior yearling bull known as Repeater 7th's Model, brought $24,000, the highest price reached since the sale of Ardmore.

Murphy Bros., Shorthorn breeders of Perkins, report three extra fine young bulls coming a year old that are hard to beat. They are grandsons of Cumberland's Type, the great herd bull of C. A. Saunders of Manilla, Ia. This bull was 36 times grand champion when three years old. The Murphys also have some choice young heifers by this same bull and three nice heifer calves just recently dropped.

Swine and Swinemen.

R. C. Sturgeon of Tulare has increased his registered Duroc herd to 85 head. He will consign a fine lot to the Tulare Duroc sale to be held in January.

James Mills Orchard Company, Hamilton City, recently shipped a boar and two sows to Chili, South America. Foreign purchasers are learning to come to California for good stock.

B. E. Nixon of Yountville has offered to donate a Guernsey bull calf to be used as a prize at the Berkshire show to be held in connection with the San Francisco Livestock Show in February.

A. D. McCarty of San Francisco, owner of Riverina Farms at Modesto, has just sold a very fine Poland-China gilt to be shipped to Guatemala and a cracking good boar to F. W. Woods, Jr., Menlo Park.

Poland-China records are being broken almost every week back in the Corn Belt. The Chancellor, a son of Severe's Big Timm, has recently been sold for $5,500—the record price for an under-year boar.

The Food Administration at Washington recently had called to its attention the need for an order permitting farmers to purchase sugar for the home-curing of hams and bacon and immediately issued a statement that farmers desiring sugar for such purposes could obtain it on application to the local Food Administrators or to their county deputies.

Walter T. Gatton, who has been superintendent of the swine department of the Liberty Fair, Los Angeles, has been made manager of the swine department of the Diamond Bar Ranch, which is being established at Spadra by F. E. Lewis 2nd, one of the owners of the Norwalk tire factory. The ranch consists of 7500 acres and Mr. Lewis will take up the breeding of Herefords, Shorthorns, Arabian horses and Duroc hogs. He will start with 100 brood sows and eventually will maintain a herd of 200 matrons.

Sheep.

Four thousand sheep have already been placed on California farms, through the Farm Bureaus, which take large bands of sheep from the grass ranges and place them in small "Liberty flocks" on individual farms.

Butte City Ranch has started Frank B. Anderson of Sacramento in sheep raising by selling him a foundation flock of registered Shropshires. Mr. Anderson will continue to raise good Berkshire hogs, and is starting a small herd of registered Holstein cows.

A sheep owner of Ft. Bidwell, Modoc county, was recently fined $133.33 for allowing a band of 1020 ewes to wander casually over range which had not been assigned to him, while only a short distance away a second band paid a social visit to a nearby cattle range.

Government records show an increase in consumption of approximately 1,700,000 pounds of wool for October over September, grease equivalent. On September 30 stocks of wool in hands of dealers and manufacturers were 182,000,000 pounds, grease equivalent, less than on September 30, 1917.

At a recent meeting of the Live Oak (Sutter county) Farm Bureau, a resolution was passed requesting the Supervisors to establish a dog license ordinance and fix the license at $10. It was pointed out that the killing of sheep by dogs involves a heavy loss and that many farmers are not keeping sheep on this account.

Livestock Miscellaneous.

Secretary Houston has announced that sheep will be allowed to graze in national forests beginning March 1. Effective at the same time, he authorizes five-year grazing permits. The new charge for grazing will be from 80c to $1.50 a head for cattle; for sheep and goats, 25 per cent of the rate for cattle; horses, 25 per cent more; swine, 25 per cent less.

Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1500 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits.

COULSON CO. - - - Petaluma, Cal.

SATISFIED USERS wrote this Ad for Us—

Their Experience is worth real Money to YOU!

I have owned three spreaders in my time. The first two I didn't think much of. Then I got one of yours and now I am more than pleased with the spreader proposition. I find by hauling manure in the winter time on clover sod and letting the rains leach it down before plowing it under will oftimes double the corn yield or even wheat. Where I used commercial fertilizer and barnyard manure together on 12 acres of wheat last year I got 600 bushels of wheat, an average of 50 bushels per acre. A farmer that owns ten acres can't afford to be without a spreader.

WILL HENSEL, Ohio.

I have had several spreaders on my farm, but there are none like yours. I could not farm without it. Last fall I put six acres to wheat, first putting on 30 loads of manure. This spring I put on 20 loads more. You just ought to see that wheat. The manure made it stool out very good, and it will give 35 bushels per acre. If I had not used the Spreader this spring I am sure I would not have gotten over 15 bushels. Your spreader is one of the best investments you can put on the farm.

C. E. HUPRICH, Ohio.

I would not be without your Spreader, because it saves so much labor, puts the manure on the ground evenly, and I can spread any kind of straw or cornstalks. I believe my spreader will pay for itself in two seasons. With the proper use of manure on my place and using lime, I have increased the yield of my farm 25% in six years.

E. M. PHILLIPPE, Virginia.

Have been using your spreader on two different farms for a year and find them lightest in draft of any I have ever used. Two horses will pull them anywhere when the ground is not too soft. The straw attachment is ideal for top dressing wheat ground or any kind of small grain. It gets rid of a great deal of straw which goes to waste and this alone will pay for the spreader in a year's time.

J. D. BLACKWELL, Sec'y.
Missouri Angus Assoc.

"NISCO" One-Man Straw Spreader Attachment.

THESE letters answer every question you may have about the Nisco Spreader. We will gladly send you the writers' addresses and copies of similar letters from many others, if you want further proof. These letters, like the Nisco itself, stand every test. They prove that you yourself should have a

NISCO The New Idea

THE ORIGINAL wide spreading spreader that revolutionized old fashioned methods—that has always been the leader. Has solids bottom with chain conveyors. Pulverizes thoroughly and spreads evenly. Drives with heavy sprockets and chain—no gears. Low down, light draft. Loads and pulls without undue strain on man or team.

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Spreader Specialists
Coldwater, Ohio

(8)

REGISTERED JERSEY CATTLE
DUROC JERSEY HOGS

Look up my winnings at the fairs. Stock for sale at reasonable prices.

J. E. THORP Lockeford, Cal.

The JOHNSON HERD OF DUROCS

We have for sale at the present time 20 Spring Gilts, daughters of JOHNSON'S DEFENDER, the 1917 Junior Champion, and out of winning sows; 5 Spring Boars old enough for service, and weaned boar pigs. Also 700-pound prize-winning Junior Yearling Boar, a grandson of ORION CHERRY KING, dam by Joe Orion II.

Frederick M. Johnson, Napa, Cal.

BERKSHIRE BUSINESS BOOMING AT CASTLEVIEW RANCH.

There are two chief reasons for running a ranch — pleasure and profit. Of course, to make a profit should be a pleasure, and any legitimate pleasure can be called profitable. However, it is possible to conceive of a single-purpose venture. It might be run as a recreation or a philanthropic enterprise, or it might be a mere money mill with nothing but cold-blooded balance sheets to rule the output.

But up in Sonoma county there is a ranch that seems to embody all of the best reasons for being—a ranch that pays in both money and pleasure: a ranch that gives off its philanthropic radiance just as the ideal institution should. Yes, you guessed right the first time—it's the Castleview Ranch at Santa Rosa, owned by J. Francis O'Connor.

Here is a recent chapter from the ranch history: When the wonderful Berkshire herd developed by Frank A. Brush was transferred to the Santa Rosa National Bank it was decided to sell the animals at once for cash. A prominent butcher of San Francisco was about to close for the entire lot when Mr. O'Connor stepped up and purchased the herd, thereby saving these national prize winners from the block.

It ought to be mentioned right here that Mr. Brush had always found it difficult to dispose of his stock—that is, at the prices he asked. But Mr. O'Connor didn't endeavor to make a big clean-up on this deal. He offered the hogs to the nearby ranchers at reasonable prices, and within ten days the entire ninety head were sold in lots of one and two at prices ranging from $125 for sows to $25 for weaned pigs. The eagerness with which the stock was picked up shows that the average rancher is ready to buy purebred stock if both quality and price are right.

Now that these great animals have been placed on scores of different farms, and their new owners will have an opportunity to see from first-hand observations the additional profit that there is in purebred stock, it is certain that there will be a heavy demand for registered Berkshires in Sonoma county.

And it is just as certain that Mr. O'Connor will get most of the orders, for trade stays where it pays. Instead of holding up the ranchers, he charged them prices they could afford to pay. The hogs will make good for them and they will be back for more. They'll tell their friends, too, and pretty soon Mr. O'Connor will have to work his herd overtime to turn out stock fast enough to supply the demand.

In fact, right now he is completely sold out of all surplus stock, and is trying to buy other herds to supply the demand. His total sales for October amounted to more than $7,000, and probably they would have gone to above $10,00 in November if he had been able to fill all orders. Success comes to him because he deserves it.

Later.—Just as we go to press word has been received that this live-wire breeder has purchased the entire herd of Hopland Stock Farm Berkshires, owned by A. W. Foster. Fuller particulars will be given later.

W. J. Kenney, Assemblyman-elect from the Twenty-sixth District, will endeavor to have a bill passed to re-establish county fairs. His proposal that the State set aside 20 mills upon each $100 valuation and apportion it to the counties raising the money and providing for an annual county fair.

LIVESTOCK DIRECTORY.

Rate in this directory 3c. per word each issue.

SWINE.

Poland-Chinas.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

REAOAKS RANCH herd of registered Poland-Chinas W J. Hanna, Gilroy

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength and quality, everything that goes to make the Profit Producing Hog. Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

BIG, SMOOTH POLAND-CHINAS—One April boar by Grand Champion Kings Big Bone Leader. One 12-month-old boar by Smooth Progress; April, May, June, and July gilts. Everything guaranteed. A. Buckland & Son, Rt. E, Box 126, Fresno.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

GATEWOOD'S BIG POLANDS—The offering for our February bred sow sale is comprised almost entirely of sows and gilts by eastern-bred sires and bred to King Big Bone Leader, the California champion. Chas. Gatewood & Son, Route G, Fresno.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

A FEW EXTRA GOOD POLAND-CHINA boars, ready for service. Prices reasonable. Write for description and breeding. E. Miner, Lodi, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

BOARS ready for service at bargain prices. Booking orders for weanling pigs. Forest View Ranch, Paradise, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right N K Horan, Lockeford, Cal

POLAND-CHINA PIGS WITH RIBBONS. Prices right Johnnie Glusing, Winton, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Berkshires.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
906 K St., Sacramento.
In charge of Natomas Land sales.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices F. L. Hall, Perris, Cal.

RIVER GARDEN FARM BERKSHIRES—A few fine weanlings and some bred sows and gilts. E. H. Whiting, Ukiah, Cal.

BERKSHIRES—Guaranteed to please. Write us. Glenwood Acres Stock Farm, Pas Robles, California.

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Chester Whites.

"BILLIKEN"—CHESTER WHITES — Time to breed for 1919 spring farrows. Do you need a boar that will produce those fine growthy pigs? Have only 10 yearling boars left. For December delivery have a nice lot of yearling gilts that are bred for March farrow. Weaned pigs, both sexes. C. B. Cunningham, Mills, Cal.

THREE BIG-BONED mature sows bred for early March farrow. One growthy June boar pig. Several fine September farrow. S. F. Bonner, Gridley, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Six daughters of Orion Cherry King 5th in this herd. Three big, husky herd boar prospects sired by Orion Cherry King 5th for sale now. Good as the best. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles. Ireland Ranch, Owensmouth.

OPEN GILTS and young boars from Taxpayer 13th, Burks Good Enough, Kings Col. strains; one dandy boar sired by Kings Col. de Lux, out of Miss Good Enough II, by Burks Good Enough. Shipped on approval. F. W. Gardiner, Rt. 4, Box 735, Sacramento.

THE JOHNSON HERD of Duroc-Jerseys—Spring gilts and boars, sons and daughters of Johnson's Defender, the 1917 junior champion, for sale. Weaned boar pigs, $25. Frederick M. Johnson, Napa, Cal.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

ONE SERVICE BOAR—Leader 101, a son of Modesto Chief, one to be proud of at head of any herd. Price $200—papers sent with him. Mrs. G. C. Peters, Winton, Cal.

START RIGHT—Registered Duroc-Jersey weanlings. Three for $35; satisfaction guaranteed. Red Rock Ranch, Glen Ellen, Cal

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal

FOR SALE—Few Duroc Gilts, 5 months old, good ones. Recorded and crated, $25. C. E. Christley, Orland, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

ANDREW'S QUALITY DUROCS—Young boars, open and bred gilts, weanlings, priced to sell. W. P. Andrews, Rt. A, Modesto, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROCS—Defender, Clinton B, and Golden Model strain; the big type. Allen Thompson, Tulare.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows

WEANLING PIGS for sale by a son of the grand champion of 1917 Jack Borge, Los Banos

DUROC-JERSEYS—Weanlings of either sex ready for immediate delivery. H. E. Boudier, Napa.

REGISTERED DUROCS—All from prize-winning stock W P Harker, Gridley Cal

Hampshires.

MY HAMPSHIRES are money makers Stock for sale. Buy now. L. A. Denker, Saugus, Cal

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale A. L. Tubbs Co., Calistoga, Cal

DAIRY CATTLE.

Holsteins.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal

FANCY GRADE HOLSTEIN COWS and heifers from herd testing 100 per cent. Animals qualified for certified dairies. The Lewis Company, San Jose.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier Cal

YOUNG SONS of Prince Gelsche Walker 11th and out of A. R. O. dams, for sale. Write me for prices. J. M. Campbell, Escalon, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

EL DORADO HERD OF HOLSTEINS—Alex Whaley, Tulare, Cal

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

GOTSHALL & MAGRUDER — Breeders of registered Holstein Friesians Ripon, Cal

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

SUNNYBROOK RANCH, Willits, Cal — Registered Holstein-Friesian bulls for sale.

Jerseys.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

YOUNG BULLS from Register of Merit cows. W G. Gurnett, Orland, Cal.

SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

FOR SALE—Young registered Jersey bull. Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, 333 Vicente Road, Berkeley.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale John Lynch Ranch Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale Alexander & Kellogg, Sanger, Cal

BEEF CATTLE.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

AM A SPECIALIST in registered beef cattle and familiar with the best herds in the country. If you need Shorthorns or Herefords, make use of my experience, save money and be satisfied. R. M. Dunlap, Hotel Land, Sacramento.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal John Troup, Supt

GEORGE CALLAHAN, Breeder of registered Herefords, Milton, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits Cal

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison Glen Ellen, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns Prices on application. Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

WANTED—500 to 1500 head of sheep on shares on good coast range, with an abundance of feed. Address, Sheepman, care Rural Press.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL.—Breeders, importers of Hampshire sheep

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford Cal

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Gulford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

FOR SALE—Twenty first-class dairy stock grade Jersey, Durhams and Holsteins, one to two years old. L. W. Flanders, 124 Homestead Road, Cupertino, Cal.

WANTED—Brusher goats—Angora does. Give price F. O. B. cars and particulars. F. B. Plant, 178 Kempton Ave., Oakland.

FIFTY HEAD of Angora goats for sale. Address F. W. Nason, Jamesburg, Monterey county, Cal.

Made $1,000 by Keeping Farm Accounts

[Written for Pacific Rural Press.]

A farmer who kept accounts for two years as recommended by the University of Missouri College of Agriculture made over $1,000 through better hog feeding alone. Like many others, he knew better than to do as he was doing, but he was Missourian enough that not only he had to be shown, but he must do the showing himself. This is where the farm accounts system came in. He adopted hog feeding methods that animal husbandry experiments have shown beyond question to be practicable. And his accounts convinced him that such methods were practicable for him.

The first year the farmer's hogs made a return, after all other expenses, including labor, had been paid off, of $1.03 per bushel for the corn fed, while corn sold locally for 89c. That was not so bad, but he determined to do even better the next year, and made the hogs net him $3 a bushel for the corn fed, while it sold locally for $1.40. However, hogs were higher in price, so to be conservative the difference due to better methods was counted at an even dollar a bushel. Eleven hundred and thirty bushels of corn were fed, so the farmer really made $1,130 by keeping books and knowing where he was at.

The difficulties of farm bookkeeping are generally overestimated. Complex forms and methods do not necessarily mean successful accounting, and often a few pages of well-selected records are of more value than volumes of figures. It is not necessary for a farmer to have any knowledge of commercial bookkeeping in order to keep good farm accounts. Little time is required, also. The work soon becomes a regular habit, and from five to ten minutes a day will be found sufficient.

There are hardly two farms that should have exactly the same system of bookkeeping, so the best way to get started right is to get all available information on the subject and then devise a system suited to your particular needs.

The Department of Agriculture has covered the matter fully in a series of very practical bulletins. Write to the Division of Publications, Department of Agriculture, Washington, D. C., and ask for Farmers' Bulletins: 511, "Farm Bookkeeping"; 572, "A System of Farm Cost Accounting"; 661, "A Method of Analyzing the Farm Business"; 746, "The Farmer's Income"; 782, "The Use of a Diary for Farm Accounts."

When Cattle "Lose Their Cuds"

[Written for Pacific Rural Press.]

Although the relation of the act of chewing the cud to the natural process of digestion in cattle is probably quite generally understood, farmers frequently inquire concerning the proper treatment for cattle which have "lost their cud." Apparently the impression is that the cud is something which can mechanically disappear, and when so lost must be replaced in order to restore the animal to health.

Rumination or chewing the cud is a natural process in connection with the digestion of cattle and other ruminant animals. In ruminants the food, when first taken into the stomach, is imperfectly chewed, and is returned to the mouth for remastication. This returned ball of food is termed "the cud."

So-called loss of cud, the Department of Agriculture explains, is simply a suspension of chewing, frequently one of the first indications of sickness in any kind of ruminant animal, since ruminants generally stop chewing the cud when feeling out of condition. Any condition affecting the general health of cattle may result in suspension of chewing, and there is almost certain to be an interruption of this process when there is any pronounced disturbance of digestion.

Placing wads of hay in the mouth, the use of salt pork, and similar methods for restoring the cud are the outcome of local superstitions and a lack of knowledge concerning the digestive process of the cow. Instead of such treatment an effort should be made to determine the exact nature of the illness affecting the cow with a view to applying proper treatment.

It will be found that with an approaching return of the animal to a state of normal health there will be a restoration of the process of digestion, including the function of rumination or cud-chewing.

Early Rains and Grass Out-look

[Written for Pacific Rural Press.]

After the early rains experienced over nearly the whole State, good grass and plenty of it was expected. In the warmer sections and coast counties of the north there is good grass, but, speaking broadly, the ranges of the State are still very shy of feed. We have noticed it after a trip down the coast and back through the interior.

The Cholame district generally furnishes pretty early feed during a good year, but it is shy now. In the bottoms, where grass did start well, many men have turned their cattle in and fed it down close, because the rains had spoiled so much stubble and roughage. So, although there is a very good setting of grass, there won't be much to bank on before about February. For the frosts are upon us, the days are short and the ground cold. The outlook is a big improvement on last year, though, as the rain has softened the brush and cattle are browsing where it was too hard a year ago.

In the north the browse is particularly good and there is enough of it to offset any harm that might have followed another large acorn crop. Cattle can get away with a good many acorns as long as they have something to eat with them. A most encouraging sign is the fact that every man is saving his roughage and stover and a great many new silos have been erected by cattlemen. This is a big step forward, as it will not only increase our stock-carrying capacity but carry it through in better condition and at less expense.

BREED BETTER HORSES.

An investigation of the horse industry shows that many nondescript and plug horses are glutting the market. The real good animals are still commanding satisfactory prices, but the misfits are being sold for considerably less than the cost of production. The saving of additional feed bills is said to be the motive which prompts the producer to dispose of this class of horses, regardless of price.

One of the conclusions which the Department of Agriculture draws from the present situation is that indiscriminate breeding of horses is an unprofitable enterprise. It is essential, the department specialists add, that farmers use wise discrimination in selecting the proper type of stallions with which to mate their best mares and thus materially aid in producing only efficient horses which are capable of giving the service required of them and which consume less valuable feed for the amount of work performed. Such horses have a ready market and always bring good prices.

It is imperative that the breeder who proposes to compete with the domestic and foreign demands should begin now to stock up his stables with desirable better-bred horses.

Hill Crest Stock Farm

KING LANCASTER.

Shorthorn Cattle

Shropshire and Merino Sheep

I have used more grand champion bulls in my range herd than any other California breeder has used in his foundation.

My offering of range-raised bulls for the coming season is exceptionally good.

T. S. GLIDE, Prop. Davis, Cal.

ROSELAWN STOCK FARM

SHORTHORNS

Headed by Ringleader, by Ringmaster, three times Grand Champion at Chicago International.

Crescent Dale, by Whitehall Rosedale.

Roselawn Champion, by Eastlawn Champion.

Roselawn Champion, the Junior and Reserve Grand Champion, and his dam,

Mischief E. 3rd, Senior and Grand Champion at the California State Fair in 1918.

We have for sale a choice lot of young bulls, reds and roans, five ready for service now and eight more will be ready by spring. We can also spare a few females.

A VISIT WILL INTEREST YOU.

Roselawn Stock Farm Woodland, Cal.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUROC-JERSEY SWINE **ORMONDALE CO.** R. D. No. 1 REDWOOD CITY, CAL.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.
Three outstanding under-a-year bulls sired by Sir Type, a son of Cumberlands Type.
A few under-a-year heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY Perkins, Sacramento Co., Cal.

Who Is Leachman?

The Live-Wire Auctioneer of Sacramento

He Gets Results

LIVESTOCK QUERIES

Subscribers wishing an immediate reply should send money order for $1. No charge for questions answered through this department. Name and address of subscriber must accompany each query

Treatment for Caked Udder.

To the Editor: I have a cow that was fresh August 19 and one quarter of her udder is caked. She gives only about half the usual flow of milk from this quarter. How can I cure her?—S. B. C., Ripon.

[Answered by Livestock Editor.]

It will require some effort to remove cake in the udder when it is of such long standing. Give the cow internally at each milking two teaspoonfuls of saltpetre and two teaspoonfuls fluid extract of poke root in about a pint of water and use as a drench. Then rub the udder with a salve made of two ounces of fluid extract of belladonna, four ounces of poke root, eight ounces of melted lard. Mix thoroughly, let stand until hard, and when using rub very thoroughly, remembering that it is the elbow grease as much as the salve that does the work.

Keep your cow on green laxative feeds, or if this is impossible give her an occasional physic of Epsom salts—a pound in a quart of water and used as a drench.

Cow Has Hematuria.

To the Editor: I have a cow that passes blood with her urine. Sometimes these discharges occur as often as once a day and there is usually about a teacupful of a light red color. What is the cause and cure? —J. F. R., Albion.

[Answered by Dr. E. J. Creely, San Francisco.]

Your cow has what is called hematuria, which may be caused from injuries or from certain acrid diuretic plants in the food eaten. This causes the escape of blood from the kidneys. The blood may be present either in small clots or mixed in with the urine. Remove the cause by changing the food. Keep at complete rest and give mucilaginous drinks such as whole flaxseed boiled, and put with the feed or drinking water. Apply cold water over the loins. Give the following: Formaline, ½ ounce; cottonseed oil, 25½ ounces; turpentine, 4 ounces; tincture of bucha, 2 ounces. Mix and give two ounces twice daily.

Horse Has Abscesses.

To the Editor: Underneath my horse, running from each foreleg to about the navel, is a ridge, each about two inches wide and one-half inch high. If I tighten the belly band, he seems to have great pain. He has been that way for a month or more. What is the trouble and remedy?—G. B. H., Corning.

[Answered by Dr. E. J. Creely, San Francisco.]

A careful examination will reveal an abscess and from the abscess radiate inflamed lymph glands. I am suspicious of glanders and would recommend a careful examination by a qualified veterinarian, or, better yet, call upon Dr. John P. Iverson, the State Veterinarian, at Sacramento. In the meantime paint the affected part with iodine and give saltpetre—a tablespoonful daily in the feed or water. Keep harness away from inflamed parts.

Probably Cowpox.

To the Editor: About two weeks after calving, pimples broke out on the udder and abdomen of one of my cows. She showed little effects at first, but later on lost her appetite and her milk flow has decreased. The sores are spreading and seem quite painful.—W. M. H., Turlock.

[Answered by Livestock Editor.]

The symptoms you describe are typical of cowpox. It is difficult in milking such a cow to keep from breaking the scabs which form on the teats. This naturally prevents healing, and unless considerable care is taken regarding cleanliness the healing will be slow. The milker should wash his hands thoroughly before milking, and every time after finishing he should bathe the sores with glycerine (four parts) and pure carbolic acid (one part).

Pumpkin Seeds Good for Cows.

To the Editor: In feeding pumpkins to milch cows, should I remove the seeds or feed them seeds and all?—H. G. M., Paso Robles.

[Answered by Livestock Editor.]

The tradition among farmers that pumpkin seeds increase the kidney excretions, tend to dry up cows, and should be removed has no good foundation. The seeds contain much nutriment and should not be wasted.

A TIP TO CALIFORNIA BANKERS.

William L. Coale, president of the People's Savings Bank of Warren, Ohio, has purchased for $3,500 the Holstein bull, Walnut Crest Rag Apple Mutual De Kol, and offers his services free to all members of a calf club he is organizing. This certainly will be a great stimulus to the farmer boys who live near enough to take advantage of Mr. Coale's generosity. Our Stetson is off to Mr. Coale. May his tribe increase, and may many of his kind locate in California.

DO NOT SLAUGHTER ANIMALS WHEN OVERHEATED.

Occasionally it is necessary to slaughter farm animals which, through accident, have become injured. In many cases the flesh is edible if the proper precautions are taken before killing the injured beast.

The essential point is to allow the animal to become thoroughly cool and recovered from any excitement caused by the injuries. To slaughter an animal that is overheated is prohibited in all Government supervised packing plants, for carcasses of such animals will not bleed out properly, nor will the meat have keeping qualities, no matter what methods are afterwards used to preserve it.

Shoot or knock the animal in the head, if you prefer, but follow this by cutting the throat at once. Sever the main arteries so that the animal will bleed out thoroughly. Pelts are generally stripped from sheep and should be removed while the carcasses are warm. Hides may be removed from cows and calves with a knife after the carcasses are cold.

At Chicago a load of Hereford yearlings made a new record recently at $19.70, equaling the highest point up to that time on mature cattle. They averaged 1108 pounds.

Do *you* think there is no competition?

If anyone thinks there is no competition amongst the big packers he ought to go through a day's work with Swift & Company.

Let him begin at the pens when the live stock comes in; let him try to buy a nice bunch of fat steers quietly and at his own price, without somebody's bidding against him.

Let him realize the scrupulous care taken at the plant that not one thing is lost or wasted in order that costs may be held to a minimum.

Let him go up into the office where market reports are coming in — and reports of what other concerns are doing.

Let him watch the director of the Swift refrigerator fleet, maneuvering it over the face of the country like a fleet of battleships at sea.

Let him take a trip with a Swift & Company salesman and try to sell a few orders of meat.

Let him stay at a branch house for an hour or two and see the retail meat dealers drive their bargains to the last penny as they shop around among the packers' branch houses, the wholesale dealers, and the local packing plants.

And then, when the day is over, let him have half an hour in the accounting department, where he can see for himself on what small profits the business is done. (Less than 4 cents on each dollar of sales.)

If he still thinks there is no competition in the meat business it will be because he wants to think so.

Swift & Company, U. S. A.

A nation-wide organization owned by more than 23,000 stockholders

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

EARLY VS. LATE MOLTING.

To the Editor: Do you agree with the following statement? – Subscriber.

"The early molting hens are the ones that can be depended upon to fill the egg basket this winter. If a hen does not get through the molt before cold weather sets in, the chances are ten to one that she will not get to laying until spring. From the fancier's standpoint, however, where eggs for hatching are made a specialty, it is not always desirable to have the hens lay heavily through the winter, and in this case the late molting hen is perhaps most desirable."

Certainly I agree with the statement made above. Do you find any late molting hens on the nest these days? If you do, you have hens that are exceptions. The early molting hen commences to lay about late September or October. These hens and the pullets are the reliable egg producers for the early winter, when eggs command the best price, while the late molting hens are only just commencing to change their clothes. These late hens will not lay until January or more likely February, and some not utnil March. Now, how can they fill the winter egg basket?

Mind, I do not claim that the early molting hen is the "best layer." Often she is not. But I do claim that she will lay the most eggs during the three months when eggs are at a premium, and then if she is not a top-notch layer you can get more for her carcass during the first three months of the year than at any other time. This is the right way to plan—have your eggs when they bring the most money, then sell the surplus hens at a time when they bring the best price. It is similar to the "sucker game"—you catch them going and coming. Still it is perfectly legitimate and honest, but it needs brains to plan. That is why I always say that, no matter what branch of farming a man engages in, he needs more brains to make a living from the land than for any ordinary business.

TUBERCULOSIS.

To the Editor: Please comment on the subjoined clipping, as I have never heard anything like it before.—M. S., Planada.

"Tuberculosis in a large flock of chickens on the Wolfsen ranch near Merced occasioned a visit today from Dr. J. R. Beach, poultry veterinarian from the State University, who conducted tests to determine the extent of the disease, which was found to be close to 100 per cent. The chickens affected were Leghorns."

Certainly chickens have tuberculosis, just like other animals—only more so. In numbers of cases what passes muster as rheumatism is tuberculosis of the joints. Another phase of it is when chickens "go light." Possibly you know of this kind, but not under the right name. You may depend on it that Dr. Beach knows his business. He is one of the best chicken diagnostics in the State, and what he recommends is safe to do.

It is to be deplored that so many people hide these things instead of getting expert advice concerning them so that they can work intelligently to exterminate the trouble. Whenever a chicken of any age or size that has the opportunity to eat does not do so, and mopes by itself in corners instead of getting out and rustling and is losing flesh all the time, going lighter instead of heavier, it's time to suspect tuberculosis.

Sometimes, in the first stages, it appears to be a general inactivity, both of the chicken and its organs, the liver being the first to suffer. If the chicken can be coaxed or driven to exercise at this stage, there is a little hope that it will throw off the disease; but if it is neglected, why, it will end in a little bunch of feathers and bone.

When there is any suspicion of tuberculosis on the premises, all chickens that are not thrifty should be segregated from the healthy and all dead ones should be incinerated, never buried. The germs or bacilli get in the ground and multiply galore. The runs should all get a good spraying at short intervals as also the houses. All good sanitation helps to keep this dread away and to kill it if present.

THE HIGH EGG PRICES.

The National War Emergency Poultry Federation sends out the following note of explanation in relation to the prevailing high prices of eggs, regarding which there has been much comment both East and West:

"The high prices of fresh eggs in the Eastern cities is explained by many as due to the unfavorable early hatching season last year, causing few early laying pullets to come out for fall production. It is said also that the influenza epidemic has caused a big demand for the real fresh egg. Again, in past years many eggs that were held for thirty or more days at a slightly higher temperature than commonly required for cold storing were sold as fresh. Under the Food Administration rulings this was not allowed this year and helped to keep up the price for the good article. Yet even with eggs wholesaling at 90c a dozen in New York, still the price is not increased in proportion to many other food products. Fancy white eggs have nearly always brought around 60c to 70c a dozen for the past five or six years, and the 90c a dozen is really only a 30 per cent increase, while most food products have more than doubled."

CHICKEN POX.

Just lately I discovered a new cure for chicken pox. It is so simple that most people will not believe it is true, but it is. A chicken was brought to me with one eye closed and the other partially closed. It had big brown warty knobs on the beak, comb, wattles and head generally and was a pretty bad case. Now it happened that I had a bottle of Benetol on the kitchen table at the time, so I said, "Leave the chicken with me and I will experiment on it. If I don't cure it I will pay for it." So, taking two parts Benetol and one part boiling water, I washed the chicken's head well with the liquid, put it in a box right outdoors, with a cover over it, fed and watered, then left it until the next day, when I repeated the washing and gave the bird a teaspoonful of the weak solution to drink. In three days the whole of those warty scabs were dead and falling off. Then I just washed it once more in a weaker solution and at a week-end I heard a cackling in the box and my biddy had laid an egg and was perfectly cured.

BLACK TURKEYS FOR SALE.

Mrs. R. E. W. of Healdsburg, who last week asked for the address of anyone having black turkeys for sale, may find what she wants by writing to Mrs. J. P. Indart, Hollister, R. F. D., or to A. McCall, R. D. 3, Box 93, Watsonville.

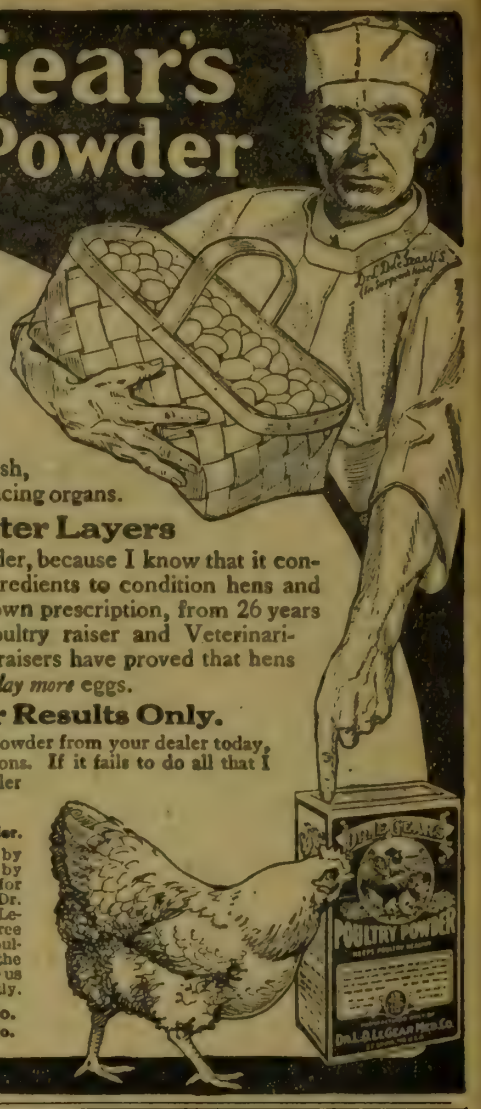
Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

WHITE LEGHORN CHICKS—hatched in January and February are money-makers if stock is good and right care given. We are equipped to fill large as well as small orders—and to your satisfaction. Write for special letter on them, also circular describing Brown and Buff Leghorns, Rhode Island Reds, White and Barred Rocks, Black Minorcas. Price and quality will both please you. Booking orders now for 1919 season. Be forehanded. The Mission Hatchery, Box 17, Campbell, Cal.

BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

Dr. LeGear's Poultry Powder



Get more eggs

This is the slacker season for hens. They need boosting. Give them Dr. LeGear's Poultry Powder. It will tone up their systems, *put more of* the feed into flesh, and stimulate the egg-producing organs.

I Guarantee Better Layers

if you use my Poultry Powder, because I know that it contains the best scientific ingredients to condition hens and make them lay. It is my own prescription, from 26 years actual experience as a poultry raiser and Veterinarian. Thousands of poultry raisers have proved that hens given my Poultry Powder *lay more* eggs.

You Pay For Results Only.

Get a package of my Poultry Powder from your dealer today, and use it according to directions. If it fails to do all that I claim for it, I authorize the dealer to refund your money.

FREE SAMPLE – Ask Your Dealer.

Dr. LeGear's Remedies are sold by 40,000 of the best dealers—never by peddlers. Ask your dealer today for liberal *free sample* package of Dr. LeGear's Stock Powders or Dr. LeGear's Poultry Powder, and get a free copy of Dr. LeGear's Stock and Poultry Book. If your dealer hasn't the samples and books, ask him to write us for them. We will supply him promptly.

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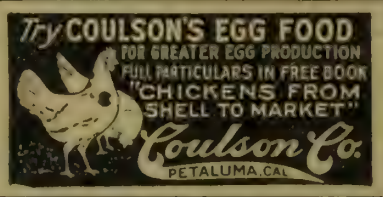

Chickens Sick or Not Doing Well?

An Extraordinary Offer: Germozone is a standard remedy everywhere for chicken troubles, roup, colds, cholera, swelled head, bowel complaint, chicken pox, canker, not doing well, non-laying, etc. Now our proposition: If no dealer there handling Germozone and you will agree to use it and pay if satisfied, we will send you a 75c package without a cent in advance. No pay if not satisfied. Can we do more? And we will send free 5 poultry booklets. Write today.
Local dealers handling Germozone will do the same.
GEO. H. LEE CO., Dept. 428 OMAHA, NEB.

LARM'S REDS—Larm's strain, Rhode Island Reds, single and rose comb hatching eggs from 220-egg record layers. Breeding pens. Cockerels. First prize winners in leading California shows. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

INCUBATORS FOR SALE—Four Jubilee incubators, 504-egg size; two Petaluma 216-egg; one Must Hatch 200-egg. Will sell separately. Arthur King, Route 1, San Luis Obispo.

LAST FALL CHICKS IN OCTOBER—Booking orders for spring deliveries. Several varieties. Stubbe Poultry Ranch and Hatchery, Palo Alto, Cal.

EASTMAN'S BRED-TO-LAY, Hoganized and trapnested Barred Plymouth Rocks, Cockerels; Eggs. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W Park St., Stockton, Cal. Stamps.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock, $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

MODEL POULTRY FARM—White Leghorn specialists. Our fifteenth year. Baby chix and hatching eggs for sale. Also first-class breeding cockerels. Our prices are right. W. C. Smith, Prop., Corning, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

HIMALAYAN fur-bearing and eatable rabbits. Pedigreed, prize-winning stock for sale cheap. L. M. Brinstad, Rt. 3, Box 81, Healdsburg, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

FOR SALE—Golden Bronze turkeys. Big boned breeding toms of America's best strain. Eggs in season. M. M. Reiman, Planada, Cal.

WHITE CHINA GEESE, PUREBRED—For quick sale, $15 a trio. In city limits so must sell. Susan Swaysgood, Pomona, Cal.

Going to Brood CHICKS?

Then send for the latest KRESKY catalogue, 20. Our latest development of the Liberty Stove has 'em all beaten.

Economy, Efficiency, Convenience

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CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

REMANUFACTURED PIPE.
All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. **Weissbaum Pipe Works, 160 Eleventh street, San Francisco.**

FOR SALE—300 gal. Simplex churn, Hercules gas engine, 100 gal. twin vat, 300 gal. Wizard pasteurizer, 150 gal. Jensen pasteurizer, 300 gal. vat, and 4 H.P. boiler, all in good condition. F. H. Daniels, 1420 Park St., Alameda.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Sheeter Pipe Works, 304 Howard St., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

MONEY TO LOAN—We always have money to loan on improved farm lands. Security Bond & Mortgage Company, First National Bank Building, Berkeley, Cal.

FOR SALE—No. 18 Holt tractor, Moline 4-disk plow, 8-ft. double-disk harrow, 10-ft. orchard drag. Terms reasonable. Mrs. C. H. Euans, Gilroy, Cal.

FOR SALE—Five-gang Moline orchard disk plow, suitable for tractor. Bargain. J. C. Miller, Moraga, Cal.

FOR SALE BELOW COST—One new two-nozzle 1½-h.p. Hardie sprayer. Box 373, Gilroy, Cal.

COUNTRY LANDS.

FOR EXCHANGE—I have a fine seven-room two-story house, nice residence section of Berkeley, with large sleeping deck, fireplace, hardwood floor in living room, kitchen finished in white enamel, fine bathroom, clinker brick exterior finish, and in yard there is garage, workshop, children's playhouse. Street work, sidewalks, sewer, macadamized street, gas and electricity are in. Two blocks from Key Route and S. P. electric trains to San Francisco and street car to Oakland. I will exchange above house for an improved ranch. Neil E Munro, Berkeley, California.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dept., Chico, California.

TO LEASE—20-acre irrigated farm, good 4-room house, windmill and tankhouse, good barn. Berkeley Securities Company, 218 First National Bank Building, Berkeley, Cal.

FOR SALE OR EXCHANGE—40 or 80 acres. Would trade for registered Shorthorn cattle. Address: J. S. Fry, Chowchilla, Cal.

SEEDS AND PLANTS.

BUDDED AVOCADOS—Fuerte, Sharpless, Lyon, Dickinson, Blakeman, Spinks, Taft, Linda, Rey, Queen, Knight, and many others. A fine stock of field-grown trees. $2.50 for one, $2.00 each by the 100. Better order now. Newbery-Sherlock, R. D. No. 2, Pasadena. Nursery, Rose, and Palm, Altadena, Cal.

SUDAN GRASS SEED WANTED—We are in the market for Sudan Grass seed that is free of Johnson Grass, Morning Glory, and other noxious weeds. Send samples and state quantities of seed you have to sell. Bomberger Seed Co., Desk B, Modesto, Cal.

TO THE TRADE—Buy almond trees from an almond specialist. 100,000 almond trees on bitter almond roots, standard varieties. Car load lots solicited. Write for prices. W. T. Hohenshell, Le Grand Nurseries, Le Grand, Cal.

A FEW SACKS Honey Sorghum seed. Greatest quantity, best quality silage ever grown—20 cents. Imperial Seed House, El Centro, Cal.

TREES, TREES, TREES.
No war prices.
Cash Nurseries, Sebastopol, Cal.

BARGAINS in Bartlett pear. Address L. J. Eachus, Lakeport, Lake county, Cal., Oak Mound Nursery.

PAYNE WALNUT GRAFTING WOOD—Order now. W. H. Ward, Morgan Hill, Cal

WANTED.

WANTED—Position as manager of stock farm by middle-aged married man. Am employed at present but want bigger job. Prefer beef cattle and hogs with alfalfa to feed. Used to handling thoroughbred stock. Prefer big type Poland-China hogs first and Durocs next. Have made a life study of breeding and feeding hogs and have always had success with them as well as cattle. Used to handling large crops of alfalfa and irrigating. Pay particular attention to cost and to avoid waste in feeding. Handle all kinds machinery and implements. Occupied positions of trust and have clean record. Address: H. R., care Standard Stock Farm, P. V. Stage Route, Ukiah, Cal.

OPPORTUNITY FOR MARRIED MAN—We want a married man who will live on our property (good house, barn and windmill), who will plant trees for us and farm between the trees for himself. For details apply to Berkeley Securities Company, 218 First National Bank Building, Berkeley, Cal.

WANTED—Position as dairy foreman; familiar with efficient and modern methods, productive feeding, testing milk and sanitation. Box 1290, Pacific Rural Press.

WANTED—Job on dairy or stock ranch in Humboldt county, Cal. E. J. Carroll, Yucaipa, Cal.

KILLING POULTRY FOR MARKET.

The Department of Agriculture, in issuing instructions for killing poultry, states that 30 per cent of the poultry finding its way into the New York market is incompletely bled.

"Grasp the chicken, when killing, by the bony part of the skull. Do not let the fingers touch the neck. Make a small cut with a small sharp-pointed knife on the right side of the roof of the mouth, just where the bones of the chicken's skull ends. Brain for dry picking, as in turkeys, by thrusting the knife through the groove which runs along the middle of the roof of the mouth until it touches the skull midway between the eyes. Use a knife which is not more than two inches long, one-fourth inch wide, with a wide, flat handle, a sharp point, and a straight cutting edge.

Anyone living out of range of market far enough to make expensive shipping alive should follow these instructions and dress their turk. All poultry should be boxed dry, so if they are washed be very sure that you wipe them very dry with clean cloths, then if they are bled correctly and picked clean you may depend upon getting the best price for your product.

FORMULA FOR RABBIT FEEDING

Seeing inquiries as to feeding of rabbits in the Rural Press, I forward the feed formula that I received from the secretary of the Giant Breeders' Association, and he is also the rabbit doctor for said association, and I believe in passing on for the benefit of others what I have found to be good.

In feeding, give alfalfa at night and barley in the morning and a good mash of the following: Two parts carrots, two parts potatoes, two parts sugar beets, two parts bran, two of alfalfa meal, one part shorts, one part corn. Grind this together, moisten it just a little; dont' make it wet. This feed will give you good, healthy, large stock.

Now as to their care: Put tincture of iron in the drinking water once a week, three drops, then scald their drinking vessels, keep fresh water before them; once a week put a little salt in the water or the salt can be put in the feed. The iron and salt keep their blood in good order. Clean the hutches at least three times a week, as foul hutches cause disease.—Mrs. M. Johnson, Paso Robles.

HENS DUMPY.

To the Editor: My hens' combs are all swollen and they have blood blotches all over them. Their eyes are closed and they just mope all day and don't lay. Please give me a remedy.—W. N. B., Thalheim.

[This information is not full enough for proper diagnosis, but the blood blotches are evidence of some bad condition of the digestive organs, or it may be intestinal parasites, as worms. Try giving the hens a small amount of warm moist mash in which you mix a teaspoonful of tincture of nux vomica to 20 hens, in just enough mash for them to clean up in a few minutes. Do this for three or four days. If there is no improvement, try the tobacco cure for worms, but before doing so I would kill and open one of the dumpy hens so as to be quite sure it was worms. The nux vomica will most likely be the best remedy and it will not harm anything.]

WIND-PUFFS.

To the Editor: I have a Black Minorca rooster whose breast is all ruffed up. It feels as if it were full of air. Please advise.—Subscriber, Acampo, Cal.

Probably wind-puff. Prick with a needle, at same time working with the hand gently to expel the wind, then close the puncture with a little piece of adhesive plaster. These wind-puffs often return and nobody knows why or how.

A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Relief. Gombault's Caustic Balsam will give you immediate relief. A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

Gombault's Caustic Balsam
The Great French Remedy Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."—Ed. Rosenburg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, $1.75 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

THE LAWRENCE WILLIAMS CO., Cleveland, Ohio

Make Poultry Pay

One of our subscribers was completely disgusted with poultry raising. Every morning forty of his hens would brag about what they were going to do, but at night he would find that only about eight had laid. The rest had simply lied.

So he bought a copy of our poultry book and in less than two weeks his hens had quit lying and gone to laying. They were shelling out enough extra eggs to pay for the book in less than two days.

California Poultry Practice Tells How

This great book will do as much for you. It was written by a Californian for Californians. The author, Mrs. Susan Swaysgood, after years of successful experience, has succeeded in showing the farmer how to make poultry raising more profitable. She knows what to tell and how to tell it. She deals out hard-headed poultry sense and still has every paragraph full of snap and sparkle.

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THE HOME CIRCLE

GOD'S TRUE WORD.

The highest truth is ever word of God.
"My doctrine is not mine," said he of old.
"But His that sent me"; and the fabled rod
Which Moses wielded was not his, 'twas told.
But symbol only of a vaster Power
Which feebly he forthshadowed for an hour.

Too much our human selves we separate
From the divine effulgence which is all!
A deity far off we paint, and prate
Of God as hid behind dividing wall.
Such dream as this is shadow drear and dun—
A glow-worm dimness, not the wondrous sun.

No word of good was ever breathed not God's!
No stroke for freedom but God held the arm!
Lo, then, today, these creeds' o'erturning sods—
They token heaven's rejoicing, not alarm.
O let us deem man's own best word of hope
Still God's true word, and man's best horoscope.

—James H. West.

A SILENT WITNESS.

"Mother, why are you hanging a looking-glass there?" asked James, looking at it curiously. "Such a pretty one, too," he continued. "It seems to me, I should want it where it would be seen oftener."

"I want it right here in the dining-room, where it can see," answered his mother, laughingly. "I am putting it here for a witness."

"A witness!" scoffed James. "It can't tell anything."

"We shall see. It will tell your faults to you as well as to others."

"I'd like to know how."

At supper James found that he and his brother Ned were to sit side by side, facing the glass.

"What's that for?" demanded both at once.

"Your father and I think best to have it so," explained their mother.

The boys sat down with scowls on their faces and an air of great injury. Ned happened to raise his eyes, when the ludicrousness of those frowning reflections struck him so forcibly that it provoked a shout of laughter.

"What is the matter with you?" growled James, looking up to make an ugly face, when his attention also was arrested by the truthful mirror. His startled stare added so much to Ned's glee that, he began to thrust out his tongue at James. The silent reminder brought him to a sudden stop.

"I see you are caught also," remarked his father, quietly.

The boys were silent. The day following, their experiences were repeated with such good results that their mother was beginning to congratulate herself on the success of her plan. In her absence from home of several weeks, while attending her mother in a serious illness, the boys had acquired the habit of bickering at the table, greatly to the humiliation of their parents.

Their silent witness had been with them two days when their cousin, a bright, manly little fellow, came to visit them.

At dinner Mrs. Lane said, "William, you may sit between James and Ned, where you can all enjoy yourselves."

But, oh, how two boys reddened as the mirror showed them how beautifully William's hair was combed and how their own touzly locks looked in comparison! Their mother had remained discreetly silent and allowed them to see for themselves.

Ned spoke first.

"Mother, will you excuse me for a minute?"

"Certainly," agreed his mother.

"And me, too?" questioned James.

They returned with shining faces and well-brushed hair and smiled at each other over the changed reflection. If William noticed, he was too much of a gentleman to say anything, but three pairs of eyes returned often to the pleasing picture.

"It is nice, isn't it?" said Mr. Lane.

"What?" asked all three at once.

"Three good-looking boys in a row."

"Oh," answered William, "I believe auntie had a reason for putting the glass there."

After William's visit was over and he had returned home, James came to his mother.

"Mother," he said, "your witness is all right. I couldn't understand before, but I do now, and I vote that we keep it there."

"Vote carried by a big majority," shouted Ned.

"Very well," promised mother; "it shall stay with you as long as you want it. A silent witness, but a good friend.—Baptist Boys and Girls.

CRANBERRIES.

Cranberries are a valuable food because of the iron and acid they contain, and, because of their acid content, sweeteners such as sorghum, cane or corn syrup may be used even more successfully than in other fruits. The most satisfactory way to make cranberry jelly is to make it in quantity and seal it in glasses, then it is ready for use as any other jelly. To 2 quarts of cranberries take 1 quart of water, cook for 20 minutes and then put through a sieve. Add sugar or sweetening, from 1 to 1½ cups, and cook about 10 minutes or until it will give a jelly. If to be used at once, turn into molds. Cranberry and apple juice may be combined in equal parts to make a jelly, or raisins, figs or coconut may be added to an unstrained cranberry sauce to add variety.

Dr. Eaton, a former president of Madison University, was beloved by the students. One day a student who had spoken in debate asked him what he thought of the effort. The doctor looked at him and then said slowly, "Edward, if you would pluck a few feathers from the wings of your imagination, and stick them in the tail of your judgment, you would make better speeches."

WHEN WE COME BACK

When we come back, remember * * the things we planned to do;
The little house upon the hill with room enough for two;
The casement with the ivy, the grass so soft and deep,
The singing roof where drops of rain would lull the night to sleep.

You said you'd hold me tight and never let me go again,
You'd kiss each scar upon my face, and every mark of pain;
When we come back, remember—you laughed when it was said—
I might be out an arm, but you would hug me twice instead.

I'll know you will have suffered far more than even I,
I'll know the sleepless nights when you could only walk and cry.
Remember, proud of heart, dear, if I should chance to fall,
You'd rather I had not come back, than never go at all.

Remember all the nonsense we said we'd talk at night
When, leaning on the swinging gate, we'd watch the stars in flight;
And don't forget the roses, the tinkling, leafy brook,
And how, you did, you know it—you said you'd learn to cook.

When we come back, remember * * the things we planned to do;
The little house upon the hill with room enough for two,
The casement with the ivy, the road a winding track,
The little house upon the hill, and * * and—when we come back.

—Charles Divine.

A Message to the Women Readers of the Pacific Rural Press

—about this marvelous laundry Soap that women everywhere are praising

No Boiling
Less Toiling
Solves the Wash Day Problem

WE know that all of you are interested in improved methods that will save labor and make the daily task lighter. So we bring this message about wash-day—the day that most women dread.

A great many laundry soaps do not work well in hard water. But that is the first problem we solved in making Cocoa Naptha Soap. It works well in either hard or soft water.

Wash Clothes Without Boiling

You might think this impossible, but it is not—for those who use Cocoa Naptha Soap say they get just as good results without boiling as they do with.

It's quite simple. First, wet the clothes thoroughly—in either cold or warm water—and rub them well with Cocoa Naptha Soap, making sure that the soiled places get plenty of soap. Then soak clothes for 30 minutes—or over night. In the morning you will find the dirt all loosened and a very little bit of rubbing necessary. Rinse, blue and hang out to dry. You will be surprised at how clean and white they become with so little work.

COCOA NAPTHA SOAP

Saves Time Saves Money

Los Angeles Soap Co.

Manufacturers

Los Angeles San Francisco

THE THREE PIRATES.

(With apologies to the shade of Charles Kingsley.)

Three pirates went sailing away toward the west
On the crest of Ambition's most turbulent tide.
They recked not of honor, nor virtue, nor right.
The cargo they carried was lust, greed and pride.
Und Bill vas von, und Austria two,
And the murderous Turk said, "Me stick-ka by you";
And the heart of the world went a-moaning.

Three Allies disputed the pirates' career—
Disputed it long, and disputed it well.
They gave of their wealth and they gave of their life,
And struggled to rescue a comrade from hell.
And France was one, and Britain was two,
And Italy did all that honor can do;
And the Jap and the Yank stood a-honin'.

Three pirates lay out on the desolate sands,
Tossed there like kelp by the turbulent tide.
For little they recked that the Jap and the Yank
Could ere enter the fray with so mighty a stride.
Then up Billhelm blew, and Austria flew,
And the Turk feebly muttered, "Da got-ta me, too";
And the old world ceased from its groaning.

—H. W. Jones.

HOME PICKLING OF OLIVES.

Will you give us a recipe for pickling olives in small quantities for home use?—W. H. B., Thalheim.

[Gather the fruit by hand when it is cherry red or darker. Place in an earthenware or wooden vessel (not metal). Make a solution of one pound of lye to five gallons of water and pour over the olives, keeping them under with a loose wooden cover. Stir and examine olives every hour. When the lye has gone through the skin of the olive (cut one and notice discoloration), say from three to eight hours, according to fruit and temperature, pour off lye and let olives darken by exposure to air and stirring—from one to three days. Then pour on fresh lye solution and leave with occasional stirring until it has penetrated to the pit, or flint will be better. But if left long after reaching the pit the flesh will be softened and color bleached. Then replace the lye with fresh water, which should be changed twice daily until all taste of lye is removed—five to seven days. Then put in brine for 24 hours—five ounces of salt to a gallon of water. After which heat olives and brine to boiling and pour hot into scalded jars or cans. Cover and seal and place in a pot or wash-boiler sterilizer and heat for one hour. Before sterilizing the brine may be poured out of the jars or cans, which are then sealed immediately while still hot and sterilized as above. They keep quite as well without the brine. This is Prof. Fred T. Bioletti's formula.]

RAISINS OR BEEFSTEAK.

The Rural Press has been asked as to the relative value of raisins and beefsteak. At bottom, the food problem resolves itself into supplying the body with digestible stores of energy in sufficient quantity. Under present-day standards, food energy is measured by "calories," the calorie being a standard unit of heat measurement. Measured by calories, the average raisin contains considrably more energy per pound than the average beefsteak—perhaps twice as much. But it is not safe to take the calorie standard too seriously, for the human system requires, besides "calories," certain mineral salts and a certain amount of bulk, or "roughage," as well as variety.

Both raisins and beefsteak are highly nutritious, and the determination of one or the other as an exclusive article of diet would depend largely upon location. If the person so restricted lived in a tropical or subtropical climate, the raisin would be the preferable article of diet; if, on the other hand, such a person were an inhabitant of the frigid zone or the northern belt of the temperate zone, he would undoubtedly prefer and thrive better on a diet of beefsteak. In this climate it is well to partake moderately of both, for the human being is an omnivorous animal and fares best on a variety of diet.

SWEET POTATO RECIPES.

Sweet Potatoes "Southern Style."—Boil and peel potatoes; brush them over with syrup diluted with water; brown in oven or under blazer of gas stove.

Candied Yams.—Slice boiled sweet potatoes into a baking pan; sprinkle each layer with sugar, cinnamon and bits of butter; add a few cloves and a half cup of hot water; brown in the oven. Sugar may be omitted and a tablespoon of white syrup added to the hot water. This rich dish usually accompanies the Sunday chicken in the South. Bananas, cooked in the same way, are served in the tropics with chicken.

FAMILY FRUIT CAKE.

Two cups seeded raisins, 1 tablespoon lard, 1 cupful water, 1 cupful sugar, 1 teaspoon each of cinnamon, cloves, nutmeg and soda, a pinch of salt, 2 cupfuls of flour, ½ teaspoon baking powder. Mix all the ingredients except the flour and baking powder and boil together in a double boiler for three minutes. When cold, add the flour and baking powder and bake in a slow oven three-quarters of an hour to an hour.

HARD TO KEEP.

The tramp came to the back door and unfolded a long tale of woe. His wife and six little children had, it appeared, fallen victims to a Gotha bomb, and the shock had so unnerved him, etc.

The woman of the house heard him patiently, but she fixed him all the time with a cold, searching eye.

"My man," she said, when at last she could get an inning, "are you telling me the truth? I have a very good memory for faces, and, if I am not mistaken, you called here some years ago and told me you had lost your wife and six children in the sinking of the Titanic."

"Yes, marm, that was me," agreed the tramp unblushingly. "I'm the most unfortunate man ever born. Never could keep a family anyhow."—Unidentified.

SPARKLETS.

Despite the exhortations of her teacher, small Mary persistently lagged during the march in the kindergarten one morning.

At last the teacher called Mary to her side and said: "Mary, dear, can't you keep up with the music and the little boy in front of you?"

"Yes," answered Mary, with a beaming and obliging smile, "I can, but my new shoes can't."—New York Times.

A small boy said, "Mamma, how fat Amelia has grown!" "Yes," said his mother; "but don't say 'fat,' dear; say 'stout.'" At dinner the next day the child was asked if he would have some lean meat. "No, thank you," said he, "I'll take some stout meat."—Little Chronicle.

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AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

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Market Comment

Butter Substitutes Forced to Front!

The heavy movement of creamery butter from Pacific Coast points to the East, where the same grade of butter rules from 7 to 8c higher, has directed the attention of consumers to view more favorably the use of substitutes, where the difference in price on a 2-pound square amounts to 50c or more. The prevailing high prices for the original article, however, appear to be strongly in accord with basic market conditions. Creameries have increasing difficulty in obtaining milk to meet their demands, as dairy cattle herds have been depleted and the milk condensaries are formidable competitors for the raw product. Europe is said to be absorbing large quantities of our butter supply, and army and navy requirements are also heavy. The storage situation at the last report, November 15, showed national holdings of 70,000,000 pounds, as compared with 82,000,000 pounds at the same time last year. In the southwestern section, of which San Francisco is a part, the storage houses contain 2,440,048 pounds, as compared with 2,082,799 last year. However, a large quantity of the stored stock here is owned by the Government and affects the market conditions only indirectly. The following comparison of prices (December 3 quotations) shows the disparity in Western and Eastern quotations:

WHOLESALE BUTTER PRICES.

	San Francisco	New York	Philadelphia
94 score	61c	...	...
93 score	61c	69c	69c

Wheat Prices Remain Unchanged.

It is the opinion of the Food Administration that the Government price for the 1919 crop of wheat, guaranteed under the Lever Act, does not become ineffective as a result of the conclusion of peace, as the Lever Act provides that "all rights or liabilities under this act arising before its termination shall continue and may be enforced in the same manner as if the act had not terminated." This price is fixed at $2.26 a bushel, Chicago basis, or $2.20 San Francisco and Los Angeles delivery. Basing the estimate on sacks of 100 pounds each, the price is $3.81 2-3 for No. 1 hard white in sacks, $3.63 1-3 for No. 3 Club and Sonora.

Bean Market Steady.

The U. S. Bureau of Markets, in its summary of Tuesday's bean market, says: "California small whites held steady at $8.50@9.00, sacked, per cwt., f. o. b. Los Angeles, and moved slowly at a general even range of $10.50@11.50 in important consuming markets. Michigan choice, hand-picked pea beans were unchanged at Grand Rapids at $9.10@9.25, sacked, and ranged steady at $9.35@10.25 in Eastern markets. Shipments were moderate." The same authority, in its weekly review under date December 4, reports California white stock in consuming markets as bringing $14 to $16. The bean market, as a whole, is fairly steady.

The Busy Bee Stands Pat.

Honey prices have been the highest ever known, made so by war conditions, according to beemen. At the session of the Central Valley Honey Producers' Co-operative Exchange, held in Modesto this week, the belief was expressed that the price of the commodity should be sustained through the coming year, and to this end the War Trade Board at Washington has been asked to lift the ban against the export of honey so that California may re-establish its markets abroad once more.

Olive Growers Happy.

Tulare county olive growers are reported to be getting record prices for their 1918 crop. Manzanillas and Missions are running from $135 to $190 per ton, orchard run, while large Manzanillas are selling as high as $300 per ton, and orchard run Sevillanos at $450 per ton.

THE MARKET REPORTS

Where commodities are consigned on a commission basis, the only price obtainable is the San Francisco price, from which customary charges are deducted to ascertain actual price paid to producer. Lines of commodities sold on exchanges, as butter, eggs, cheese, grain, etc., are priced according to exchange figures, which are not the prices paid to grower. From these figures must be deducted the legal percentages permitted to be taken by wholesalers before remitting balance of sale price to shippers. Schedules of discounts governing these transactions may be obtained from the offices of the Food Administration or of various exchanges.

SAN FRANCISCO

San Francisco, December 4, 1918.

WHEAT.

Per bushel—

No. 1 hard	$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Recleaned for seed, per ctl.—	
California Bluestem	$4.15@4.25
Early Baart	4.15@4.25

BARLEY.

Barley continues to be held firm, and sales were made at a slightly higher price this week than last.

Choice feed, per ctl	$2.15@2.25

OATS.

Oats are steady, with a somewhat firmer tone for red feed. Red for seed are lower on lack of demand.

Red feed, per ctl	$2.40@2.50
Red for seed	2.65@2.90
Black for seed	2.80@3.00
Recleaned Red or Black for seed	3.35@3.50

CORN.

Corn continues heavy, although some sales for choice white Egyptian are reported at $3. These sales were far less than carload quantities.

Egyptian, choice	$2.75@3.00
Milo	2.70@2.75

HAY.

Receipts of hay for the past week were 844 tons, compared with 731 the preceding week. Trade in general is quiet and receipts are ample to take care of all demands. Damaged hay, which is still arriving, has been moving fairly well, though with concessions in prices. While recent rains have been of benefit to stockmen, anxiety is still felt over cold weather prospects. Great quantities of baled hay have been damaged and are being fed out immediately to stock. This will have an influence on the market later. The present market may be regarded as easier, with prices a shade lower.

Wheat, No. 1	$25.00@27.00
do, No. 2	19.00@23.00
Choice tame oat	24.00@26.50
Wild oat	19.00@21.00
Barley	19.00@21.00
Alfalfa	17.00@21.00
Stock	17.00@20.00
Barley straw	.50@ .80

FEEDSTUFFS.

The market for feedstuffs is dull and unchanged. There is practically no export trade in either feedstuffs or hay, but it is predicted that if the Shipping Board releases much shipping on this Coast there will undoubtedly be an active export at once. This release is looked for within the next few weeks at the farthest.

New alfalfa meal, per ton	$35.00@36.00
Coconut cake or meal	Nominal
Cracked corn	$86.00@88.00
Oilcake	77.00@78.00
Rolled barley	45.00@47.00
Rolled oats	55.00@57.00
Fish meal, per 100 lbs	4.00@ 5.00

POTATOES, ONIONS, ETC.

Both potatoes and onions are weak at unchanged quotations. Tomatoes are of very poor quality and sell for almost anything, as retailers do not care to buy the class of goods offered. String beans are scarce and quoted at a higher range. Eggplant is also of inferior quality and sold at lower levels.

String beans	12@17c
Lima beans	8@9c
Carrots, per sack	85c@$1.00
Rhubarb, San Jose, per box	$1.00@1.25
Pumpkins	75@90c
Cucumbers, hothouse, box of 30	$2.50@3.00
Eggplant, per box	1.00@1.25
Livingston	None
Lettuce, per crate	$1.50@2.00
Celery, bunch	20@25c
do, crate	$3.00
Tomatoes, per crate—	
Bay	75c@$1.00
Potatoes—	
Garnet, Chile, on street	None
Fancy whites	$1.75@2.00
Choice	1.40@1.65
Sweets, per sack	2.75@3.00
Onions—	
River Reds	None
Yellows	90c@$1.00
Australian Browns	90c@$1.00
Fancy	$1.15@1.30
Garlic, new	20@25c
Green corn, Alameda, per sack	Nominal
Okra, per box	None

BEANS.

The Government has now filled all its immediate requirements and no demand for shipment outside the State has arisen. Consequently the bean market is quiet, with lower quotations on cranberry and small whites.

Bayos, per ctl	$7.25@7.50
Blackeyes, new crop	5.50@5.75
Cranberry beans	8.25@8.50
Limas (south, recleaned), new crop	$10.50
Pinks	$6.75@7.00
Mexican Reds	$6.75@7.00
Tepary beans	5.00@5.50
Garbanzos	8.00@8.75
Large whites, new crop	8.20@8.30
Small whites, new crop	9.25@9.40

POULTRY.

The poultry market is suffering from the usual after-the-holiday reaction. The demand is easy and receipts are fully large enough to take care of it. Little local stuff came in during the week, while four cars arrived from the East. Turkeys are lower, but otherwise last week's quotations stand. It is reported that the Eastern market was somewhat overstocked with turkeys during the late holiday season and that it is likely that more turkeys will be shipped to this market from the East at Christmas time.

Turkeys, live, young spring, lb	35@36c
do, old	35c
do, dressed, old	45c
Broilers, 1½ to 2 lbs	39@42c
do, 1¼ lbs	43c
do, ¾ to 1¼ lbs	45c
Fryers	35c
Hens, extra, per lb., colored	33c
do, Leghorn	33c
Smooth young roosters, per lb. (3 lbs. and over)	33c
Old roosters, colored, per lb	24c
Geese, young, per lb	28@30c
do, old, per lb	28c
Squabs, per lb	55@60c
Ducks	30@32c
do, old	27@30c
Belgian hares	22@23c
Jack rabbits	$3.25@3.75

BUTTER.

The butter market continues strong and the price was advanced one cent at the weekly call on Monday. There are some shipments East. One reason for the present price is found in the comparatively small receipts. With the exception of September and October of the present year, this November's receipts were the smallest in over two years.

	Thu.	Fri.	Sat.	Mon.	Tu	Wed.
Extra	62	62	63	63	63	
Prime first	59	59	59	Nom.	..	..
Firsts	58	58	58	Nom.	..	..

EGGS.

Eggs continue strong, with a marked advance in the price of pullets. Like butter, the receipts of eggs during November were considerably below the record of a year ago. Last month's receipts were only 25,752 cases, which is less than any month during the past two years.

	Thu.	Fri.	Sat.	Mon.	Tu	Wed.
Extra	81	82	81½	82½	82	
Extra 1sts	Nominal				80	80
Firsts	Nominal					
Extra pullets	68	76	72½	76	76	

CHEESE.

Cheese is stronger and higher. During November of this year only 615,400 pounds were received, which is less than two-thirds the receipts of the similar period of a year ago. With the single exception of December of last, this year's receipts for November were the smallest in two years. It is fair to assume that shortage in receipts is a strong element in the high prices.

California Cheddar, flats, fancy	32c
Fancy California flats, per lb	34½c
First California flats, per lb	Nominal
California Y. A. fancy	Nominal
Oregon triplets, fancy	37c
Oregon Y. A. fancy	Nominal
Monterey cheese	24@27c

FRESH FRUITS.

There is little fresh fruit on the local market, with the exception of apples, which are unchanged and sell from $1 to $2 for the California varieties, according to size, and from $2 to $3.75 for the Northwest varieties on the same basis. The berry season is over, although a few drawers are expected to come in from time to time. There were a few grapes on the market, selling from $1.50 to $2.25 per crate.

Peaches, 4-box crate	None
Figs, black, per box	None
do, double layer	None
do, Single Row Whites	None
Strawberries, per drawer	None
Blackberries, per chest	None
Raspberries, per drawer	None
Plums	None
Cantaloupes, flats	None
do, ponies	None
do, standard	None
Watermelons, per lb	None
Pears, Bartlett, per box	$2.00@3.00
Winter pears	1.00@1.50
Persimmons	

CITRUS FRUIT.

Citrus fruit is quoted at a lower level all along the line, although there are no more grapefruit at $2. Best navels are now selling at $6 and inferior grades down to $3.

Oranges, navels	$3.00@6.00
Mandarins	1.75@2.00
Lemons, fancy	5.00@6.00
do, choice	4.50@5.00
do, standard	3.50@4.00
California limes	1.50
Grapefruit, new	2.25@3.00

HONEY.

Honey, which two weeks ago brought the beemen as high as 22c, cannot get even a bid of 15c from the local buyers for carload lots. Some few cases may be bought at 16c by the dealers, but these deals are merely to fill in an order. San Francisco dealers predict that the honey association will not be able to weather the storm of lower prices. Even if the embargo on shipments is lifted, it is said the beemen cannot get much relief, as European dealers will not pay the prices demanded.

DRIED FRUITS.

With the exception of apples, the dried fruit market is firm, with no change in prices. For apples there is little demand and the buyers are not offering more than 12c.

RICE.

Paddy rice, 1918 crop	$4.32
Clear No. 1, 1918 crop, at mill	7.00

LOS ANGELES

Los Angeles, December 3, 1918.

BUTTER.

Receipts were good for the week, 319,265 pounds against 228,000 pounds the same week last year. However, while the fresh receipts were good, the very light stocks in store and higher markets East and in San Francisco encouraged buying and the market held steady and firm throughout the week. There was withdrawn from cold storage during the week 17,918 pounds against 31,862 pounds the same week last year. The cold storage holdings now are only 118,091 pounds and much of this sweet butter, leaving the market pretty nearly bare of storage goods, hence the holding up of prices, which are 18c higher than a year ago.

We quote:

California extra creamery	60c
do, prime first	58c
do, first	57c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon
Extra	60	60	60	60	60	60
1917—						
Extra	42	42	42	42	42	42

EGGS.

The market the past week was less snappy, notwithstanding light receipts of fresh ranch eggs, which for the week were 308 cases by rail against 447 cases the same week last year. As the arrivals by truck continue about four times as large as the receipts by rail, the supply for the week was 1840 cases against 2235 cases the same week last year. To meet this shortage in fresh eggs there was withdrawn from cold storage during the week 6922 cases, against 5403 cases the same week last year. The cold storage holdings now are down to 26,132 cases against 17,878 cases this time last year. Extras advanced for the week 2c, case count 7c and pullets 5c. Extras are now 23c higher than this time last year and case count and pullets 21c higher.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon
Extra	73	73	73	74	75	75
Case count	63	63	63	65	70	70
Pullets	59	59	59	63	66	67
1917—						
Extra	55	53	53	53	52	52
Case count	54	51	51	51	49	49
Pullets	48	48	49	47	46	46

VEGETABLES.

Offerings of green stuff light and all good fresh stuff in fair demand. Potatoes were in better supply slow sale and a little lower. That is Idahos. Rivers unchanged and fancy stock in fair demand. Receipts of onions light and white Globe higher and in good demand. Australian Brown firm and also selling very well. Cabbage dull and lower. Celery scarce and higher. Sweet potatoes still draggy. Market over-supplied. Cauliflower steady but slow sale. String beans and lima beans getting scarce and the market for them is steady and demand fair. Bell peppers coming in less freely and selling a little better.

We quote from growers:

Bell peppers, per lb	6@6½c
Chile peppers, per lb	4@6c
String beans, per lb	7@8c
Lima beans	6@7c
Potatoes, northern, per cwt	$2.00@2.25
do, Idaho Russets, per cwt	1.90@2.00
Sweet potatoes, per cwt	2.00@2.25
Garlic, per lb	20c
Onions—	
Australian Brown, per cwt	$1.50@1.60
White Globe, per cwt	3.25@3.50
Cabbage, per 100 lbs	75c@ 90
Celery, crate	4.00@4.50
Tomatoes, No. 1, lug	80c@
do, No. 2, lug	25@35c
Cauliflower, standard crate	$1.50@1.75

POULTRY.

The Thanksgiving market was a good one. Up to Thursday everything sold well and brought full quotations. Since then, however, the market has been very quiet. Prices, however, remain steady. The following prices were agreed upon last Friday, November 29, and hold good until the coming Friday:

Broilers, 1@1½ lbs	37c
Broilers, 1½@1¾ lbs	41c
Fryers, 2@3 lbs	35c
Roosters (soft bone), 3 lbs. and up	30c
Stags and old roosters, per lb	20c
Hens	28@32c
Tom turkeys	31@34c
Ducks	22@28c
Geese	28c

FRUITS

Appls now dominate the market. They make more than seventy-five per cent of the offerings and are meeting with a good demand. A few Japanese persimmons and guavas are coming in. Demand fair.

We quote from growers:

Apples—	
King Davids, 4-tier	$2.75@3.00
Black Twigs, 4-tier	2.75
Baldwins, 4-tier	2.00@2.25
Red Pearmains, 4-tier	1.75
White Pearmains, 4-tier	2.00
Rhode Island Greenings, 4-tier	1.50
Yellow Newtown Pippins, 4-tier	$1.75@2.00
Bellefleur, 4-tier	$1.75@1.85
do, 3½-tier	1.75@1.90
Gravenstein, 4-tier	2.00
Japanese persimmons, per lb	4@5c
Guavas, per crate of 30 baskets	$1.50@1.75

BEANS.

We quote from growers:

Limas, per cwt	$10.00

Large white, per cwt............$8.00@9.00
Small white, per cwt. 8.00
Pink, per cwt. 6.50
Tepary, per cwt. 4.50
Blackeyes, per cwt. 5.00

WALNUTS.

There is no change in this market from a week ago. Very few are to be had from first hands and they from independent growers and are bringing quotations. A good many culls are coming in and they are selling at 14@15c a pound. The Association is still shipping out two to three cars a day on contract.

We quote f. o. b. California points:

	1918	1917
Fancy budded	33c	24c
Standard budded	32c	21c
No. 1 soft shell............	31c	20c
No. 2 soft shell............	28c	18½c

HAY.

The market the past week was dull at last week's advance. Not much in and very little wanted. The dairy people took a little alfalfa, but that was all that was moving.

We quote f. o. b. Los Angeles:

Barley hay, per ton...........$24.00@25.00
Oat hay, per ton.............. 26.00@28.00
Alfalfa, northern, per ton..... 21.00@22.00
Alfalfa, local, per ton......... 22.00@24.00
Straw, per ton .... 9.00@10.00

COTTON.

The market the past week was an extremely nervous one. It being the closing week in November and the opening week in December and Thanksgiving holiday breaking the trading week, all seemed to have worked against the market. The mills were holding back on account of a dull market for their product and there was no great amount of foreign buying. The result was, prices worked lower from the start. By Saturday December in New York had worked down to 26.30c and closed at 26.70c, and January closed at 25.35c. In New Orleans December closed at 25.73c and January at 24.75c. Monday opened the current week in New York with fair buying but a bearish feeling and a sharp break after a higher opening. December closed at 25.75c and January at 24.75c. In New Orleans December closed at 25.00c and January at 24.00c.

Special Deciduous Market Report

By J. L. Nagle.

Sacramento, December 3, 1918.

Storage Emperors that have been offered for sale during the past week, in the Eastern markets, have not met with ready demand. Most of the stock opened up weak and little interest was displayed by the trade. All markets continued to pay the limit for sound, good keeping Emperors. The supply has about become exhausted, as the last of the shipments are in transit.

The late pear market shows unusual activity, and as the stock is arriving in good condition, markets ruled higher than the week previous, which up to date have been the highest of the season.

Averages for the week.

New York—Pears: Winter Nellis, $3.98; Glout Morceau, $4.40; E. Buerre, $3.40. Grapes: Cornichon, $1.90; Emperor, lugs, $2.50; kegs, $4.46; drums, $3.42; crates, $2.79; Malagas, crates, $2.60; lugs, $1.75.

Chicago—Grapes: Emperor, $2.38; Cornichon, crates, $2.57; lugs, $1.50.

Boston Grapes: Emperor, crates, $3.00; drums, $2.95; lugs, $2.66; Cornichons, $2.75; Tokays, $1.77; Glout Morceau, $3.42.

Shipments from November 22nd to 30th, inclusive: 14 pears, 3 grapes. Total shipments to date, 1918, 28,993 cars. Total shipments to date, 1917, 24,539 cars.

Special Citrus Market Report

Los Angeles, December 2, 1918.

Oranges are beginning to move more freely, the bulk of the shipments at present originating in Central California. With better weather the volume of shipments from all points is expected to rapidly increase. A wide spread of prices has developed, fruit of medium size and good color bringing around $5.50 f. o. b., while the larger sizes, which are plentiful, are bringing as low as $2.50. The Southern California orchards are still contributing light shipments only, and the range of prices is almost the same as for the Northern fruit.

The lemon glut which has depressed prices in the East for the past few weeks, and sympathetically on the Coast, is clearing up. California shipments have fallen off in volume, and advices are that there are no foreign lemons in stock and none expected.

Shipments to date are as follows: Central California, 760 carloads; Southern California, 40 carloads; Northern California, 36 carloads.

Special Livestock Market Report

San Francisco, December 4, 1918.

CATTLE—The slight depression occasioned by the strong preference for poultry Thanksgiving week has passed and a renewed demand for good beef is felt. Prime cattle still continue scarce and some packers have had to go beyond the State for their supplies of the right kind. One shipment from Ogden, Utah, is already here, consisting of seven cars of steers and four cars of cows. Small shipments are also being made from Klamath Falls, Ore.

Grass Steers—
No. 1, weighing 1000@1200 lbs..12¾@13c
do, weighing 1200@1400 lbs....12@12¼c
do, second quality..............11@11½c
do, thin ....9½@10c

Cows and heifers—
No. 1 ....9@9½c
do, second quality...............8@8½c
do, common to thin..............6@6½c

Bulls and stags—
Good ....6@6½c
Fair ....5½@6½c
Thin ....4½@5½c

Calves—
Lightweight 11½c
Medium ....10½@10¾c

SHEEP—The sheep market is strong. Better pasturage has put mutton stock in better condition, and the limited market demand is more easily supplied.

Lambs—
Yearling ....12@12½c
Milk ....14@14½c

Sheep—
Wethers ....11½@12c
Ewes ....9@9¼c

HOGS—Hogs are coming in in plentiful supply, and are of excellent quality and desirable weight. Packers here and in the East are adhering to the hog price agreement and the demand seems to be limited only by the ability of packers to handle supplies.

Hard, grain-fed, 100@150....................16c
do, do, 150@300.......................16½c
do, do, 300@400.......................15¾c

EASTERN MARKET.

HOGS—Receipts, 51,000 head; market, firm, mostly 5c to 10c above Monday's average. Butchers, $17.60@17.85; light, $17.00@17.70; packing, $16.85@17.50; throwouts, $16.25@16.75; pigs, good to choice, $14.00@14.50.

CATTLE—Receipts, 21,000 head; native Western steers, 25c higher; prime natives, $20.25, a new record; cows and heifers, strong to 25c higher; bulls, steady; calves closing 25c to 50c higher; stockers and feeders, steady to strong. Beef cattle, good, choice and prime, $15.60@20.25; common and medium, $9.75@$15.60; butcher stock, cows and heifers, $6.75@14.25; canners and cutters, $5.85@6.75; stockers and feeders, good, choice and fancy, $10.25@13.25; inferior, common and medium, $7.00@10.25; veal, calves, good and choice, $17.50@18.00; Western range beef steers, $14.40@18.00; cows and heifers, $8.35@13.00.

SHEEP—Receipts, 25,000 head; market strong to 25c higher. Lambs, choice and prime, $15.15@15.35; medium and good, $14.25@15.15; culls, $9.50@12.50.

Los Angeles, December 3, 1918.

CATTLE—The offerings of choice fed steers continue light and under scarcity the market is steady and firm. Plenty of thin and medium cattle, both cows and steers, are to be had and the market for them is dull and weak.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers........ 8.00@ 9.00
Good cows and heifers.......... 7.00@ 7.50
Canners, per cwt................ 5.50@ 6.00
Calves, per cwt................. 8.50@10.00

HOGS—While the run of hogs to market the past week was hardly so good as the week before, the supply was fair and the quality of offerings very good. Killers were all in the market and wanted supplies and lightweights brought more money.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 275@300 lbs..$14.00@15.00
Mixed, 225@275 lbs............ 15.00@15.50
Light, 175@220 lbs............. 15.50@16.50

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent

SHEEP—The market the past week was much the same as the week before. Killers still have to reach out to get what they want, California, Nevada and Idaho all being drawn on for supplies. Prices steady and choice lots firm.

Per cwt. f. o. b. Los Angeles—
Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....15.00@16.00

Portland, Ore., December 3, 1918.

CATTLE—Lower; receipts, 140. Steers, prime, $11.50@12.00; good to choice, $10.50@11.50; medium to good, $9.50@10.50; fair to medium, $8.00@9.00; common to fair, $5.50@7.50. Cows and heifers, choice, $7.75@8.00; medium to good, $6.00@7.00; fair to medium, $5.00@6.00; canners, $3.00@4.00. Bulls, $5.00@7.00. Calves, $9.00@12.00. Stockers and feeders, $6.00@9.00.

HOGS—Lower; receipts, 380. Prime mixed, $16.60@16.75; medium mixed, $16.50@16.60; rough heavies, $14.60@14.75; pigs, $14.00@15.00; bulk, $16.75.

SHEEP—Steady; no receipts. Prime lambs, $12.00@13.00; fair to medium, $9.00@11.00; yearlings, $10.00@11.00; wethers, $9.00@10.00; ewes, $6.00@8.00.

WEEKLY BUTTER AVERAGES.
Cents per pound for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan.	2	34.50	50.40	35.25	50.16
"	9	39.41	51.08	36.90	50.00
"	16	35.83	52.33	37.00	50.50
"	23	36.91	52.50	35.00	52.00
"	30	38.48	53.00	38.87	51.83
Feb.	6	40.00	50.80	41.19	49.66
"	13	39.70	52.00	39.00	48.00
"	20	36.00	51.41	37.00	48.00
"	27	37.00	51.30	36.00	49.33
March	6	35.50	50.66	34.50	50.00
"	13	33.50	51.16	33.00	49.50
"	20	33.25	47.83	33.00	47.00
"	27	36.00	46.30	33.00	43.30
April	3	37.91	43.16	36.33	42.16
"	10	39.33	39.25	37.00	39.50
"	17	39.58	39.00	38.00	36.83
"	24	35.56	40.50	36.50	38.16
May	1	33.08	40.83	33.00	39.00
"	8	34.05	40.66	33.20	39.00
"	15	35.50	40.46	34.16	39.00
"	22	36.30	44.33	35.16	41.00
"	29	36.60	42.30	37.33	39.00
June	5	36.30	43.90	37.66	41.58
"	12	36.50	44.92	38.00	40.58
"	19	36.00	46.50	37.50	41.75
"	26	35.06	47.42	37.00	43.00
July	3	35.06	48.08	37.00	46.00
"	10	36.41	48.90	37.16	47.50
"	17	37.83	50.83	38.66	48.66
"	24	40.25	52.66	42.58	45.16
"	31	42.82	52.16	44.00	51.00
August	7	43.00	52.16	43.00	50.83
"	14	41.66	51.66	42.00	49.00
"	21	41.50	52.25	42.00	49.58
"	28	41.91	53.00	42.00	50.00
Sept.	4	42.10	53.00	41.33	50.00
"	11	42.00	54.90	41.00	50.33
"	18	45.00	57.80	43.00	51.67
"	25	45.00	61.33	45.50	56.17
October	2	44.90	64.75	45.91	58.00
"	9	44.00	64.50	46.33	59.33
"	16	46.25	62.50	47.00	60.00
"	23	45.41	61.75	46.50	60.00
"	30	43.50	60.50	44.83	59.50
Nov.	6	41.41	59.60	42.00	58.83
"	13	40.83	60.00	41.33	57.00
"	20	40.83	61.00	42.22	57.27
"	27	40.83	61.60	41.33	58.75
Dec.	4	41.70	62.60	42.00	60.00

Take the Time to Read

"I don't have any time to read nowadays. You see labor is so scarce and I have to work so hard that I'm all in when I get through at night, so I go right to bed."

That's the excuse some farmers give for not keeping up on their reading, but can they really afford to deny themselves this help? Let's see. A cow tester had 28 members in his association, 14 of whom read farm papers. The net profit per cow in the herds of the latter was $33.40. In the herds whose owners did not read farm papers it was only $21.46—a difference of $11.94. Figuring on a herd of 30 cows, this would make a difference of $358.20 per year. Pretty good returns on an investment of $1 per year and just a few minutes' time each day.

It works out the same along all lines of farming, and it may safely be said that the man who won't read is too shortsighted to succeed. No man is too busy to study the methods by which others have made progress; in fact, the most successful men are the ones who are doing this very thing.

Read every page of this issue and see how many plans can be adapted to your needs. Then figure how much you can make or save by putting the suggestions into practice.

Suppose we charged a dollar for this one issue instead of a full year. Wouldn't it be about 100 per cent too low? Think it over after you've digested every page.

WEEKLY EGG AVERAGES.
Cents per dozen for Extras.

Week Ending		San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan.	2	38.10	52.80	37.00	48.16
"	9	37.91	60.91	38.16	50.66
"	16	41.83	65.66	40.83	55.00
"	23	32.50	65.66	33.12	58.00
"	30	32.08	61.25	33.02	54.00
Feb.	6	34.99	58.50	34.70	51.66
"	13	33.30	44.40	31.66	44.83
"	20	33.01	44.75	30.75	40.83
"	27	29.00	42.40	27.66	39.58
March	6	24.75	36.83	24.91	35.00
"	13	25.96	37.91	26.08	38.00
"	20	25.66	40.66	25.91	39.63
"	27	27.16	39.50	28.00	40.00
April	3	28.58	38.91	29.25	38.33
"	10	29.66	37.58	30.41	36.33
"	17	32.33	39.16	32.08	36.83
"	24	32.91	40.50	32.83	39.66
May	1	32.00	41.66	31.83	39.33
"	8	33.75	40.08	32.00	37.00
"	15	34.20	39.16	32.50	38.83
"	22	33.40	40.50	34.00	39.00
"	29	33.80	38.66	33.50	37.41
June	5	33.20	40.80	34.66	38.83
"	12	31.16	41.00	33.00	33.75
"	19	31.41	43.33	33.10	33.00
"	26	30.16	44.32	32.16	39.08
July	3	31.90	44.91	34.25	41.75
"	10	33.50	48.30	36.00	45.00
"	17	33.66	47.66	34.41	45.50
"	24	35.25	47.91	36.91	45.16
"	31	38.00	48.83	40.16	46.56
August	7	42.58	49.50	37.08	46.58
"	14	41.41	52.08	42.25	48.00
"	21	43.33	56.33	42.25	50.17
"	28	53.50	59.20	43.50	53.00
Sept.	4	43.80	62.40	43.58	56.33
"	11	45.08	63.70	44.91	58.67
"	18	47.83	61.30	47.83	59.00
"	25	47.58	60.17	49.50	55.67
October	2	47.00	65.42	50.83	59.75
"	9	47.10	65.08	51.50	60.00
"	16	52.59	71.30	54.50	62.66
"	23	54.83	78.88	56.16	70.33
"	30	56.16	86.41	58.00	79.33
Nov.	6	57.41	87.90	57.80	78.00
"	13	56.25	86.00	55.16	78.00
"	20	56.25	77.25	54.36	[illegible]
"	27	56.52	79.80	55.16	72.33
Dec.	4	52.70	82.00	52.16	73.83

The failure of the regular monsoon in India, with the delay in the advance of winter rains, is causing anxiety as to the crop outlook.

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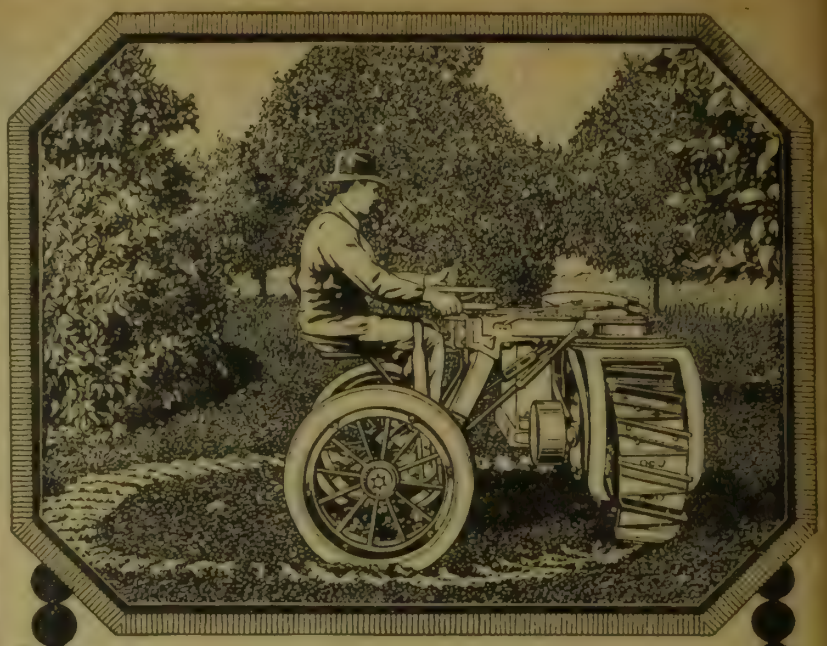

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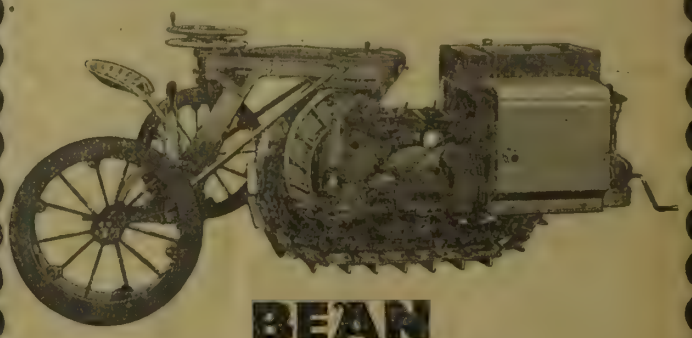

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Vol. XCVI—No. 24

THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO | DECEMBER 14, 1918 | LOS ANGELES

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Hay Eaters Increased Faster Than Hay

"Hey" there, Pacific Rural Press! What's the hay market? What are the prospects for moving the present crop? What are prospects for the next crops?

[Written for Pacific Rural Press by R. E. Hodges.]

FOR THE nation as a whole, a greatly increased hay eating population has a greatly decreased amount of hay to eat. As the hay crops of the previous two or three years were eaten up clean, with practically no carryover, it seems apparent that the increased amount of livestock will eat all of the hay crop and a good bit of substitutes besides. By the so-called "law" of supply and demand, the high prices hay producers have been enjoying were justified and are likely to continue, especially on alfalfa, with no great variation. For the Southwestern States, Arizona, Nevada, and California, whose livestock must furnish the market for practically all of their own hay, the hay crop of 1918 is much more greatly decreased than the hay eaters, and there is strong evidence that an increase of alfalfa hay eaters is already on the boom ready to compete for the reduced crop. The market here was practically bare when the new crop came on, so there is no carryover to weaken the market; and shipping conditions are such that if the entire country were not in a similar condition we could still scarcely hope to bring in hay from other States or countries.

From the detailed facts as stated below, it would seem reasonable to conclude that hay prices need not go down. It seems safe to believe that a demand will develop for the entire production at present or higher prices.

Increasing interest in dairy cattle in alfalfa producing districts may increasingly reduce the expense of baling and transporting bulky hay, but this fall rains have shown a need of better stacks than are common.

Livestock and Hay of United States.

Horses, mules, dairy cattle and beef cattle on the farms of the United States have all increased steadily in number since 1914 and are all greater at the end of 1918 than the average during the five years 1910-1914, as reported recently by the United States Secretary of Agriculture. For the actual number we refer to our livestock columns of current dates.

The total crop of all kinds of hay in the United States was much less in 1918 than in 1917 or 1916. For 1918 it was about 86,254,000 tons. This was as much less than the 1917 crop as the entire production of California, Oregon, Nevada, and Arizona.

But while hay is fairly "fluid" in normal times, and has been shipped by boat and by rail to the Atlantic seaboard, and even to Europe and the Philippines, the past year's shortage of cars and boats has taught us not to expect to base our own market prices to any great extent on the possibility of either importing or exporting hay from the Southwestern States to maintain an equilibrium. Average exports of hay from the United States during the past five years have been less than 100,000 tons, according to reports of the U. S. Department of Commerce. Imports have not quite balanced the exports. One hundred thousand tons would not affect market prices on 86,000,000 tons anyway. Our exports have a good chance of increasing largely when our greatly increased merchant marine gets over its big job of carrying human food. The California Alfalfa Growers' Association is rightly expecting to work up a big export business in alfalfa meal in the future; but can we hope for shipping conditions to change soon enough to move our present hay crop?

Depend On Our Own Hay Eaters.

It looks to the writer as if the Southwestern States would have to depend on our own hay eaters to furnish the market for practically all of our crop. Therefore, we can study our situation safely and principally from the local standpoint. This will have to be done first by looking at conditions up to January 1, 1918, for which we have the local figures, and then consider the changes that have taken place in 1918.

The 1917 hay crop of these three States combined was 6,336,000 tons, 6 per cent greater than in 1916. Now note that hay eaters increased more rapidly than the hay. For all three States combined, the milk cows on January 1, 1918, totaled 712,000, following a steady and rather rapid increase during the past four years. Other cattle totaled 3,255,000 following the same sort of an increase. Horses in the three States totaled 678,000. This was eight thousand more than the year previous, which was the low mark following a steady decrease during the three years preceding. Mules totaled 78,000, which was less than during the previous three years. Cattle on January 1, 1918, represented an increase of more than 8 per cent. Draft stock increased six-tenths of 1 per cent over the year previous, but was far less than January 1, 1916, and still less than in 1915, indicating that draft stock has a general tendency to decline.

The 1918 Season.

For a survey of 1918 up to date we do not have figures for Arizona and Nevada, but we feel that California conditions will fairly represent

(Continued on page 652.)

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EDITORIALS

JOURNALISTIC REFORM.

EVERYTHING is being reformed nowadays and it is quite in the spirit of the times for readers to give publishers their ideas of possible and desirable improvement in the journals they pay their money for. As President Wilson is on the ocean and cannot conveniently arraign us before any of his "war boards" for treasonable shifting our eyes from the dawning glories of his league of nations, we can safely take a couple of winks at the work we are trying to do to make our farming constituency more contented and efficient in the industry which they are pursuing under conditions which involve greater risks and difficulties than American farmers were ever before called upon to face and overcome. Our desire in this publication is to encourage them by spiritual tonics to more resolute carrying of their burdens and at the same time to show them how they can lessen risks and lighten burdens by pursuing better policies and possessing themselves of better agencies and materials, in the pursuit of profitable production. It is unquestionably in this way that farming must be improved to secure for farmers the social, financial and economic standing to which they are entitled and which, for the benefit of all other people as well as for themselves, it is necessary for them to occupy. It is to such attainment that we desire to contribute to the extent of our ability and opportunity.

UNDER A BARRAGE.

DURING the last few weeks we have been under a heavy shower of comment upon the contents of this journal because the publisher in sending out requests for renewal of subscriptions inserted this suggestion:

On the back of this blank we welcome your criticisms and suggestions; also requests for special articles that will be helpful to you.

It was a very fortunate idea to arrange this referendum to readers and there has been a very frank and free response. Most of the shells which have fallen have been filled with honey, which plastered down our artistically flowing locks and filled our soul with conceit, but of such it is needless to speak, for once in awhile there has come one laden with dynamite which has blown off the honey and the hair with it and has purged our soul of all pride. Such a one is this:

Although possibly not qualified to criticise, I think that some of your articles are too much on the rambling order. This is especially true of the editorials: too much "glorious sunshine" and "beautiful showers"! Bring them more directly to the point. The farmers of today are not a bunch of children!—A. B. C., Marysville.

Concerning the rambling length of the editorials, we must say that we are not to blame. The publisher got the crazy idea some time ago that readers liked them and so he reduced the size of the type so he could give nearly twice as much for the money—which is an ideal publisher's ambition. There would be a page full of editorials any way, according to ancient models of a respectable journal's make-up, and those who liked editorials would get more of them and those who did not like them had only the one page to skip—just as they always have done since Pharaoh made Joseph food administrator and started the Crocodile to get the Nile farmers to grow more wheat to win the war. And so in the current recrudescence of Egyptian policy the publisher has been pleased, those who hate editorials have not been hurt and only the editor has suffered, as he ought to suffer for being one. If A. B. C. had been brought up on Long Primer and found himself in his old age required to stay away from the movies to write the full of a page of eight-point, we have an idea he would ramble some and might even call upon sunshine and showers to cover him!

THE GLORIES OF OPTIMISM.

FOR FEAR we should ramble more outrageously than we usually do, we dare not let ourselves go in defense of optimism, which our critic evidently arraigns in his reference to sunshine and showers. Optimism is what makes life worth living. Optimism in the soul is a foretaste of heaven. Optimism in daily life is the only sure defense against discouragement and defeat in whatever undertaking is entered upon. Optimism is the best weapon with which to deliver sharp strokes at injustice and wrong and to defend that which is fair and right. It is optimism which thrusts sharp points between the joints of the armor of Beelzebub. In all these ways optimism is indispensable in editorial writing, which is the interpretation of current fact and thought into terms of immediate and concrete significance to whatever constituency is addressed. Optimism is the staff of life, with which the editorial writer steps forth valiantly upon the dreary wilderness of eight-point type, confident that "beautiful showers" will transfix diamonds upon all the points and "glorious sunshine" will illumine his pathway with their coruscations. And if it were possible to fill the page under an eclipse of optimism, who could endure the reading of it?

On the other hand, our critic arraigns us for writing as if for children. He pays us a grand tribute of praise which we sincerely wish we could deserve. We try to write as if for children, for they are the world's optimists; but we cannot accept praise for attainment which we do not reach. We can only aim at such approximation thereto as is within our grasp, but we do sincerely rejoice in that measure of optimism which makes our writing offensive and unsatisfactory to the "cock-sure," the "know-it-all" and the "know-too-much-already," who cannot learn by suggestion and indirection and who refuse all challenges to think for themselves—because they are no longer children! If we could successfully write for children, we surely would let all irredeemable supermen go to their disgraceful deaths unvexed by word of ours. For all proper men and women are children and remain useful to the world because some light of childhood's optimism is still agleam in their souls. Youth is the birth of optimism and optimism is youth. Remember what Bulwer said:

Every street has two sides, the shady side and the sunny. When two men shake hands and part, mark which of the two takes the sunny side: he will be the younger man of the two!

THE RAMBLING OF IT.

BUT THOUGH we defend our optimism and though we choose to try to burn problems into the thought of readers with a sunglass and to wash away the ashes of fallacies with showers, even though this process requires more space even in eight-point type than sententious and dogmatic comment would require, an entirely different philosophy underlies our requirement of statements of adequate length from our associate writers who deal with what are called the practical affairs of agriculture. To our notion a satisfactory announcement of an agricultural fact is one which sets forth details enough to enable the reader to discern the relation of the fact to his own conditions or desires or to appreciate that it has none. A satisfactory description of a process or method must go farther still. It must not only show the relations which the fact embodies, it must proceed with details enough to enable the reader to compare the method or process with his own, if he is working in the same line, and to apply it to his own operations if it seems to appeal to his judgment as in some respects a better way to pursue enterprise or production. Now, if a man reads only for pastime or for somnolence, such careful descriptions of method and serious discussion of results may naturally interrupt the flow of his thoughtless running over of words, or it may irritate him into vexation which will banish repose. We do not try to cater to a reader who resorts to the printed word for pastime or for sleep. For such a reader the Farmers' Almanac of fifty years ago has never been improved upon and we shall never see its like again. We aim to print things which will keep a man awake by laying before him facts of California farming which are significant, impressive and progressive and will carry their own exhortation to live better, work better and die richer than he otherwise would. This is the purpose which our associate writers have constantly in mind when they take up the discussion of subjects in the particular lines of which they have special knowledge and understanding. They constantly endeavor to set forth not only things which are true and of good report but to teach the reader how to do the things by setting forth method and measurement so that even the wayfaring man, if he is not a fool, need not err therein. Our judgment is that their articles, even when the nature of the facts and details of method require some length in discussion, are well planned, systematically pursued and definite in arrival at results which practical men need to know and desire to pursue toward fuller success in the operations in which they are engaged. It rests wholly with the reader to skim such articles if he only desires general facts about lines which he is not definitely pursuing, or to resolutely dig into them to turn the latest special knowledge to helpfulness in his daily work. It is therefore not our design to furnish the reader a weekly scrap-book of yellow farming, but to constitute our journal an encyclopedia of California agricultural practice from which the purposeful reader can safely enter the pathways of successful experience at advanced points and not be obliged to start at the beginning and disprove for himself all the original notions which are always watching a chance to exalt the conceit and depress the purse of every beginner who is fool enough to think that knowledge was born with him and is destined to nestle in his coffin.

WHAT THE READER CAN DO TO HELP.

THE BEST THING the reader can do to make this journal better is to keep on criticising it. We shall put up something of a defense now and then, but that is simply to try out things and give other readers a chance to see a fight. Now that the great war is over, we must do something to keep up our fighting spirit or the anarchists will walk over us. Optimism is the logical enemy of Bolshevikism. When the publisher gives you a chance to kick, lay hold upon it and kick with both feet. If our present brand of optimism cannot stand the impact, we will order some other kind. And another thing to do for improvement is to take hold with us in the editing. Slam as much as you like and then send along some fact or method or any kind of a notion of yours which will make the paper better. We do not need crankism, nor visionism, nor "good things," social or economic. We can hatch out ourselves more things on those lines than the paper ought to carry. Our notion is that it will make the paper better to have more advice and information on farming policies and practices from those who have demonstrated them by their own experience. It is our wish to set forth less of the academic and bureaucratic aspects of farming and more of wisdom from men and women who are actually doing the things about which we ask them to write and which make them glad or sad by the results attained. This journal has a constituency of something like thirty thousand families which are made prosperous or otherwise by the kind of farming they are doing. It is a serious matter to enter that number of families in the capacity of industrial doctor and furnish information upon which possibly a hundred thousand lives are more or less influenced and directed. This journal has been actuated for nearly half a century with an earnest desire to guide aright in efforts for profitable production, which constitute our special scope and opportunity. We need correction of all statements which may mislead, eluci-

dation of all that may be obscure, contribution of every fact or method which may be truer or better than those we record. We would like to have a thousand editors scattered throughout the State who would feel a certain personal responsibility in keeping this journal true in its convictions, correct in its statements, helpful in its advice and acceptable in its forms of utterance. A thousand editors can only be had by co-operation with subscribers, and to this source we make appeal. Can we not, even at some little inconvenience to themselves, have a thousand editorial subscribers who will help us keep this journal right in its leadership and worthy of California?

ANOTHER FARM LABOR CONFERENCE.

WE HAVE received courteous invitation to attend a "Second Farm Labor Conference" to be held under the auspices of the State Council of Defense and the U. S. Department of Agriculture in the Ferry Building in San Francisco on December 18 and 19—beginning presumably at 10 a. m. on the first day, for no hour of assembling is stated. We have perhaps been in error in previous comments on these conferences in assuming that they were intended to be conferences of farmers on farm labor and therefore protesting that as farmers were outvoted by non-farmers there seemed to be little reason for farmers to pay attention to them. They are not intended to be farmers' meetings and therefore our objections to the voting was misplaced. The announcement of the meeting for next week is explicit on that point, as follows:

Since farm labor problems are not the exclusive concern of farmers but co-ordinate with the interests of the general public, and further, since in attempting to obtain remedies a test of possible opposition is valuable, and still further, since there are enough organizations operating solely for farmers' interests, therefore the committee considers a wise course to be the one resulting in representation of all interests—the farmers, workers, agencies supplying farm labor, and the general public. Voting on resolutions and motions will be confined to accredited representatives.

It is not stated what sort of organizations are entitled to accredit representatives, except as it may be implied from by the foregoing. On that basis it is hard to see how anyone claiming to be accredited by the "general public" could be prevented from voting. To this there can probably be no reasonable objection, as the conference does not claim to represent anybody in particular, and we presume we may cordially invite all our readers to be present.

The meeting is sponsored by a good executive committee, viz.: Frank T. Swett, J. P. Dargetz and R. L. Adams, all of whom are well known to our readers. The meetings are not definitely programmed. The first day is expected to be chiefly given to reception of reports on labor requirements and estimates of prospective labor supply and the second day to debating whatever resolutions are submitted by those who attend. The main purpose of the second conference will apparently be to pass upon proposed action by the incoming Legislature. It will be a good chance to get wise on what is in the wind in the way of labor regulation and even though there are "enough organizations operating solely for farmers' interests" it would be very wise to have as full representation of farmers as possible, even if it be only for the purpose of seeing what they will probably be up against this winter.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

No Jokes on Morning Glory.

To the Editor: Your reply, "Morning Glory from a Tenant's Eye," in your issue of November 30, is facetious but not very instructive. Morning glory is no joke—that is, in this county. Suppose one has a quarter of an acre of the pest on an otherwise "clean" ranch, what method would you advise to eradicate it, even though it were necessary to lose the use of the patch for a number of years? Would this not be better than trying ineffective remedies and taking chances of having the weed distributed over a larger territory? In other words, what do you consider the best and cheapest means of absolute eradication, entailing the shortest period of loss of use of the land?—A. S. C., Ventura county.

We do not like to explain our facetiæ, for it either reflects on the perspicacity thereof or it causes us to lose a dollar from an indignant subscriber. Still an editor has sometimes to take desperate chances. We made no joke on morning glory. What excited us was the fact that last summer, when there was a chance to get in a good fall's work on morning glory, either with a weed cutter or plant poison, we gave full particulars of the way to do it either way. Why, then, after the plant has shot its seeds and fortified its roots for the campaign of 1919 and gone into its subterranean winter quarters, wherever frosts are sharp, should we be asked to attack it? The joke seemed to us to be on the man who does his farming that way, and it has always been almost a standing joke among land owners that no matter how clear the lease might be about keeping morning glory down, most tenants become glory-blind after the leases are signed!

It is not now a good time to kill morning glory, not only because the plant is dormant in most places and most resistant of plant poison, but because the poisonous substances you may apply are most likely to be carried by water movement in the soil and to kill whatever plant or tree they reach. Next spring and summer, when treatment will be most effective and least dangerous (perhaps, although weed killers, which are not vapors, remain dangerous to other plants for a long time), we will return to the subject and describe how morning glory can be kept down without killing the land. As for easy, practicable and permanent eradication of the plant, even with killing the land, we doubt the existence of it.

Oranges or Eggs, or Both?

To the Editor: I have an orange grove of which one acre is very hilly and hard to irrigate and I cannot get water enough into the ground for the trees to do well, as it slopes both ways. I now have a cover-crop on it. I am thinking of plowing it about February and putting in alfalfa, furrowing it out the same as for the cover-crop. Must alfalfa seed be worked in before furrowing out? The soil is heavy and I make double checks to each tree. Can I cut the alfalfa green and let it lie to act as a mulch and give it lots of water and then disk it well in the spring. Do you think the trees would do better? Of course, I could neither cultivate nor plow it. I want to turn the place into a chicken ranch, as I am very successful with hens. I can make one dollar and better on each hen per year with good care. What do you think about it?—Subscriber, La Verne, Los Angeles county.

In putting in alfalfa, get the land all fixed up to distribute the water and work the surface down fine before seeding. Do not "work the seed into the soil": it is too small a seed. It should be covered with only a light raking or brushing. Test your grades with water to see if it moves as you desire, then rake lightly and sow the seed all over the surface.

As your orange trees on the crest are not doing well and not likely to do well, under the conditions you describe, you do not risk anything by going in for the hens, which you are reasonably sure about. Whether the orange trees will do better or worse than they do now when they have to take up a fight with the alfalfa, you will have to determine by experience. They may do much better when they grow under a good mulch and with the contributions which the hens will make, than they can on the sun-baked clay of the crest which is now putting them on the blink. We do not count on your getting much alfalfa, but there may be plenty for hen pasture and for the mulch. Neither do we expect you will get very big orange trees, but they may serve a good purpose as parasols for the hens. We like your proposition. You ought to get shekels from the hens and a war cross from your neighbors for making a pretty green hilltop for the admiring tourist.

An Edible Nightshade.

To the Editor: Please tell me the name of the sample of berries I am sending you and whether they are poisonous. They are growing quite profusely in the garden among the grapes and dewberries. We used to make fine pies of them in northwest Iowa and they called them "nightshade" there. What is the difference in appearance of these and the "deadly nightshade"?—A. H., Modesto.

Deadly nightshade (Atropa belladonna) is a much stouter plant, with large leaves, having more the aspect of a tobacco plant but not so large in leaf and stature. Your plant is small-leaved, slender and vine-like in its growth. What you have is Solanum nigrum, or one of the varieties of it, of which there are several. Its common name is "garden huckleberry." In parts of the country where fruit is shy much use is made of berries, as your Iowa recollection indicates. Mr. Burbank gave some attention to the plant years ago and one of his varieties was widely distributed as "wonder berry." We never had much taste for "nightshade," deadly or otherwise, and in California, where so much better pie timber is abundant, we should count it as a weed—but that perhaps is a matter of taste.

Want a Good Position?

Are you free to travel? Have you an automobile? Are you convinced that the Rural Press is the best paper of its kind on the Coast and that it should be in every farm home?

If so, we have a good position to offer you in our circulation department. Pleasant work, attending to our renewals and securing new subscribers.

Straight salary; permanent work, with advancement. Lack of experience no barrier. If you are a live wire, are willing to learn and want to make more money, let us tell you how to do it. Our offer is a liberal one.

Running Away from Bermuda.

To the Editor: I have a ten-acre Muscat vineyard two years old. Bermuda has got very bad on two acres. I want to get rid of the Bermuda. Can I transplant the vines from the Bermuda to other parts of vineyard? If so, would it set them back one year?—J. L., Raisin City.

Yes: for a year at least because any fruit that appears next year should be cut off for the sake of better establishment of the transplants, which will require very good treatment to catch up with the others by 1920. You will also have to be very careful indeed or you will transplant the Bermuda also. If root pieces an inch long go over, you will soon have Bermuda all over the place. It is possible to come through all right with what you propose, but we would rather fight the Bermuda where it is among the vines or burn the vines and let alfalfa fight the Bermuda. Policies are involved over which there may be much reasonable disagreement in judgment.

Apples Needing More Time.

To the Editor: I have several apple trees—of fine, healthy growth, but they are almost barren of fruit. They are of the Pearmain and Newtown Pippin variety. For two years past little if any blossom and about a half dozen apples on each tree. Fruit seems perfect and the trees in the healthiest condition. Trees are about five or six years old, coming into bearing two years ago.—F. W. M., Pozo.

Your trees are only about old enough to begin bearing. Their indulgence two years ago was just for your encouragement and to demonstrate to you that the nurseryman had furnished you trees true to name. As you have taken good care of them and induced them to make lots of wood growth, they are probably waiting to give you plenty of fruit later. Bearing at three years old is frequent with apricots and peaches, but apples are to be expected to be slower about it.

Pruning Persimmons.

To the Editor: I have three acres of persimmons in good bearing. The trees seem to grow too tall in the center. Should they be cut back?—C. R., McFarland.

Yes. The persimmon is not usually a strong grower after it begins to fruit heavily, but it needs to be kept down to reasonable upward extension and side branches should not be allowed to run out too far to carry the fruit. It is easy to keep a persimmon to a shapely, serviceable form and whatever cutting is needed can be done at any time after the leaves fall—probably at other times also, as the necessity appears—without apprehension of injury to the tree.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 10, 1918:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	2.86	10.46	11.98	60	36
Red Blur	1.34	14.06	6.90	60	30
Sacramento	1.40	7.17	4.62	60	34
San Francisco	2.28	10.58	5.15	60	44
San Jose	.76	9.61	3.91	68	30
Fresno	1.36	3.75	2.44	72	34
San Luis Obispo	1.58	7.05	4.10	76	42
Los Angeles	1.46	3.96	2.88	78	46
San Diego	.92	3.51	1.69	72	50

Dean Hunt Brings Lessons from the Front

Written for Pacific Rural Press

Dean Thomas F. Hunt, who has just returned to the University of California from France and Great Britain, where he has been with the Agricultural Mission appointed by Secretary Houston, met the staff of the College of Agriculture for the first time since his return on Tuesday evening, December 3, in Hilgard Hall, at the University of California. There was a very large impromptu gathering of instructors and their wives, and a most enthusiastic "welcome home" was extended to the popular agricultural executive of the University. Accepting a pressing invitation to tell them of his recent experiences, Dean Hunt spoke informally of things of the widest interest, of which we prepare an outline for readers of the Pacific Rural Press.

ON THE 13th day of October I stood at Hatten Chatel, which until a few days before had been the chief lookout for the German army in the St. Mehiel sector for four years, and watched, or more properly listened, to the Americans and Germans pounding each other with their big guns. On the 11th day of November I stood on Broadway and watched the roof go off New York and listened to the roar of a peace celebration which resounded around the world.

Do you wonder that, after viewing the spectacle of the war, more particularly the results of the war on the British, French and American fronts, that this sudden transformation leaves me a bit dazed?

One day, after our party had been examining a mine crater, 150 feet across, 80 to 90 feet deep (it was only one of a string of such craters extending along what in 1916 was the German front, a line that had been taken and retaken by the contending armies three times), a British officer said quite simply: "This is sacred ground to us. Most of our friends were killed here." He had also been there, a fact of which he made no mention. This whole battlefront is sacred ground to every right-minded man, whether he was there or not. To talk about it and especially our part in it, of which we have the right to be proud, seems at this short distance from the event, like sacrilege. It is like putting away mourning before the funeral is over.

Recognizing the heroism, the sacrifices, and the great power of resistance displayed by our allies through four long weary, wasting years, and never forgetting theirs was the major part, we may give silent thanks that we occupied so honorable position in the final victory.

A DATE PROPOSED FOR "VICTORY DAY."

Several dates have been proposed as the day for an annual celebration. I venture to suggest that the most significant date of all the memorable days of this war was July 18, 1918, when at Chateau Thierry, after three days in which hell itself was unleashed, the tide was turned. The attitude of mind of every man, woman and child in France changed on that day. The French nation felt it had been delivered. Without letting up in the slightest degree their military activities, they began to resume their former life. It was not so much any change in outward action as it was in mental attitude. They did not reason it. They did not give voice to it. But by some divine gift they silently sensed it. The future of the world had at last been saved from the domination of a nation whose chief tenet is that to show consideration for your fellowman is a sign of weakness.

We now celebrate July 4th. France celebrates July 14th. Hereafter we should combine to celebrate July 18th, that final date when the combined armies started the Hun back to a place whence he shall never hereafter be a menace to the world.

We are not after vengeance. But we do intend that our children, and our children's children, shall not be made to suffer the cruelties and barbarities that have been practiced during the past four years.

DUTIES THAT FOLLOW VICTORY.

My chief reason for being gratified with this recent experience is that it has given me a fresh body of knowledge with which I may hope to aid you carry on this enterprise that has been committed to our care. Under any circumstances, the opportunity to study the farming methods and the agricultural policies of two great nations like Great Britain and France would be the opportunity of a lifetime. But to do so virtually as guests of these nations at a time when the food supply was almost the most significant factor in determining the future history of the world was a privilege that one may be pardoned if he speaks of it with some emotion.

PROBLEMS OF THE FUTURE.

As I have indicated, however, I am at the moment most concerned about the future; about our own future—that future which you have been so loyally and effectively promoting. Ours is an institution with a background. A most worthy background it is. Let us be thankful that our future problems are not without difficulties. If they were easy, they would not be worthy of our effort.

You have problems of research. You have problems of instruction. You have problems of leadership in promoting those State, national and even international agricultural policies which will safeguard both the welfare of the farm home and the needs of mankind. There has never been a time when these two factors have been so interdependent or so world-wide in their significance.

As you will remember, just prior to the declaration of war, you had put in motion the machinery through which you proposed to re-examine the methods of dealing with our several activities. It is not my purpose on this informal occasion to enter into any discussion of these problems, but rather to express the hope that with the new inspiration which has come to all of us, we may return to the study of our basic responsibilities with new energy and fresh enlightenment.

AGRICULTURAL NEEDS OF THE ALLIES.

It is the general consensus of opinion among French authorities that they will need in 1920, and perhaps for one or two years thereafter, to import wheat, frozen meat, wool, farm machinery and commercial fertilizers in greater quantity than before the war. Various authorities discussed the following seven staples as probably needed by Great Britain in 1920 in greater quantity than in pre-war times—namely, wheat, meat, sugar, coffee, feeding stuffs, wool and cotton. All observers insist upon wheat as the cheapest and most concentrated import food.

Perhaps the most immediate steps to be taken in provisioning the people of Europe, is to provide suitable shipping space for frozen and chilled beef. The stocks of wheat in Europe are ample for the immediate needs of the allies. Now that the war is over, there should be no difficulty in replenishing these stocks from North and South America and Australia in ample time to meet all needs. The distribution of meat and meat products, which has became a world-wide problem, is one of fundamental and lasting importance to the American farmer.

DEAN THOMAS F. HUNT.
Dean of the College of Agriculture and Director of the California Experiment Station, University of California.

WEATHER CHIEF FACTOR IN FARMING.

The weather is the greatest single factor in the food supply of the world. Sufficient attention has not been paid to this factor. No one would maintain that the conditions were favorable throughout the world for the production of wheat in 1915 from the standpoint of labor. And yet there was gathered the greatest harvest that has ever been obtained. This result was secured notwithstanding Australia had one of the most disastrous seasons in her history. North America produced in 1917 at least 550,000,000 bushels less wheat than in 1915. Although without any doubt just as extensive effort was made to produce it. In other words, weather conditions caused a drop in production equal to over one-eighth of the total world's supply of wheat.

No one can determine with any degree of accuracy, how many years it will take to reach the normal balance of food supply, because no one knows what the weather is going to be. Two unusually abundant crops of wheat in succession might fill the granaries of the world. Three lean seasons may continue the food shortage for five years. The greatest dangers to be anticipated, however, are:

I. Difficulties of transportation and trade, and

2. Inability of individuals through disturbed conditions to employ their time to economic advantage. The former may cause local shortage of food. The latter an inability to purchase it. Among our allies there is a real shortage of sugar and of fruit, the former for well-known reasons, the latter on account of a disastrous fruit season. One season may be sufficient to bring the supply of fruit back to normal, but only a very unusual set of circumstances can bring the supply of sugar up to normal within the next two years. Restrictions in the use of other articles of food in the allied countries at the close of the war were not due so much to a shortage in the supply as to a lack of transportation or to a fear of future shortage.

SAVE FOR THE SAKE OF THE CHILDREN.

Every one should continue to economize in all reasonable channels. It is the way to pay for this victorious war promptly without undue distress. It is the way to make the victory doubly victorious. Otherwise Germany may yet win an economic victory. Economy in clothing, housing and certain forms of recreation are more important than economy in food consumption because it is not possible to save to the same extent upon the latter. It does not matter much what a person past middle age eats, so long as he does not eat too much, but it does matter what a child eats. Children should have abundant nourishment, and that of the proper character.

As never before, governments have come to undertsand that the strength of a nation depends upon the health and the education of its people. Brick and mortar no longer fortify a nation. The mind and spirit of a physically sound people are the factors that win whether in war or in peace. It is now becoming clearly recognized that the maintainance of the health and education of its people are most important functions of government. Without health, without education, an individual is helpless. Disease and ignorance are a menace to society. They form the keynote of Lloyd George's after-the-war domestic policy as outlined in his great Manchester speech. Certainly one of the most fundamentally important speeches made by a prominent public man during this war. If I seem to have emphasized this point unduly, it is because of the observations of the past three months to which more concrete allusion would not be proper.

(Concluded on page 655.)

Who is Farming the Farmers?

"Woman Farmer" relieves her mind for the Pacific Rural Press

QUOTING from an article in the current number of a certain magazine which seems to be a mouthpiece of the Food Administration, "He" (the farmer) "is free to grow food or not as he pleases, to sell where he pleases, and for as much as he can get anyone to pay. Obviously there is no use to try to fix retail prices if prices at the farm are to remain uncontrolled."

A WOMAN'S CONVICTION FROM EXPERIENCE

After having been a farmer for almost twenty years, I sincerely believe that the farmer is deliberately manipulated and exploited. He is allowed to have a fat year just about often enough to keep him in the business. The "fat years" are widely advertised, but do you hear anything of the many, many lean years? The farmer is a good, patient loser and has the saving grace of hopefulness.

HOW ABOUT RICE?

Is it not true that the price of rice is controlled this year, and that the grower of rice in this country is allowed 4½ cents a pound for his year's work, and each middleman, from the cleaner to the retailer, is allowed two cents a pound until the price to the consumer is from twelve to fourteen cents a pound? Is it true that one of these middlemen can buy and sell that rice from the warehouse by letter, telephone or telegraph, without the expense of handling the rice at all, and, protected by the Food Administration, receive one-half as much for his effort as the farmer receives for his year's work and great cash outlay?

AND THEN BEANS.

Beans were subject to some control last year and none this year, and those of us who raised beans know how it worked out. There were 300,000 sacks of 100 pounds each, or 30,000,000 pounds of beans allowed to come into this country from Japan, duty free, before the American farmer's bean crop was ready to harvest. Was the price to the consumer lowered and if so to what extent? Prices to growers of cotton were not controlled, but certainly no foreign cotton was allowed, duty free, to compete with local cotton. Had it been, it would have been interesting to note whether the price to the consumer was less.

In order to even up on an all too scant crop of fruit this year, and partly to comply with the urgent request of the Food Administration to "raise food stuffs" beans were grown between the fruit trees on a farm in which I have an interest, resulting in a harvest of several tons. My neighbors raised several hundred tons. As I write this, on November 15th, the American farmer cannot get an offer of one cent a pound for his beans, and has the choice of either giving them away or going to the expense of providing storage and insurance. If he chooses to store them, a wail ascends to high heaven, "just look at the grasping farmer, holding his beans for high prices!" And what about protecting the Japanese shipper in preference to the American farmer? Was that done to "spank" the farmer because the Food Administration was barred from regulating the price of his produce? Last year the price of beans was controlled somewhat, and the farmer was able to sell his beans immediately for a fair price, but only such beans as the government happened to want. Those farmers who had a variety of bean that the government did not happen to want received nothing for their beans and were obliged to store. The commission men will tell you now that the reason they are not in the market for beans is because the farmer is still holding his beans from last year for higher prices! All the farmer wants is a return of the cost of raising his crops, plus a fair profit. In some districts which were favorable to the growing of the variety of beans desired by the government, the growers had in a large acreage and made a good profit. This was trumpeted far and wide, said trumpeting having an object.

COST OF GROWING A CROP.

The price to the consumer has been the same, practically, before and since the influx of foreign-grown beans. If prices were gauged by what the farmer receives for his beans, dear consumer, (granting that the middleman must be taken care of) you should now be buying your beans for about five cents a pound, allowing nothing for the farmer and about a cent a pound for the several middlemen. Farmers were asked to grow barley in order to release wheat to our Allies. Can he sell his barley now for enough to cover expenses? He cannot!

Unless you have been a farmer you know nothing of the labor and anxiety attending the production of a crop of even the lowly bean. The decision of what to plant is left to the farmer, and it is momentous for it means success or failure for the whole year. Then the selection of seed, usually at double or treble the price he receives for the same product; the cost of labor attending the preparation of the soil, sowing, irrigating, cultivating, long hours of hard labor in the heat, cost of harvesting threshing hauling cleaning, and if expected to give away their year's work as this year there must be added the cost of storage and insurance, and in many cases interest on money invested. Incidentally the farmer pays $75 and up a month for regular farm hands now as against $40 per month five years ago and receives less work for the money. All other expenses are in proportion.

THE FARMER'S UPS AND DOWNS.

When entire crops are destroyed by storm or drought is the consumer's first thought of the farmer who has lost his entire year's work? Rather it is "there will be a shortage this year and I suppose the prices will be higher."

After an exceptionally good year the farmer may build a new house with modern conveniences, or buy an automobile, or send his children to college. Immediately propaganda will be started to the effect that the farmer is getting rich too fast and something must be done to that farmer forthwith to make prices lower to the consumer. Things are done to the farmer all right, but not to the benefit of the consumer. Don't you know that the farmer is like everyone else, in that he has his dream of some day owning what, to him, is the most desirable thing in the world? Sometimes it is cherished through many years of the hardest kind of labor to culminate in a nice new house with modern conveniences, such, dear city people, as you use every day without thought, at a small rental.

WHAT OF THE FUTURE?

It would be an interesting education if every consumer would secure authoritative information as to what the farmer is paid for food products and compare that price with the retail price. And now there is talk of putting our returned soldiers on farms! God grant that they be spared the humiliation of being first exploited and then condemned!

The prospect of our next legislature acceding to the demands of union labor and putting a super-tax on the untilled land with the object of compelling the farmer to till the soil for the employment of labor at a high price, ought to arouse the fighting blood of every farmer. What is to be gained by tilling more soil if the crops from soil now under cultivation cannot be sold at a small profit?

Anent these food commissions, etc., scattered over the country for the benefit of the consumer. The farmer should by all means be in the majority on such commissions, but the fact is that politicians are in the majority, both men and women, with labor well represented, and an occasional farmer. The services of many bright men and women farmers are available but they are not asked to serve. Is it through fear that the farmer may receive adequate returns to the detriment of those who are now preying on him?

Almond Growing in the Paso Robles District

Written for Pacific Rural Press by John J. Fox

THE district around Paso Robles bids fair to become one of the important almond growing centers of the State. There are now nearly 7,000 acres set to almonds in this vicinity, nearly 1,000 acres of which are beginning to bear nuts. The district at present comprises Templeton, Paso Robles and San Miguel. We recently visited Tom Henry, ex-horticultural inspector, who resigned from the commission to take over the management of the White Sox Ranch near San Miguel, belonging to Chas A. Comisky & Co. He has set out 224 acres of almonds, one-half of which are Nonpareils and the other half Ne plus Ultra and Drake's Seedlings in equal numbers. He says the Ne plus Ultra blooms from three to four days earlier than the Nonpareil, while Drake's are three to five days later. The rows are interplanted so that cross pollenization may have the best chance, with rows set across the prevailing wind.

ALMOND ROOT BEST FOR THIS SECTION.

Mr. Henry says that all his trees are on almond root as it has been found that the peach root does not stand the chalk-rock soil so well. He gave dates of blooming from his record of 1916, which were as follows: Nonpareil blooms from February 17-27; I. X. L., from February 14-25; Ne plus Ultra, from February 13-23; Drake's Seedling from February 20 to March 5, and Texas Prolific from February 25 to March 10.

The white Sox ranch, about six miles east of San Miguel is a new one for almonds but situated in what Mr. Henry says is a safe location. We asked him about the Ne plus gumming and he told us he had made a very careful study of the matter in the Paso Robles district and although this variety is a little shy compared with the others, the only gumming he has noticed has been where there has been a clay sub-soil or poor drainage. Where the soil is well drained, no gumming is apparent.

He said that in the bearing section, almonds were yielding 1,500 pounds of nuts to the acre at eight years old. We saw samples of the fruit which was well-filled and of good flavor. The Mission Almond Orchard Company has 250 acres of almonds east of San Miguel.

ORCHARDS WEST OF PASO ROBLES.

Wm. H. Goodale took us over his 15-acre orchard, one and a half miles west of Paso Robles, at 1700 feet altitude. This orchard is only one year old and is in Peach Root and is made up of Nonpareils, I. X. L., and Ne Plus Ultra.

The young trees have made a good start and Mr. Goodale told us that peach root seems to make a better start than almond, but after the trees are established the almond root is believed to be the better of the two. G. N. Talbot has a fine 500-acre orchard some 12 miles west of Paso Robles, four and five years old, and P. S. Brown has 450 acres. Paderewski, the famous pianist, has 200 acres in almonds, three years old besides pears and walnuts.

THE EL POMAR DISTRICT.

This lies about four and a half miles southwest of Templeton and has 2000 acres set out and some of it coming into bearing. Mr. Nehrhood took us around this district and the trees show excellent growth and condition. The Bowers tract has 594 acres set to almonds, four years old, that was as good as any unirrigated orchard we have seen. In some sections we noticed that prunes had been set up to a certain line and this has been done, Mr. Nehrhood told us, after careful surveys had been taken of temperatures and air drainage, so that prunes had been set out where there was any likely danger to almonds. This is a business-like way of proceeding, as it is calculated to prevent disappointment in the future or the necessity of working the trees over to prunes as has had to be done in sections where temperatures have not been mapped. Both prunes and almonds showed good growth and careful attention in pruning and cultivation. The trees are headed low and are symmetrical and even. The Nonpareil is the principal variety grown here with some Drake's Seedlings and Texas Prolific as pollinizers.

The prunes we saw in the draws had, some of them, made five to six feet of growth in their third and fourth year. The foliage was still a good color (the first week of November).

A PROMISING OUTLOOK.

When the immense area now planted all comes into bearing, the nuts turned out from the Paso Robles section will be a factor in the market. As in all other almond sections there are some orchards planted that are in unsuitable locations and sooner or later these will have to be worked over or dragged out. But after having been over both roads as far west of Paso Robles as Adelaide, and southwest, through the El Pomar district, we can say we have seen some very promising young almond orchards and that, generally speaking, great care has been exercised as to their location and management.

Growers here are interested with regard to keeping up the fertility of their soils as in other sections and will have their own problems to work out in the handling of cover-crops when the rainfall averages about 17 inches. They will begin by sowing cover-crops (after the natural weed seed has run out), and will practise early plowing to conserve their moisture—say March first. On this adobe chalk-rock soil nothing is to be gained by too frequent cultivation. From the condition of the best orchards, present methods seem to answer well. When the missing links in the State Highway have been coupled up, this pretty section will become better known.

Grape Shipments Heavy—Modern Marketing Methods

Written for Pacific Rural Press by John J. Fox

Grape shipments to the Eastern markets from our California vineyards exceeded in tonnage those of all the other green fruits combined, as appeared in a special panel of our issue of November 23. In our search for the reason for this, we called on George H. Cutter, president of the California Fruit Exchange, and learned from him not only an explanation of the increased demand but the manner in which the prices had been stabilized, even in the face of increased transportation charges and difficulties due to congestion of traffic caused by troop and army supply movements this year.

TWO EXPLANATIONS.

We noted that grape shipments had risen from 9,721 cars in 1916 to 13,111 cars in 1917 and 16,238 cars (with still some to go) in 1918 and that prices had been satisfactory to growers. Two explanations were forthcoming. The most important one was, that new markets had been established in a way we will explain later. The second reason is that many wine-users in the East to avoid the inconvenience that wartime prohibition may bring about, have been buying grapes in quantities sufficient to make their own wine for family use. To many foreigners in this country, a glass of claret constitutes a part of their daily ration and for this reason more wine grapes have been shipped to Eastern points than ever before. Alicantes and Zinfandels have been in good demand and they have been shipped in lugs, unpacked and in some instances uncovered, though New York regulations demand a cover to the package.

As showing the purpose of buyers, many wine grapes, particularly Missions, have sold at a higher price per lug box than eating grapes—75 cents, unpacked. Fifteen years ago $15.50 a ton was the highest price obtainable. As noted in a recent edition of the Pacific Rural Press, not only grapes, but many other fruits were sent forward in lugs unpacked, owing to the shortage of labor. The unpacked grapes have "taken on" in the East and this new departure will be developed to the advantage of producer, packer and consumer.

SAVE IN COST OF PACKING.

For the cost of interior containers will be saved as well as the cost of packing and the condition of the grapes on arrival at their destination is a vast improvement on the crate-method because they can be packed as they are picked in the vineyard. This saves one handling. It permits the packing of more fruit to the box and with less loss, thus obviating unnecessary expense to grower and packer. And it comes to the consumer at a lower price and more perfect condition. Another big advantage that is most important is, that the fruit can be started on its way to market twenty-four hours earlier.

We then asked Mr. Cutter to enlighten us on standardization of fresh fruits and the development and care of markets. He said that fifteen years ago it had been common for shippers to get "red ink" returns due to (a) uneven or otherwise imperfect fruit, (b) rushing fruit on to flooded markets—and, (c) length of time consumed in transit of shipments. Uneveness of quality and pack served to take money away from the shipper. Poor portions of the pack, where large and small fruit was included in one package, were not wanted. This reduced the price in the whole package, while the shipper had to pay freight on the whole. Fruit was packed too green and there was not the confidence in the pack. It formerly took from fourteen to twenty-seven days to get the fruit to market and sometimes five consecutive days shipments might arrive at that market all the same day. As there was no standard, green, ripe, large and small fruit spoiled the equanimity of the market—spoiled it for the whole.

REASONS FOR IMPROVED CONDITIONS.

Since five years ago conditions have improved throughout the whole industry. Standard packs have been either adopted or improved. Markets that formerly took from fourteen to twenty-seven days to reach Chicago and New York are now only ten to twelve days away.

The improvements added by this means are, that fruit can be better matured and sugared before it is packed. The markets can be gauged so that daily supplies can be supplied them without glutting; icing stations can be reached regularly in transit, thus causing less wastage. Standardization of fruits resulted in a better pack and an increased return to the grower. Every box of standard packed fruit can be counted on to bring 100 per cent on quality and condition. The standard pack creates confidence in the buyer and is one means of

EXTENDING OUR MARKETS.

Mr. Cutter said that it used to be hard to sell white grapes on the Eastern markets, even our delicious white Malagas. They were put on the auction markets and pushed. The consuming public had to be educated in their demand and the quality was finally established by a standardization of sugar content and quality.

Shipment of sour grapes early in order to catch the opening markets is obviated by standardization and the industry is thus protected. The demand for Tokays was also created by education and is now natural and increasing. The California Fruit Exchange now serves no less than 260 markets with fresh fruit, which is carefully distributed where the demand is most insistent.

If a glut of any one of these is imminent shipments are quickly diverted to points in need. Which means a nation-wide vigilance in the interests of the fruit growing industry to produce the best results, with a minimum of cost and wastage.

AN INSTANCE OF EDUCATIONAL METHODS.

About five years ago, table grapes slipped down during the season to about eighty cents. To avoid dumping them onto an unwilling and surfeited market they were rehandled by the Exchange at points of destination and shipped by express in small quantities to many points hitherto unreached. As a result, a profit was made for the producer after all the added expense had been deducted and permanent new markets were created which are served and being built up today. Mr. Cutter said that the time taken in transporting fruit to market may be reduced in the future to from eight to ten days, in which case fruit can be packed even more mature and well sugared than it is today. This will be to the betterment of the markets, the satisfaction of consumers and give added returns to the grower by reason of increased weight of the crops.

OTHER FRUITS.

We incidentally asked about plums which are now being shipped in lugs as we mentioned in a recent issue. With the slant-sided crate it has been practically impossible to put up a really standard pack and apparently this pack has been adhered to from a conservative dislike to changing hoary customs. We did not ask Mr. Cutter about the container, but he said:

"Every fruit shipped should have value." (It is hard to see how, under the law, a uniform pack can be put up in the container now used.)

He also stated that low grade plums (varieties) sometimes pay the grower better than high grades, because of the quantity produced. With regard to winter pears and a further production of them he was non-committal, as it is not definitely known how far the demands of such a market might reach.

THE MARKETS.

On the large markets like New York, Chicago and other cities where there are plenty of buyers, the fruit may be sold at auction and command the best price the market is willing to pay. This cannot be done in small centers where only a few buyers are present and the fruit here is disposed of through the ordinary channels of trade. Smaller markets are well served in a way that was formerly difficult. Supposing two men on a market can do with a half carload a day, it is not uncommon for them to buy a carload together and divide, thus reducing the cost on both sides and permitting fruit to be sold at less cost and less trouble to both buyer and shipper.

The science of marketing perishable fruit has reached a high status in the last ten years. Standardization of quality and size has been one of the great factors in attaining demand and business acumen and vigilance in watching, developing and supplying markets intelligently has been another factor. Standardization has given confidence to the buyer, while growing co-operative methods have led to more close relations between the producer and the seller which is reciprocal.

The grower takes, in consequence, more pride in the quality of what he produces and the manner in which it is handled. These new relations have not only benefitted the growers' bank accounts—they have also raised his standing and placed every phase of the fruit-growing industry on a higher footing. And the closer the producer keeps in touch with the great institutions that market his wares for him, the more firmly will mutual confidence become established. The great distributing system of our perishable products as it exists today must strike every thinking man as a marvel of efficiency and collective judgment. And it is the endeavor of all connected with the industry to keep California very prominently at the top of the tree in the production and distribution of fruit.

PRUNING PLUMS FOR FRUIT.

To the Editor: What is the proper method of pruning Japanese plums, particularly Wicksons, after the fourth year? Trees were headed low and have been cut back each year. The pruning has been done during the winter season. We also have Climax and Santa Rosa plums. Last year five acres of Wicksons bloomed full, but set a very small crop of fruit. Will placing bees in orchard at time of blooming make any difference in setting of fruit?—C. A. C., Los Angeles.

[Without seeing the trees, we judge from your letter that wood growth has been forced by winter pruning until now. If you have not removed it, there should be plenty of fruit wood in the trees now. Let the trees go this year if you want to bring them into bearing, only thinning out where leaders are too thick, or cutting out undesirable or crossing branches. If the tree becomes top-heavy after the fruit sets, top them back a little in June. If young trees are in very vigorous growing condition at this age, it is not uncommon for them to throw off most of bloom, instead of setting fruit and bending their energies to the production of wood. Omitting the shortening for one year will help to overcome this, as you have the Climax and Santa Rosa for cross pollenation. Bees are good aids to pollenation, as has been demonstrated by many experiments, past and recent.]

The Government has made no further releases on prunes since the release, some time ago, of the 50 to 90 sizes.

The War Is Won

But the consumer of Food
Must Still Economize

and the producer of Food
Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.
While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.
Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

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FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

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H. A. HYDE, - - - WATSONVILLE.

CHANGE OF ORANGE TEST SUGGESTED.

An endeavor is being made to frame a measure to present to the state legislative body this coming session to amend the 8-to-1 standard already adopted, which has been found insufficient to guard against the evils of a strong market when the fruit, while coming within the requirements of the 8-to-1 test, is still immature in that it does not contain the quantity of sugar and acid found in mature fruit.

It has been found that early in the season fruit which may be very green will meet the 8-to-1 standard and later fall below the ratio, when the acid commences to come into the orange in normal quantities, then it will be several days or possibly a week before the same lot of oranges will test again, but when they do it will be with a higher specific gravity, denoting more sugar and acid, thus more food value, and the orange is now found very palatable, further during this transformation in the inside of the orange the outside is undergoing a very rapid change in color from the dark green to a yellow, which all tends to show a ripened condition.

The early low content fruit when reaching the eastern market is judged by its merits from a consumptive standpoint, this being low, likewise the returns from its sale is low and still more regrettable the fact that it injures the market for California oranges, which have been held till mature by careful growers and shippers.

DECIDUOUS FRUIT EXPERIMENT STATION.

Following a conference of deciduous fruit men and packers at San Jose, an announcement was made that an appropriation would be asked of the next Legislature for the purpose of conducting deciduous fruit experimental work. The following men were among those present at the conference: State Senator Herbert C. Jones, W. C. Bailey of San Jose, L. Woodard of Campbell, George W. Pierce, president of the Almond Growers' Association; Sheridan W. Baker of Santa Rosa, H. C. Dunlap of the Prune and Apricot Growers' Association, Albert Haentze of Evergreen and H. C. Keesling of San Jose. Conferences with the Regents of the University of California will precede any action through the Legislature. Farmers' organizations have been seeking the establishment of such a station for this important work for some time and it is confidently anticipated that the authorities of the State University will work in harmony with the orchardists in presenting their claims to the Legislature and in deciding on a policy for the experimental work.

THREE NEW HORTICULTURAL BOOKS.

The MacMillan Company of 66 Fifth avenue, New York, has just published several new books of interest to many of our readers. One of these is entitled "Manual of Vegetable Garden Insects," by C. R. Crosby and M. D. Leonard of Cornell University, which makes a handsome volume of nearly 400 pages, is well illustrated and sells for $2.50 per copy. This book covers thoroughly garden insects and their remedy. The second book is a "Manual of Tree Diseases," by W. H. Rankin, Ph. D. of Cornell University. This work describes diseases and gives the remedies covering the root, trunk, bark and leaves of trees. It is a book of nearly 400 pages and sells for $2.50. The third book is by H. P. Gould of the U. S. Department of Agriculture, and is called "Peach Growing." It is a thorough treatise of the peach and every grower should have it in his library. Price, $2.00. Send to the publishers as noted above.

California dried apples have declined one cent this week, owing to the demand from Texas and other Southeastern points falling off.

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What Apple Standardization Has Done

[Written for Pacific Rural Press by A. N. Judd.]

Fifteen years ago the apple business in the Pajaro Valley began to show how silently an industry may come forth into prominence in but a few years, also developing the fact that our crude methods left much to be wished for in the way of efficiency in handling what so soon would be a product able to influence the markets of the world if properly placed. About that time the far-sighted grower began to realize that in order to stabilize the business and its future much important legislation was necessary, such as standardization of the container, grade, pack, quality and sizes. The mere mention of such a thing, however, marshalled all the forces of the grower, packer and buyer in opposition. I admit it was a saddening sight to see fine golden-hued Bellefleurs belonging to the three-tier class covering the ground, with only a worm hole in them or perhaps a scar from the larva of the voracious Tussock moth. And it was about this time that the O. R. & N. was giving the Oregon apple grower an emergency rate to "Missouri river points" in order to market this same class of fruit at a 65c rate, against our rate of $1.05. The codlin moth was bad, but this blow below the belt called out a protest, and through an urgent request Mr. Sproule, the head of the Southern Pacific freight department, came down and viewed without any alarm more than three hundred carloads of apples lying upon the ground in our valley orchards that an emergency rate might save. Mr. Sproule departed without even a smile. Maybe he had no smile. Now the apple is not a balanced ration for either man or beast, but just a tonic of the most palatable sort; besides it will make cider, vinegar, is good to dry, and makes splendid jelly, jam and jack, to say nothing of its adaptability as pie timber. But these by-products require special equipment as well as technical skill, and so far the only effort in that direction that was made was to shovel the decaying apples that came through the process of sorting into a tank and as they broke down the juice was led into barrels in an open trough that gave the flies the first sip, but they did not remove the flavor of decay that always lingered in that class of goods. The only cider obtainable was at home through the agency of a hand mill and press. Compare these products with the present ones from Jones Bros. & Co., whose ever-increasing capacity utterly fails to keep up with the demand. I thought their beginnings in 1906 were quite portentous, with many tanks of 100,000 gallons each, their plant covering nearly an acre of ground. Today it covers double the area and the cooperage tanks have a 1,500,000-gallon capacity. The year of their advent ushered in a "China dryer" or two; $3.50 a ton for culls brought all they wanted, leaving a large hold-over supply that found its way to the river. Yet it gave a renewed hope of relief drifting our way, as more dryers came. And as they increased competition increased also, so sharply, in fact, that in 1914 culls brought me one-fourth of a cent more a loose box than my packed apples did. Yet we paid $55 a ton for drying and packing and sold the product for less than 6c a pound. In 1918 the price for culls, with a cannery added as a competitor, forced the buyer of our fancy apples to pay double the price of four years ago, notwithstanding the fact that an embargo kept us out of foreign markets with our packed stuff. And with an increased production in the land to contend with many whole orchards were sold to the by-product factories for from 35c to 50c a loose box—from three to five times the price of 1914 and quite seven times the price paid for the same class of culls in 1906. A careful analysis of these figures and the previous conditions with the present one will suggest that Mr. Sproule was our good angel after all. Besides, the fact is uncovered that the apple grower was exploited until the by-product savior came upon the scene. What it has done for us in the apple game it did for Germany in the growing of potatoes. In 1911 she had 29 potato flour mills. In 1917 she had 121. Potato starch that is so necessary in the making of cotton goods comes from the culls. Desiccation and other modes of preservation consume all that is left, leaving nothing but the fancy for household uses. Germany, through the intelligent use of the cull potato, has placed herself far ahead of all other countries in its production. Satisfactory sales of the by-products has created a demand for a larger production, besides preventing waste by turning it into a profit. How many of our other products can be treated as profitably? Will some scientist come forward and finish this homely story by telling us how many there are available for a like treatment and thus save much that we waste or ignore altogether?

[Standardization has improved the quality of fruit shipped so that the grower can command increased prices. It has increased the number of evaporators and by-product factories. The cull apples now go to the fruit dryer or the large cider and vinegar works of Jones Bros. Even the peelings and cores from the drying establishments are sold to the vinegar works and converted into a high-grade product that is shipped all over the world. And lastly the pomace is returned to the soil. Recently cull apples have been yielding as good prices at these by-product factories as was paid for packing fruit before standardization was established and the industry placed on a business footing. There are now 72 evaporating plants and over 50 packing houses and canneries in the Watsonville district. Thirty-two dollars a ton has been paid for apples—orchard run—delivered at the canneries in lugs this year. Nothing is wasted under this system, for, as Mr. Judd says, it is saddening to see fruit lying rotting on the ground. Orchardists are taking more pains than ever before in the spraying and care of their orchards, as it is demonstrated so clearly that upon their orchard management depends very largely the health of their bank accounts.—J. J. F.]

Abolishment of the salaries of two of its three $5,000 a year commissioners is recommended by the State Water Commission in its biennial report just issued.

A MOST IMPORTANT POINT IN PRUNING

Throughout the State deciduous fruit men are busy pruning. Mention has so often been made of the necessity of covering large wounds with asphaltum to keep out the spores of wood rot, but it is timely to put in another reminder. This rot, which is a fungus, enters through dead bark areas, no matter whether they have died from sunburn, bruising, blight, sour sap, or any other reason, and that is why dead areas should be cleaned off and daubed with asphaltum.

In a recent letter from George P. Weldon, Chief Deputy of the State Commission of Horticulture, he says, "I should mention the necessity of making close cuts in order to prevent the decay of stubs, which always follows careless pruning—where cutting is not done close enough. My investigations of pruning throughout the State have convinced me that there is more need for impressing upon people the necessity of cutting branches without leaving stubs, than any other one thing in connection with the pruning business.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

A New Pesky Weed.

Donald D. Penny, Horticultural Commissioner of Santa Cruz county, is experimenting with sprays for the purpose of getting rid of a new weed which has shown up in one section of the Beach road land. It is called "hell weed" and "Italian horse radish" (Lapidium draba) and has deep-delving underground root stocks. The plant's foliage simply covers the ground and apparently grows the year around. Mr. Penny is experimenting with sodium arsenate sprays of varying strengths and other chemicals and is tracing the action of the poisons to the root. One spraying of the strongest solution costs about $5 an acre. Unless this weed is controlled it will seriously impair the value of some of the best bean land.

A Friend in Need a Friend Indeed.

E. D. Seaton of Santa Rosa recently told us of a neighbor who, in the disastrous storm of September, could obtain no help to stack his prunes. Hearing of this, a certain carpenter and contractor living in Santa Rosa came out and worked all night helping stack that fruit. In the morning he refused to take anything for his assistance, saying he considered it was war work and his duty as a citizen to help prevent waste. It gives us pleasure to recount this instance of the undying vitality of the true American spirit, handed down from our early logging bee ancestors. This is only one of many similar neighborly aids afforded during this time of stress.

Spraying for Peach Blight.

Spraying of peach orchards with Bordeaux mixture for the control of peach blight is reported as in full swing by Fred K. Howard, Horticultural Commissioner of Kings county. We noticed the machines at work also in San Joaquin and Sacramento counties. The weather and general conditions have been favorable for this operation and practically no man is waiting to prune his trees before spraying for peach blight and shothole fungus. In Sacramento county growers are spraying right through pears as well to decrease the chances of scab next spring.

Fruit Steamers to England.

It is believed that if the direct steamship line between Bristol, England, and Pacific Coast ports is restored to its former basis, using the Panama Canal, our trade in canned goods, evaporated and fresh fruits will meet with a very satisfactory increase. Apples, both dried and fresh, and all other products of the Pacific Coast are very popular there. Last year a quantity of Oregon apples were received at Bristol and gave much satisfaction. The road is open, freedom of the seas is restored, and all we have to do is to produce the goods and open negotiations.

A Huge Output of Deciduous Fruit.

It is estimated that California's 1918 deciduous fruit crop will be valued at something like $40,000,000. The California Fruit Distributors show that, to the middle of November, 37,075 carloads of fresh fruits had been shipped from California to points outside the State, compared with 34,628 carloads for last year. Last year grape shipments totaled 13,943 carloads. This year they will run to about 16,100 carloads. Last year's deciduous fruit crop sold for upwards of $30,000,000. The increase will amount to about 25 per cent!

A Carload of Grapes for $4,600.

This is reported by W. D. Bennett of the California Fruit Exchange of Sacramento. The carload was sold at Cleveland and included 820 crates of Emperor grapes, which averaged $4.75 each, and 140 lug boxes of Malagas at $5 each. Quality and condition, in a ready market, commanded these high prices. The grapes were shipped through the California Fruit Exchange at Dinuba and Mr. Bennett believes the record is for all time to date. Four thousand six hundred dollars for a carload—it makes you gasp!

Fruit Sent by Parcels Post.

It is reported from Porterville that, owing to increases in express rates and the new postal regulations increasing the sizes of parcels which may be sent by mail, most of the Christmas shipments of oranges are expected to be sent by parcels post this year. Under the present rules a half box of oranges may be sent in either of the two first zones for 39c. There has already been a heavy shipment of Christmas gift oranges by this means to Atlantic Coast States.

Raisin Growing in the Imperial?

Several raisin growers have been looking over the Imperial Valley, surveying soils and other conditions, with a view to establishing themselves in the raisin industry there. The only land that they thought suitable for raisins after a ten days' tour of the valley is located near Seeley, among the sand hills, and they went away, it is said, favorably impressed with the prospect. Several pieces were selected as being suitable.

A Goodly Yield.

Edgar Shaw, a fruit grower on the Nevada road, near Grass Valley, picked 196 boxes of pears from 22 Winter Nelis pear trees, an averrage of about nine packed boxes to the tree—probably a record production for this section. Better results in prices have been obtained than were anticipated earlier in the season, when shipping conditions were poor. Late varieties of pears have brought from $3 to $3.50 in the Eastern markets.

Large Shipments of Grapes.

Table grape growers in the San Joaquin Valley received some 50 per cent more than average prices for their grapes this year. More Thompson Seedless, Malagas and Muscats were shipped than ever before. Emperors, packed in drums, brought good prices. Losses from rain or frost were very small for the shipping grapes and growers heaved a sigh of contentment and satisfaction at Thanksgiving.

Lower Price for Off-Color Oranges.

First-class Washington navel oranges are still selling around $6.50 a box f. o. b., which is the highest price ever reported for this season of the year. Poorly colored stock is only bringing around $2.50 per box, with little demand for even those where the sugar test is high. The Porterville crop will probably be cleaned up by December 15.

Another Way to Check Mildew.

During the big September rain, F. E. Barrett, on Dry Creek road, near Santa Rosa, had his prunes stacked. To prevent spread of mold he went around the dry yards with his power blower and blew dry sulphur through the stacked trays under pressure right after the storm and effectively checked the mold.

The war is credited with the recent rise in olives and olive products according to Howard T. Reiser of Bakersfield.

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Counteracting Frost Action on Fruit

Written for Pacific Rural Press by H. C. Green

DANGER POINTS

Reference to the following table will give full information on temperature injurious to fruit when in bud, blossom, etc.:

	Bud	Blossom	Setting Fruit	Other Times
Grapes, Tangerines	31	31	31	28
Grapefruit, Lemons, Oranges, English Walnuts	31	31	31	28
Plums, Prunes	30	31	31	28
Almonds	28	30	30	28
Peaches, Apricots	29	30	30	28
Apples	29	30	30	26
Pears	28	29	29	28
Strawberries	28	28	28	30
Tomatoes, Sweet Potatoes	31	31	31	31
Irish Potatoes	30	30	31	32

These figures are the danger points. It is best to be on the safe side and start the fires a degree above the danger mark. To start the heaters too soon is expensive, but to start them too late is more expensive. Be careful and watch your registered instruments.

SINCE the horticulturist overcame the disasters occasioned by insect pests, there is probably no one cause of loss so seriously affecting crops as frost. The losses to fruit crops, both citrus and deciduous, through frost have been so large that special attention has been given to methods of protecting orchards. With citrus fruits the frosts of December, January and February are to be guarded against, the fruit being ripe and ready for shipment. With deciduous fruits the late spring frosts do the damage. Almonds, cherries, apricots, grapes, peaches, and prunes are hurt while in bud, or while the fruit is just setting, by the frosts of March and April. The damage depends, in all probability, as much upon the condition of the trees as the degree and duration of the cold. For example, a sharp frost during the first or second week of April sometimes does less damage if the trees are fairly past the blossoming period than the same frost would have caused occurring about the middle of March.

The protection of gardens, both vegetable and flower, is also important. The particular frosts affecting gardens are the frost of February, March and April, and it has been pointed out that the same general principles used to protect orchards should be followed in the protection of gardens. A clear night following 36 or 48 hours of boisterous north wind is likely to be followed by frost, particularly if the movement of the air in the given locality has been such as to cause a settling of cold, relatively dry air strata in the hollows or depressions of the land. The formation of frost is essentially

A PROBLEM IN AIR DRAINAGE,

and if by any means we can prevent streaks, pools, or basins of stagnant, cold, dry air we can largely prevent frost. Frost is the water vapor of the air deposited upon the plant at a temperature below 32 degrees F. The damage to plant life is caused by the falling temperature. The water vapor plays the part of an index only. Indeed, the action of the water vapor is preventive. Dry air at a temperature of 32 degrees F. weighs 563 grains per cubic foot. Vapor of water at 32 degrees F. weighs 2.1 grains per cubic foot at a saturation of 100 per cent. Air at a temperature of 25 degrees F. weighs 572 grains per cubic foot. Given a little time, therefore, on a still, clear night, the loss of heat by radiation from the plant surfaces and the ground will bring about a settling of the colder air to the bottom. The ground will be covered with frost, while thermometers six feet above the ground will record 34 or 35 degrees F. Vegetables and flowers, therefore, unless grown upon sloping or terraced ground, are at a decided disadvantage compared with tree fruit in the matter of frosts.

NATURE OF FROST.

It cannot be emphasized too clearly that it is the "low temperature" and "not" the solidification of the water which does the damage. If there be but little vapor in the air there will be but a light frost apparent, and yet the temperature may be so low as to cause great injury. The so-called hard, dry frost, also called black frost, does, as is well known, even more injury than heavy frosts. Water vapor at 25 degrees F. completely saturated weighs 1.6 grains per cubic foot. In the fall from 32 to 25 degrees nearly half a grain per cubic foot, if the saturation were 100 per cent, would be condensed, appearing in visible form as a frost flake. A certain amount of heat was given off in the transformation of this invisible water vapor into ice, and an exactly equal amount of heat (known as the latent of vaporization) will be in turn required to change this frost back into vapor. We give special attention to this point because it would appear theoretically that the secret of successful protection of garden truck and delicate flowers will be found in this action of water, both in settling free heat at this time when the temperature is falling, and on the other hand in using up heat and thus acting as a retard or brake when the temperature begins to rise quickly.

It is now quite generally known that as much injury results from the sudden warming up of the dormant and thoroughly chilled flower or vegetable as from the chilling itself. In the work of protecting fruits from frost it has been found very necessary to interpose some screen early in the morning between the sun's rays and the frosted fruit. With flowers and garden truck this can be much more easily accomplished than with fruit. In this respect the gardener has a decided advantage over the orchardist.

SOME WELL-ESTABLISHED CONCLUSIONS.

The following facts stand out prominently: First, that in California the greatest injury is done deciduous fruits by the late spring frosts occurring as late as the latter part of May, when fruit is well formed, frequently resulting in the loss of three-fourths of the crop in the case of the more tender fruits, as, for example, almonds and apricots.

Second, facts show conclusively that frost occurs chiefly in the low places, basins, and bottoms, or where the cold air had drained down and settled. The principle, often laid down, that frost was primarily a problem in air drainage, is conclusively upheld. Wherever the air was stagnant the injury from frost is most marked; and, conversely, wherever the air was in motion there was little damage from frost. Fruit on open benches, hillsides, and terraces escape. The streakiness of frost and the many apparent irregularities in its formation can be explained easily if we remember that there are currents and stream lines in the air, and that these currents may have rather sharply defined limits. A slow-moving current of air on a still night in an orchard that appears to be nearly level may result in an absence of frost along its path, while close by, where the air is stagnant, frost will be formed.

The third particular point is confirmation of the belief that the damage from the frost can be greatly lessened if some means were provided whereby the chilled fruit could be protected from the sudden warming at sunrise. Some rough temperature observations made in ranches at about the time of sunrise on a frosty morning have shown a rise of as much as 10 degrees in the air temperature within 30 minutes. It has also been noted in several ranches that the areas of greatest loss by frost were those where the sun's heat came suddenly upon the trees. It is believed that much fruit can be saved even when chilled or frozen if some screen is interposed between the fruit and the sun, so that the warming may be gradual.

PROVED METHODS OF FROST PREVENTION.

One by one the fruit grower's foes have been conquered. Fungus and insect pests known have been successfully combated. But not until a very few years ago was it deemed possible to overcome Jack Frost, one of the fruitman's most formidable foes. This is now changed. With wireless telegraphy and the aeroplane has come the "low" orchard heater, which annually adds millions of dollars to the fruit crop, although its use has scarce begun. In California thousands of carloads of fruit have been saved from frost during the past years by orchard heating.

HEATING ALL OUT OF DOORS.

Briefly, modern frost fighting consists of "heating all out of doors" by means of small fires in the orchard, generally from 75 to 100 per acre. It is not smudging, which has been practiced by European viticulturists. Smudging consists of producing a blanket of smoke by burning damp straw or some similar substance early in the morning, to keep the sun from thawing out the frozen buds and blossoms too rapidly, the theory being that if the frost goes out slowly there is less danger of injury. Orchard heating maintains a high temperature and this keeps away the frost entirely. Nevertheless, the smoke created by the fires is a valuable aid, as is proven by the fact that the smoke from the heated orchard will sometimes drift over an adjoining or-

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chard and protect the latter from frost injury.

The degree of cold which can be successfully combatted seems almost incredible. Twenty-two degrees, which is ten degrees below the freezing point, with several inches of snow on the ground and a strong wind blowing from the north and the orchard in bloom, are the conditions which obtained one night in a Colorado orchard, yet orchard heating saved the day and insured a good crop of fruit.

TWO LEADING FUELS USED.

The two leading fuels used in orchard heating are coal and oil. In California oil is used exclusively and has proved its superiority over all other fuels.

FORMS OF THE OIL HEATER.

The simplest form of the oil heater is a sheet-iron pot holding one or two gallons of oil, with a suitable cover to keep out the rain when the heater is not in use. One patented type of heater manufactured in California and used extensively throughout the West possesses a decided advantage over other makes, in being equipped with an attachment which acts as a damper, as a soot collector, and also serves to deflect the heat. Flame is heat, and if this flame is not controlled much of the heat so produced will rapidly rise and be lost.

NUMBER OF FIRES PER ACRE.

The number of fires per acre is difficult to determine, because so much depends upon conditions. The lower the temperature the greater velocity of air currents and the smaller the trees, the more fires per acre will be required. Large trees require considerably less fire around them than small ones, and the more foliage on the tree the less fire is needed. Under the most unfavorable conditions twelve one-gallon heaters would be none too many, while forty would be plenty in some cases. It is well to prepare for the worst while hoping for the best. Sometimes all the work and expense of orchard heating is thrown away because not enough heaters are used. Some recommend a large number of small heaters, only part of which need be lighted at times, the rest being held in reserve when needed. The better plan would be to equip the orchard with 75 to 100 large heaters per acre, burning a sufficient number to maintain the necessary temperature.

Horticultural Jottings

Stanislaus county reports a yield of nearly all crops up to expectations. Almond and walnuts both show an increase over last year's production.

Quite a little boom has taken place in the Watsonville market as a result of the lifting of the export embargo on apples and the buying of English houses.

Apple picking is about finished at Watsonville, this season being about a month later than last year, owing to the rains probably. The fruit is of excellent quality.

Five thousand, three hundred and thirty dollars was received by the Hillside Orange Association at Lindsey for a carload containing 462 boxes of late Valencias, which went to auction in Baltimore.

Orchard fig conferences are planned for December 10 and 11, to take place at Navelencia, Mount Olive and Clovis farm centers, in Fresno county, Professor Condit of the University of California leading the discussion at each place named.

B. F. Stine, a pruner of Acampo, has 66 old almond trees from which he gathered 1800 pounds of nuts this year. From five trees which he pointed out to us he gathered 37 boxes of almonds "tromped in." The varieties are I X L and Ne Plus Ultra.

Consul General Skinner of London, England, cabled on November 23, that, according to his information, apples may be freely imported into Great Britain upon the importers agreeing to sell at a price not exceeding six and a half cents per pound wholesale, or eighteen cents per pound retail. It is understood that freight is to be arranged at $4.01 per box.

The possibilities of bee-keeping in the National forests of Southern California are being investigated by agriculturists of the U. S. Department of Agriculture in co-operation with the Forest Service. Extension schools for commercial bee-keepers will be conducted at San Diego, Davis, Visalia and Riverside, each one of which will last six days. Three sessions daily will be held.

Charles P. Justice, manager of the State Honey Producers' Co-operative Exchange at Los Angeles, stated at the Modesto meeting that with the world market open again, the honey production in California will exceed three millions of dollars in value next year. A carload of honey now brings $12,000, the highest price ever known. The central valley exchange represents 10,000 colonies of bees.

(Continued on page 671.)

SEED POTATOES

We specialize in selected **SEED POTATOES:** Certified White Rose, American Wonders, British Queens, Burbanks, Garnet Chilis, and other varieties. Also fancy, recleaned Alfalfa Seed. Write for prices.

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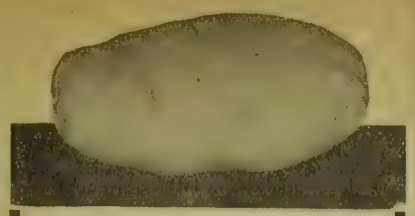

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White Rose
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Just in—first carload of the season—genuine Oregon-grown blue-flowered White Rose Seed Potatoes. Best early variety.

True to name. Free from disease. Hill-selected.

Uniformly large, smooth-skinned, choice quality. Write for prices and Potato Catalog.

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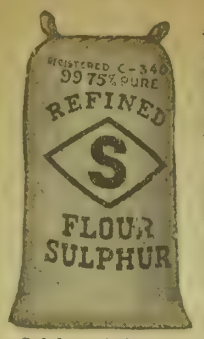

It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDEW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH.

Try our new brand of VENTILATED Sublimed Sulphur, 100 per cent pure, for making Paste—(Atomic Sulphur) and for Dusting.

For Lime Sulphur Solution, use our DIAMOND S Brand Refined Flour Sulphur. We can furnish you this sulphur at such low price that it will pay you to mix your own solution.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre of our Diamond "S" Brand Powdered Sulphur.

It has been proven that sulphur has increased various crops up to 350 per cent.

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524 California St., San Francisco, Cal.

We are equipped to make immediate shipment. Send for illustrated booklet, price list and samples and please state for what purpose you use the sulphur, quantity needed and date of shipment preferred. Tel. Kearny 871.

The Biggest Pear Tree Order
Ever Placed

by an orchardist is one that we have just booked from Howard Reed of Marysville, for **FIFTY THOUSAND** of the new Chinese seedling, pyrus Usuriensis, which we introduced from the Orient and now offer for the first time to the pear-growers of America. By use of this new stock, blight may be eliminated from root, trunk, and main-limb crotches.

Mr. Reed is one of the leaders of the pear industry of California, and no man better appreciates the blight menace or better understands how to defeat it. This winter he will plant these trees in his great new orchard on the Yuba river, and will set Bartlett buds in the branches as soon as the trees have made heads. Built on the foundation stone of Blight-Resistance, Mr. Reed intends to make his new orchard the best and one of the biggest in the world! Our price on these seedlings is One Hundred Dollars per thousand. Ours is the only supply in the American nursery world this year—and we have only about Thirty Thousand left in No. 1 grade, diameter 3-16 of an inch and upward.

Another order of which we are also mighty proud is photographically reproduced here. It is the **HIGHEST PRICED ORDER FOR 1000 PEAR TREES EVER PLACED!**

The signature is that of E. A. Gammon, one of the most progressive and successful pear growers of California, whose orchard on the river, 14 miles below Sacramento, is productive of almost marvelous returns.

In placing his order for Bartletts, to be branch-worked on Usuriensis, the new, practically blight-proof Chinese seedling, Mr. Gammon made sure that blight would not have to be fought in root, trunk, or main-limb crotches, and thus secured the greatest degree of blight-protection possible. Mr. Gammon wrote: "My plantings would be worth $50,000.00 more than at present had I planted trees with blight-resistant root trunk, and branches.

These trees will cost Mr. Gammon $1.00 per tree—just four times the price of ordinary trees in the same quantity! The earliest date at which we can deliver branch-worked trees is 1921, and as our stock will be small his order is placed now, to insure the reservation of the trees.

ORDER SHEET

Loma Rica Nursery,
Grass Valley, California

Gentlemen: Reserve for me
Ship to me at.....
on or about Winter 1921, by.....
Freight or Express
the nursery stock specified below, which I agree to pay for on delivery, at the prices herein stated, together with the cost of packing.

Quantity	VARIETY	Size	Price	Amount
1000	Northern Bartlett			
	Root Trunk & Branches		1.00	1000
	Usuriensis			
	TOTAL	1000		$1000

It is understood that no substitution will be allowed in this order, and that this order is not subject to countermand. It is also understood that should any stock prove untrue to name Loma Rica Nursery will replace the same free of charge, and will also refund the purchase price thereof, but that no greater liability is assumed by said nursery than that herein specified.

Signed E A Gammon
Address Ford Cal
Date Nov 20/19

Although following different methods, both these men will attain the same result—**freedom from blight in root, trunk, and main-limb crotches.** This eliminates the greatest cost in blight-control work and practically places a life insurance policy on every pear tree so protected!

In districts where blight-damage is not a factor orchardists will still continue to plant pear trees on the Jap root, such trees being better than any other except on Usuriensis. We have our usual supply of such trees, with the remarkably fine root system that has made our mountain-grown nursery stock a favorite among particular planters. Our apple stock shares in this distinction, but supply this year is quite limited.

LOMA RICA NURSERY
PEAR SPECIALISTS
A. L. WISKER, Manager. GRASS VALLEY, CALIFORNIA

Hay Eaters Increased Faster Than Hay

(Continued from first page.)

all three. Our assumption is based on the facts that the combined hay crops of Arizona and Nevada for the two years 1916 and 1917 totaled about 29 per cent of the California hay crop in the same period and the number of livestock on the ranches bears a somewhat similar proportion. So we base our deductions as to what has taken place in the Southwestern States in 1918 on the conditions as we know them in California.

The total California hay crop for 1918 has been estimated before the rains at 4,147,000 tons, which is nearly 14 per cent less than in 1917 and about 10 per cent less than in 1916. There is a material reduction below these figures since the rains, as considerable quantities were piled up loosely ready for baling when the first heavy rains came. One man is said to have lost $37,000 in this way on hay he had bought to bale.

VARIOUS KINDS OF HAY.

Consideration of the total hay crop, however, does not solve the individual hay producer's problems. If he has grain hay, he knows that his principal market is in draft stock. If he has wild hay, he knows that the principal market is beef stock. If he has tame hay other than that made from grain, he wants to know about the dairy cattle situation.

Reference to statistics of the State Board of Agriculture shows that grain hay tonnage in 1916 totaled 2,056,000 tons, as against 1,838,000 tons of alfalfa hay. This situation was reversed in 1917 when grain hay totaled 1,714,000 tons and alfalfa 2,237,000 tons. Alfalfa and other tame hay comprised a trifle over half of the total in 1916 and a still greater proportion in 1917. Wild hay comprises only about 5 per cent of the total.

Now, are beef cattle likely to affect the hay market? By far the largest proportion of California cattle are fattened on grass and there promises to be plenty of that this season, so beef cattle are not likely to affect the hay market except perhaps locally in the northeastern and southeastern sections of California, in Nevada, and to a less extent in Arizona.

Are draft stock likely to affect the hay market? While they increased very slightly in the year ending January 1, 1918, on the farms, there is every reason to believe that they have decreased during 1918, as indicated by the great increase in sales of tractors and trucks to farmers. This mechanical farm power is bound to continue to displace draft stock and reduce the market for grain hay unless cattlemen take to the latter. In cities, during the war period of high feed prices, horses were disposed of in great numbers. Their work is now done by trucks and automobiles so much that horses are rarely seen as compared with two or three years ago. They are not likely to "come back" to the city streets. Even the half crop of grain hay in Livermore Valley tributary to the bay cities is moving this season at less per week than it will have to move per day from now on in order to empty the ware houses before next crop comes in.

What about alfalfa hay consumption now and future? Reference to our dairy columns will show that during 1918 the number of dairy cows in California has dropped somewhere around 40,000, representing a reduced hay-eating capacity of about 200,000 tons. But what is that to a total California crop of over four million tons! It will hardly bear the market; and, besides, a change in the dairy cattle situation is already prominently in evidence. Last spring, alfalfa and food crops, including beans, were very attractive, and cow milkers were very exacting. The combination led to many sales. Now the situation is reversed. Beans, potatoes, and grain are not moving freely; thoughts are turned to dairy cows and alfalfa, for dairy products are high and dairymen who stayed in the game most all have good bank accounts. Returning soldiers are likely to cause a return of milkers, who have been working at other businesses, resulting in a better labor situation; and the economy of having a ready market at home for the farm crops appeals to many. Thus one leading seedsman of the San Joaquin Valley reports three times as much alfalfa seed sold for fall planting in 1918 as in 1917, and farmers are planning to sow more heavily next spring. In the leading dairy county of the State we were recently told of grade dairy herds being culled out and the culls sold at $100 to $160 to less progressive but keenly interested dairymen. In Southern California grade cows are bringing as high as $300. One of the leading auctioneers of the State recently told our representative that whereas he had formerly been kept busy with dairy sales, there are scarcely any on his books for the future. Dairymen are not selling their producers, but are keen to buy or raise whatever look like they would turn hay into butterfat economically.

Dairy cattle in California totaled 597,000, January 1, 1918, following a notable steady increase ever since 1900. Other cattle totaled 1,701,000 following a steady increase since 1913. All of the signs seem to indicate a revival of this steady increase of these principal consumers of our principal hay.

CANTALOUPES AFTER ALFALFA.

Will cantaloupes grow where alfalfa has been? C. M. Stetson of Stanislaus county sold over 8000 crates from nine acres last season. He put all the manure from 25 head of stock on the alfalfa in the fall of 1916. After the rains in December, he plowed it under and grew a crop of cantaloupes in 1917. The 1918 crop was the big one. For that he plowed about 12 inches deep when it was in good condition after the February rains, and harrowed two or three times. Seed were planted in hills about four feet apart in rows seven feet apart. This required about two pounds of seed per acre to cover planting and replanting. On account of wireworms, he treated them with a solution of bluestone about the same strength as for wheat and got almost a perfect stand the first planting. The vines grew thick and knee high. Instead of giving them two or three horse cultivations as usual, he figured that the less he stirred the ground the earlier his melons would ripen. So he only hoed around each hill once and believes the melons went to market a week earlier than they would otherwise. The first melons from this field were picked July 13.

NURSERY INSPECTION.

Probably there has been more laxity in the inspection of California nurseries, or the stock as it is being dug, than in any other phase of our inspection work. The nurserymen rightly insist upon the aid of the county horticultural commissioners in detecting diseases or insect pests before their stock is shipped and rejections are made on the other end of the line. The State Commissioner of Horticulture urges every county horticultural official to give this necessary part of the work the attention that it requires. There is no easier and better place to detect troubles due to pests than in the nursery at digging time.

The Holt MANUFACTURING CO. Inc.
STOCKTON California
PEORIA Illinois
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PORTLAND Oregon
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HELPS SOLVE FARM LABOR PROBLEMS

To produce greatly increased yields of all farm products in spite of the scarcity of labor—that is the problem squarely confronting the farmers of America, for America must feed the *world* for years to come.

For years The Holt Manufacturing Company has been building and improving the "Caterpillar" Tractor, which now, more than ever before, is proving itself a most important factor in the saving of farm labor.

Today the wide expanses of America's fertile acres are being cultivated with the aid of thousands of "Caterpillar" Tractors. Thousands more of these tractors are hauling supplies and cannon in France.

The track principle employed in the "Caterpillar" Tractor, plus Holt manufacturing experience, Holt design and Holt high-grade materials, produces the most efficient, dependable and profitable tractor made.

Your neighbors—farmers, freighters, and contractors—are profiting by the labor saving and money saving advantages of the "Caterpillar" Tractor. You can do the same. Write for full information today.

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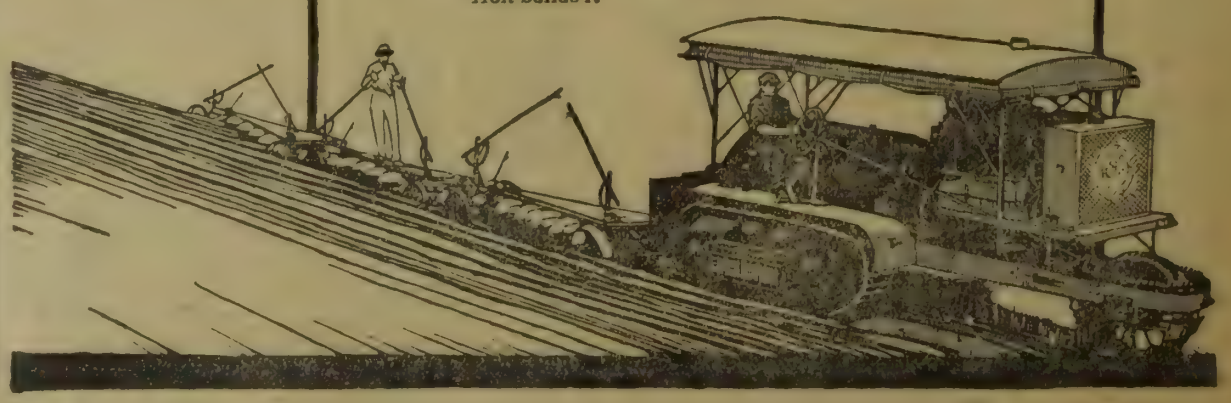


Field and Garden Suggestions

[Written for Pacific Rural Press.]

Fumigating Seeds and Grain.

Stored seeds and grain are likely to become weevily. To kill the weevils, fumigate with carbon bisulphide, which does not injure the feeding quality nor the germination, according to the ninth annual report of the Arizona Commission of Agriculture and Horticulture. It is highly explosive, like gasoline, so all lights must be kept away, and is also poisonous to breathe in considerable quantities. It is two and a half times heavier than air and will settle and fill all crevices if air is not allowed to circulate. The first step in fumigation is to make the bin practically air tight, especially the sides and bottom, or put the seed in an air-tight barrel, etc. Insects are most easily poisoned when they are most active, which is likely to be when they are most comfortably warm; and it may not pay to fumigate when temperature is under 70 degrees. Ten to twenty pounds of carbon bisulphide per 1000 cubic feet of space are needed, according to how nearly air tight the bin or receptacle has been made. [Some effect on germination of certain dried beans fumigated with carbon bisulphide in Italy has been observed, as announced by the California Commissioner of Horticulture. Cyanide of potassium killed the weevils, but did not affect germination.]

Legumes, Bacteria, and Sweet Soil.

For the most successful growth of alfalfa, beans, peas, vetches and other legumes, the proper kinds of bacteria should be abundant in the soil. When any kind of legumes are planted for the first time in a locality they are very likely to lack enough of their particular kinds of bacteria. In such cases it costs but little to inoculate the seed or the soil with pure cultures of the right kind of bacteria; and the increased yield the first year generally far more than repays the cost. But it is useless to inoculate seed to plant in sour soils. Bacteria beneficial to legumes cannot thrive in such until the acidity is neutralized by use of lime. Where the sourness is caused by long standing excess of water, the area should be drained before applying the lime. Ground limestone is effective after awhile, but hydrated lime is effective at once. Quicklime burns out the humus and kills vegetation until it becomes slacked.

Alfalfa Seed Scarce.

Fall rains greatly reduced the California crop of alfalfa seed; and war conditions greatly reduced the imports of alfalfa seed to the United States from foreign countries. Our average annual imports in the three years preceding June 30, 1914, were 7,301,712 pounds. Our average annual imports in the three years following the outbreak of hostilities dropped to 3,996,613 pounds. In the year ending June 30, 1918, we imported only 87,244 pounds. On September 18, 1918, all licenses for importation of alfalfa seed were revoked and it was announced that no licenses would hereafter be issued for importation of alfalfa seed by ocean except for such shipments as might be approved by the Seed Stocks Committee of the U. S. Department of Agriculture.

Late Planted Barley.

Forty-seven sacks of Chevalier barley per acre on 35 acres were obtained by Joe Borges of Monterey county one wet year not long since. He had intended to dry plow, but couldn't get at it until late February. The ground had been in sugar beets and made a good seedbed, though crusted by rains and weedy by February. Late in that month Mr. Borges disked the field and chiseled it about nine inches deep. He harrowed and finished seeding March 17. A half inch of rain fell that night, but the ground was somewhat rough and did not crust as it would had it been smoother. Results from late planting were far from so satisfactory last season.

Farm Labor Conference.

A farm labor conference, open to the public, will be held at the Ferry Building, San Francisco, December 18 and 19, under auspices of the State Council of Defense committee on resources and food supply, of which Federal Farm Labor Agent R. L. Adams is the secretary. Delegates are expected from about sixty organizations representing farmers, workmen, and the Government. Discussions will be held regarding the outlook for immigration, increased supplies of farm labor, reports from farmers' delegates, new State legislation, including vagrancy laws, transportation of workmen to jobs, standardization of wages, closing of saloons, importation of labor, and other questions that will be brought up by delegates.

Are You Sowing Dead Grain?

Germination tests of grain and alfalfa seed are being urged by the Fresno Farm Bureau. The system is to count out a definite number of seeds in even hundreds, put them on wet cloth or blotting paper between plates to hold the moisture, and count the sprouted seed on the third and sixth days. They ought to be kept moderately warm. Such germination tests may surprise some people. Where germination is low, a correspondingly increased amount must be sown; or, better still, feed that and sow some which germinates more and stronger.

Sugar Beet Seed Imports.

While a shortage of sugar beet seed is reported, American imports show a remarkable increase in figures compiled by the U. S. Department of Commerce. Our average annual imports for the five years ending June 30, 1914, were 11,616,300 pounds. For the next three years, including the European war, we imported 13,135,456 pounds annually. June 30, 1918, we imported 15,636,541 pounds. Adding this increase to the greatly increased home production, we see Americans raising a lot more sugar than we did before the war.

Labor Transportation Law.

A law will be discussed at the Farm Labor Conference in San Francisco, December 18-19, which proposes to make it a misdemeanor for employers to misrepresent wages to be paid, work to be performed, living and working conditions, etc., when filing applications for help at an employment agency. On the other hand, if workmen accept transportation or advances and refuse to carry out their agreements, they would be guilty of a misdemeanor, to be punished by maximum fines of $100 and 60 days' imprisonment.

Wheat Variety Yields.

Two fields of wheat adjoining each other on heavy adobe covered by a few inches of sediment in Sacramento county showed interesting yields last season. Eight hundred acres of Bluestem, most of it a perfect stand, yielded 14½ sacks per acre. Fifty acres of Early Baart with what was estimated as half a stand produced 19 sacks per acre. The Baart showed heavier stooling than any other wheat observed on that soil, the heads were large and well filled, and they matured two or three weeks earlier than the Bluestem.

Arizona Cantaloupes.

Cantaloupes averaged 203 crates per acre in the Phoenix-Glendale district of Arizona last season, as reported by the Bureau of Crop Estimates. Contracts are being signed for the 1919 crop. They indicate that the acreage will be about 1800 in this district and about 1000 in the Mesa district.

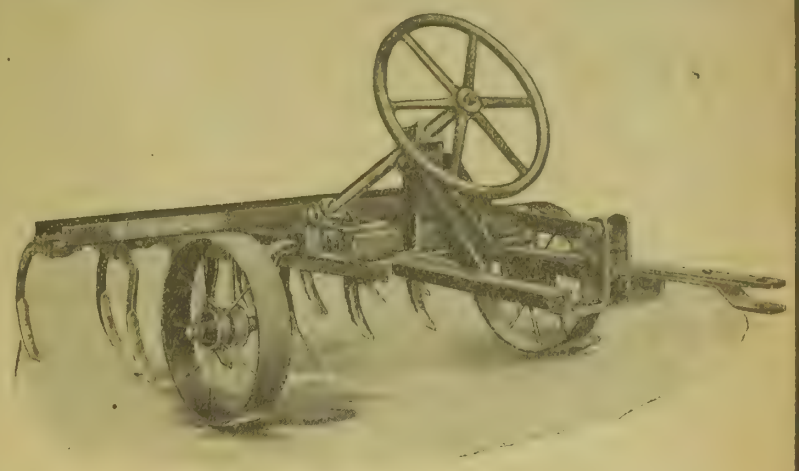
Arsenate Was Too Strong.

"Don't let anyone use as much arsenate of lead powder as 7½ pounds per 200 gallons in spraying for tent caterpillars," says H. W. Hosmer of Sonoma county, who burned the leaves of prune trees with that strength last spring. Neighbors who used 6½ pounds per 200 gallons controlled the caterpillars and did not injure the foliage noticeably.

Heavy Duty
Orchard Cultivator
No. 3

KILLEFER QUALITY

KILLEFER EFFICIENCY



The Heavy Duty Orchard Cultivator Number 3 is built to meet the demand of the owners of the small size tractors for an extra strong cultivator that can be handled by the tractor driver. It is made on the same lines and of the same high-grade steel as our well known Monarch Cultivator, but without the levers and rear wheel, and with a hand wheel, screw lift, making it a perfect one-man, all-steel tool.

Specifications: Frame, ⅜x2½" angle iron, Standards ⅝x2" special high-grade steel, Axles 1½", Wheels 22" high, 3½" tire. Made in 5, 6, 7 and 8-foot size.

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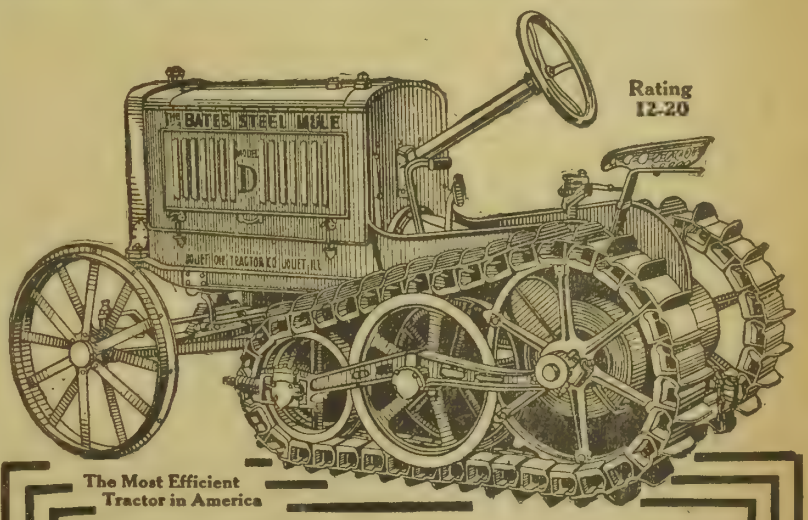

The Most Efficient Tractor in America

Enclosed Working Parts

The unit construction of the Bates Steel Mule not only affords protection against dust but also assures permanent rigid alignment of transmission parts with the motor, regardless of any severe twistings. Working parts run in an oil bath.

This feature, with the powerful twin crawlers, heavy duty, valve-in-head kerosene motor, hardened cut-steel transmission gears, and Timken roller bearings, makes long service a certainty.

We are so proud of the Model "D" BATES STEEL MULE we want everyone to be sure and see the machine we have on exhibition here now.

The only Crawler Tractor adapted to Beet Cultivation without making changes.

F. T. BRILES, So. California Distributor

Excellent Proposition offered Live Agents.

214-216 No. Los Angeles St. Los Angeles, Cal.

Vetch-Barley Big Crop and Balanced Feed

[Written for Pacific Rural Press by R. E. Hodges.]

Four tons per acre of a balanced hay ration were raised the past season on 100 acres and followed by a heavy white bean crop by Emery Gates of Stanislaus county. Vetch furnishes the protein content and barley the carbohydrate content of this hay, which grows already mixed. Such big heads as grew on this barley are not commonly seen, and such stooling of barley is a rare advantage in growing it for hay. Being cut while in the dough, the kernels are almost as good as a regular grain ration. Vetch, growing throughout the barley, was held upright and was at its maximum value for hay, being in bloom when the barley was ready to cut. Mr. Gates chops all of his hay; and cattle, horses, and sheep all relish it to the last half of one per cent. There is no waste.

Part of the 100 acres was bottom land, part bench land, and part still higher. It is all of light loamy nature, varying in its content of sediment and sand. The year previous to the latest crop, barley and oats were grown on this same land. With better growing conditions, it yielded less than two tons per acre. On a sandy sediment area alfalfa had been tried previously, but would do nothing. This year the crop was good all over the 100 acres.

The vetch seed were carefully inoculated by Mr. Gates himself late last January, and seeded within a few hours after inoculation, being careful to get them into moist earth. Moisture by sub-irrigation or otherwise is necessary in the spring, according to Mr. Gates, or the vetch might not mature. Vetch and barley seed were mixed at the rate of 35 pounds of the former to 18 pounds of the latter; and about 53 pounds of the mixture per acre were drilled about three inches deep. The vetch would not harrow in satisfactorily if broadcasted, and inoculation would not work if the seed were long exposed to sunlight and drying. The seedbed had been nicely prepared and nothing more was done to the field until the hay was cut about June 1.

Labor-Farmer Alliance

[Written for Pacific Rural Press.]

The "California Union of Producers and Consumers," which is an alliance between the California Farmers' Union, the Pacific Co-operative League (consumers), and the California Federation of Labor, for mutual aid and support in accomplishing objectives of common interest has a definite platform which was endorsed and advocated before the recent elections. Most of the twelve planks in this platform are of direct concern in farmers' business. Two of them are more particularly in the interest of labor unions. Summaries of their planks, as taken from the report of President Fred Millard, follow:

1. Legislation to force idle land into use, by means of a graduated super-tax on all uncultivated arable land.

2. Public ownership of public utilities, including terminal grain warehouses and packing plants for meat and perhaps other products. Government retention of railways urged.

3. Government encouragement of co-operation to solve problems of equitable distribution of farm products in connection with the high cost of living.

4. Provision for citizens to vote when away from home on election day.

5. Representation of farmers and labor unions on all State boards and commissions; on any price fixing bodies, and on the University Board of Regents.

6. Prohibition injunctions which are declared to be judicial legislation, a piece of which has blocked an overwhelming majority of Stanislaus people for two years after an election which would have taken over the local telephones. This measure is, of course, primarily a labor union desire.

7. Health insurance favored.

8. County experiment stations especially for deciduous fruits and under direction of the State University.

9. Full maintainance of free public employment bureaus such as have been in operation the past season.

10. Federation of all irrigation systems under State auspices to promote their development, arrange for joint operation, and permit manufacture and sale of electric power.

11. Improvement and more effectiveness in the workmen's compensation law, safety appliances, and insurance.

12. Appointment of a representative "Reconstruction Committee," by the State to handle the problems of demobilization and reconstruction in an orderly way.

Sowing Garden Seeds

[Written for Pacific Rural Press by Samuel Haigh, San Jose.]

In sowing small seeds, where it is not advisable to use our Planet Jr. seed drill, I take a square or round pepper duster to sow lettuce, cabbage and similar small seeds that will readily pass through the holes in the cover, and generally mix the seed with a little dry arsenate of lead, as this coats the seeds and shows how they are distributed on the seedbed or drill. If the holes are not large enough, I enlarge them to suit the seeds when I use the round pepper cans. The holes in square cans having a revolving cap cannot be thus enlarged unless left open all the time, as the cap fits close and the burr caused by enlarging jams the cover.

For peas, beans and beets or other large seeds I take an ordinary fruit can and punch one or two holes in the bottom so that the beans or peas will readily pass through. For beets I punch three or four holes. I have separate cans for each variety, as these seeds vary in size.

I tie each can to a stick of suitable length so that I can stand upright and as I pass along the open drill I shake the can and the seeds drop through the holes easily and just the right distance apart.

KEEPING SWEET POTATOES.

To the Editor: I saw a piece in the Rural Press about keeping sweet potatoes. I think I have a better way, an easy way, we all use up this way. The potatoes keep well. Some people eat them as late as June, for they are good and sound. When you dig the potatoes out of the ground, pile them up and let them dry out for a week or ten days, but handle them very carefully and don't break the ends off. Get a large barrel or dry goods box and some dry sawdust. Put about two inches of sawdust in the bottom of the barrel, or box, then put in a layer of potatoes, but don't let them touch each other. Then more sawdust and more potatoes, until the barrel is full. If sawdust is not handy, take dry sand, but no dirt. Keep the barrel in a dry place. I will bet you a turnip against a carrot that they will keep. —J. Fritschi, Yuba county.

[This is a good old household way but hardly practicable for commercial crops, for which the method we described is available.—Editor.]

"THE BEAN IS THE BEST."

Winter Spraying Is Now On

And the growers who are cleaning up their trees are now the growers who are going to have the big crops—the good fruit—and the long profits at harvest-time next year. You can tell the growers who spray and those who don't by their profit balance at the end of the season.

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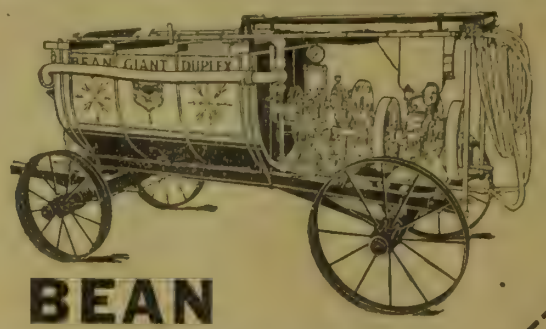
The Bean stands up to the work day in and day out—driving the material on at heavy pressure—and requiring no attention except to start and stop! Our catalog tells all about the many distinctive advantages are built into the Bean Sprayer.



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THE BEAN SPRAY GUN makes the largest power sprayer a real one-man outfit.

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Agricultural Notes

Antioch celery shipments to Eastern markets were reported on December 7 as having totaled 125 cars.

A 2000-acre tract has been secured in Fresno county for cotton alone by two former Alabama cotton growers.

Early Prolific rice, originally classified so as to bring growers $4.32, has been re-classified so it will bring $4.47.

Some rice is heating in storage after threshing, due to its high moisture content this fall. Heating rice should be repiled.

The California Rice Committee of the Food Administration hopes to have the crop all in hands of millers by March 1 at the prices already agreed upon.

Of the fifty beet-sugar factories making 130,000 tons of sugar from a million tons of beets in Poland before the war, about twenty have been either destroyed or damaged.

Homestead entries have been filed on all the areas in the National forests of California which have been decided to be chiefly valuable for agriculture. This comprises less than two per cent of the 18,000,000 acres in forests.

The new $200,000 National Rice Mills plant in West Sacramento is now operating. It can mill 4000 sacks of rice per day. Rice flour equipment also has been installed. Warehouse capacity is available for 100,000 sacks.

The Imperial Valley Pima cotton crop of about 3000 bales from 3500 acres is being ginned in the new six-stand gin recently completed at El Centro for this long-staple. In these gins, rollers replace the ordinary saws which would injure the long-staple fiber.

The report that bluestoning wheat by approved formulas had injured its germination seems to have no foundation, according to James Murphy, who has made an investigation in Fresno county. Weather conditions may be spoiling seed in certain soils before it can come up.

The large and long-pent-up wheat stores of Australia are at last let loose. The farmers of that country were harvesting the heaviest crop of wheat in its history when ocean carriers were not available owing to the war's demand for transport service. Figures compiled by the marine department of the San Francisco Chamber of Commerce show 36,000 long tons of wheat now on the high seas bound for this port. This great tonnage is being carried almost exclusively in sailing vessels.

A series of winter meetings throughout the State has been planned for the Japanese farmer, and lecturers of influence will explain to the Oriental agriculturists the condition under which his work in the Occident may be accomplished in harmony with white co-laborers. The necessity of organizing and strengthening growers' associations, farm management, sanitation, etc., will be discussed.

An injunction restraining the members and directors of the Western Cantaloupe Exchange from forming combinations in restraint of trade in violation of the Sherman Act has been issued by the Federal court. The injunction restrains the men and concerns named in it from retaining their membership in the Western Cantaloupe Exchange and specifically mentions that they are in no way to try to regulate the prices paid for cantaloupes, the acreage grown, the amount marketed, or to what extent the grower should be advanced money on his crop.

DEAN HUNT BRINGS LESSONS FROM THE FRONT.

(Concluded from page 644.)

WHAT THE SOLDIERS WILL BRING BACK.

Naturally and inevitably there has been much discussion concerning the social ideals and practices which will obtain after the the war. Some writers see social changes so world-wide as seriously to involve the political structure of our nation. Everyone knows that great political, economic and social changes have occurred in the past four years. Nobody is particularly responsible for these changes. They are a part of the progress of the human race. They are not to be stopped. They are merely to be guided.

So far as the United States is concerned, sufficient account has not been taken of the influence of that body of more than three million men who now make up the army and navy. I do not know what social philosophy the men in the trenches may have imbibed, but whatever they are I have no doubt they will form the basis of our political action for at least a generation to come. This is a factor that the thoughtless as well as the thoughtful may well consider. Each of them will influence three other persons, viz., wife, mother and father. No other nation has or ever has had throughout such a body of privates. In the very nature of the case, it is impossible. No other army has had such a well-bred, highly educated, upstanding, individually responsible body of men. They have been first the curiosity, then the wonder and finally the admiration of our allies. This is not the verdict of a naturally biased American, but the common and hearty testimony of the people of all the nations with whom they have come in contact. It is because of this fact that the war has finally been won and because of it we may trust to the future with serene confidence.

Dealers in PAPER

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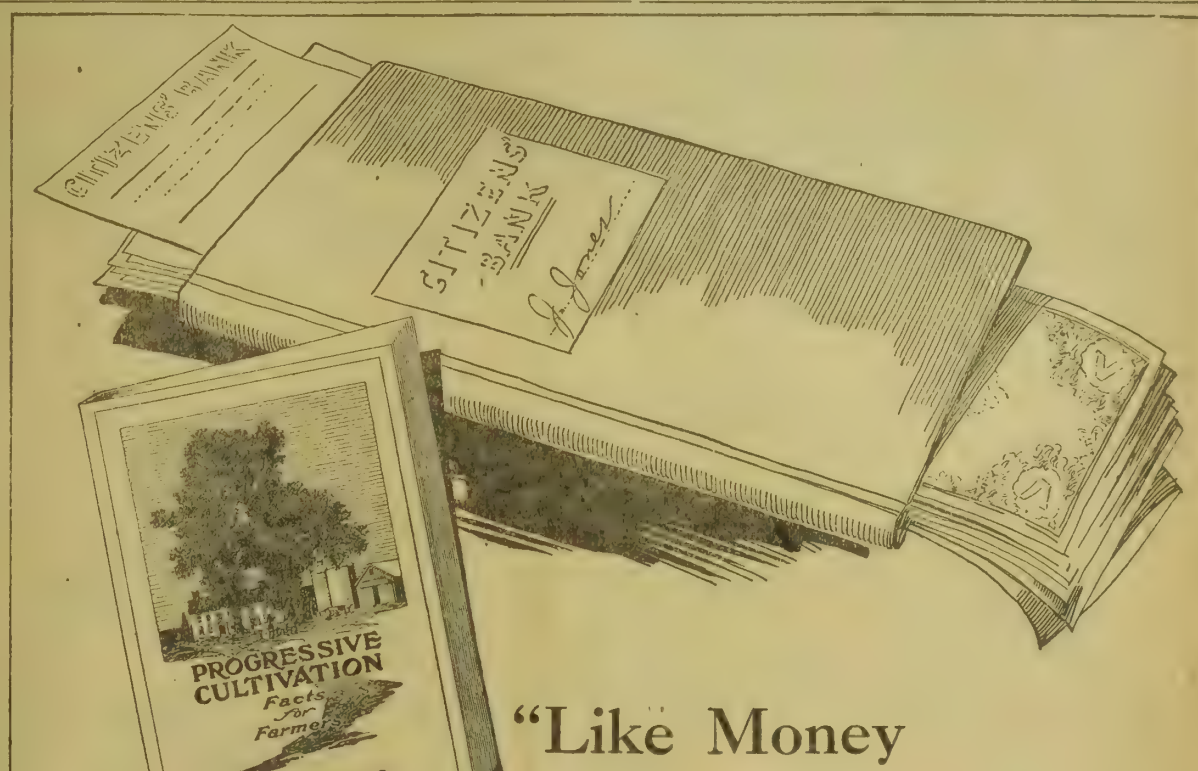

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There is a book, published by the Hercules Powder Co., called "Progressive Cultivation". It tells you of all the various uses of explosives on the farm and will be sent free to any farmer who fills out and mails the coupon printed below. This book has been of invaluable service to farmers and orchardists who are anxious to get from their land a maximum of yield with a minimum of labor and expense.

HERCULES DYNAMITE

is one of the very valuable helps to the farmer in his struggle with the National problems now facing him;—the problems of labor shortage and the Country's immediate need of all food supplies.

Send for your copy of "Progressive Cultivation" today. It will tell you how to use explosives in planting your orchards and in keeping your bearing trees in good heart, in digging your ditches and draining your land,—in fact, in doing much of your heavy work at less cost and at much less labor than by the old, back-breaking methods.

We do not claim that explosives can do everything on the farm but we *know* that, judiciously used, Hercules Dynamite can be made of invaluable service to you. It will help to put cash in your bank and at the same time to produce the bumper crops that the Country needs.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

TRACTOR DEMONSTRATION PLANNED.

A mammoth tractor demonstration is to be held next spring somewhere in Central California under the auspices of the California Tractor and Implement Association. This was decided unanimously at their meeting in San Francisco, November 30. Active preparations will immediately proceed, according to Secretary G. M. Walker of the association. Professor J. B. Davidson of the University of California Department of Farm Engineering is chairman of the demonstration committee. A manager is to be selected at a salary big enough to command the best man for the purpose.

Several cities are making every effort to get this demonstration, but the choice will probably be made between Stockton, Sacramento, Modesto, San Jose and Oakland. Good transportation and hotel facilities, a small financial inducement to help cover the expenses of the demonstration, and a suitable tract of about 400 acres will be required.

FARM ENGINEERING DEPARTMENT ENDORSED.

One of the manufacturers mentioned the fact that this State, one of the foremost in use of tractors and farm-power, has been very niggardly in appropriations for instruction and investigation along these lines at University Farm. Only $13,000 is furnished for salaries and all other expenses of the University Farm Engineering Department. This includes, besides regular tractor instruction at Davis, the tractor short course at Davis, Riverside and Visalia, and such subjects as carpentry, farm buildings, forge work, rural sanitation, etc. The University of Iowa has an appropriation of $40,000 for similar work and many others have appropriations several times as large as California. The work of our University Farm Engineering Department was unanimously highly endorsed at the Tractor and Implement Association meeting, and instructions were given for its representatives to push vigorously for better financial support of this department by the regents and the legislature.

LEASED OWN RANCH—BOUGHT A TRACTOR.

Three features of tractor operation are prominent in Phil Rutherford's experience with a Lauson tractor in Stanislaus county. He says it is the only kind for his section, which has generally sandy soil. Sand can't get into the Lauson. Another feature is quick service. Mr. Rutherford telephoned for a fan belt at 3 p. m. and had it at 8 a. m. the next morning. The third feature is its steady running. He took a fancy to the machine at the Davis tractor demonstration last spring and bought one about June 1 after it had been demonstrated on his own place. When visited by the writer the last of September he had lost only one day's work on account of the engine. He had plowed a little stubble dry with three 14-inch moldboards and then started to run a 26-inch Case threshing machine with it. Three months later, he said, the tractor had worked every workable day but one and was running better than when he got it. The day's delay had been occasioned through his own fault, as he said, and would not happen again in the next thousand years. The thresher, equipped with blower and self-feeder, was run by the tractor on about two gallons of distillate per hour. The tractor moved the machine from place to place. It had threshed only grain up to the end of September, but Mr. Rutherford had some ten days of silage cutting to do and then about three months more of gyp corn and bean threshing.

Anybody can get enough work to keep a tractor busy, says Mr. Rutherford, who has rented his own place and is working the tractor entirely on contract work. The country is full of people who would rather hire a tractor to plow for them than to keep horses the year around and then perhaps not get all of their plowing done at the right time.

TRACTOR HORSEPOWER.

Pulling the same number of plows in the same soil, the horsepower exerted by a tractor is increased or decreased according to the speed at which it is run. The theoretical horsepower is the energy required to lift 33,000 pounds a foot off the ground in a minute. In practice, the horsepower of a tractor is most accurately figured by multiplying the number of pounds it pulls on the drawbar by the number of feet it travels per minute and dividing the result by 33,000. The pounds pulled are determined by inserting a dynamometer between the drawbar and the plow.

At the University Farm Tractor Short Course dynamometer tests were made on a number of tractors in 1917 and the students figured their horsepower. One machine, traveling 258 feet per minute, showed an average drawbar pull of 710 pounds. Its horsepower was 5½. (This was at the rate of 2.9 miles per hour.) The same machine in the same soil the same day developed 11 1-5 horsepower by speeding up to about 4.7 miles per hour and pulling an average of 880 pounds. The horsepower was more than doubled by pulling a 25 per cent heavier load and increasing the speed. Another tractor pulling 770 pounds at 1.9 miles per hour developed 3.9 horsepower; but on another trial it developed 6.5 horsepower running two miles per hour and pulling 1200 pounds.

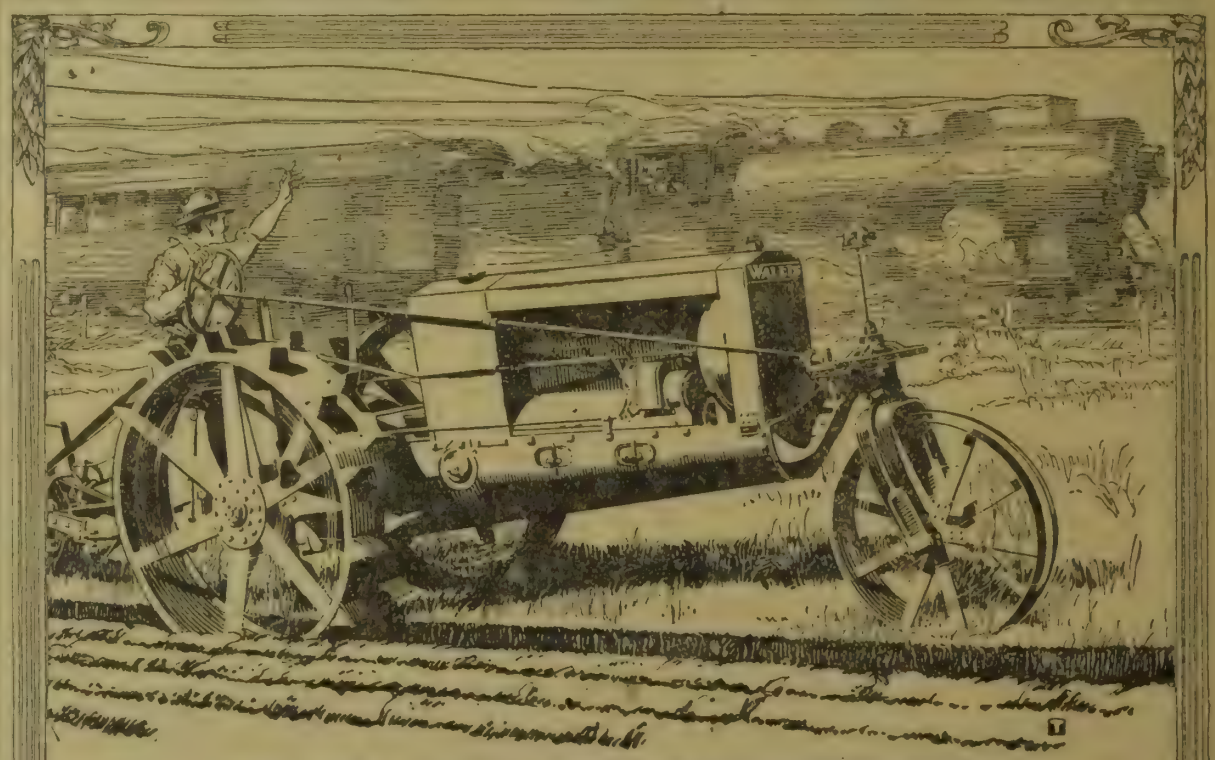
SMALL "COMBINE" TRACTOR-PULLED.

With small-sized combined harvesters now becoming popular on the smaller California grain ranches, it is important not to use so much labor as on the larger ones. M. G. Morgan of Solano county has solved the problem with entire satisfaction during the past season, using a nine-foot combine. At small cost he extended the steering post and controls of his Samson tractor, so it could be operated from the seat of the harvester. One man to fill and sew the sacks completed the crew. Mr. Morgan harvested 1000 acres at an average of 20 acres per day. He also performed all the work on his own ranch of 240 acres and states that his only expense, besides fuel and lubrication, was $3 for extras.

DRAG THE MUDDY ROADS.

With farmers using automobiles so much, there ought to be fewer rutty roads than we find in California. The way to avoid ruts is to hitch a road drag behind the machine or behind a pair of horses and go over the roads several times while they are soft but not slushy, after every considerable rain. The drag is simply a couple of timbers or logs fastened a few inches apart and hitched so the right end of the drag runs somewhat ahead of the other. This tends to make and preserve a central crown on the road, smoothes down the high places, packs the filled-in places, spreads out mud puddles to dry, and smears the mud so it dries harder and sheds future rains better.

Over 1500 Tracford tractor attachments for Ford automobiles have been sold on the Pacific Coast, according to William L. Hughson of Hughson & Merton, Inc., the Coast distributors. They have been on our market for two years.



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America's Foremost Tractor

THE perfection of the Wallis principle in tractor construction established a new standard of tractor quality.

Wallis was the first to use a rear axle gear drive—entirely enclosed. Wallis built a powerful four-cylinder engine of latest tractor type, and drop forged, cut and hardened steel gears. Wallis enclosed all gears and moving parts in a light but durable steel armor where they run in a bath of oil. Lowest plowing cost per acre is a Wallis accomplishment. This is economy which plays an important part in the final estimate of your farm profits.

Why the Wallis principle is the accepted standard of engineering excellence and operating economy is explained and illustrated in the new Wallis catalog. A copy will be mailed upon request.

J. I. CASE PLOW WORKS, Racine, Wis.

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Distributors Everywhere DOUGLASS BOSWELL, Sacramento, Cal.
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MAMMOTH TRACTOR PARADE.

A great tractor, motor truck, and tractor implement parade will start at First and Market streets in San Francisco, at 11 a. m., December 18, and proceed to the civic center, where the machines will be parked through the afternoon. At the noon hour members of the California Tractor and Implement Association, the San Francisco Ad Club, the State Automobile Association, the Tractor and Implement Dealers Association of Southern California, Rotary Club and ad clubs from all over California, are invited to a luncheon, probably at the San Francisco Commercial Club rooms. Five hundred plates will be provided. Speakers at the banquet will be Governor Stephens, Food Administrator Ralph Merritt, C. C. Moore, president of the Panama-Pacific Exposition, Governor Lynch of the Federal Reserve Bank and President Foster of the San Francisco Commercial Club. It is hoped that government artillery may make up part of the parade, in which case only forty tractors will be allowed. If the artillery does not participate, there will be no limit on the number of tractors.

CORRESPONDENCE COURSE ON TRACTORS.

A free correspondence course on tractor subjects is offered by the Avery Co., Peoria, Ill., for those who cannot attend their service schools. The correspondence course covers the following subjects: (1) Principles of a Tractor Motor; (2) Carburetor Care and Adjustment; (3) Magneto Care and Adjustment; (4) Bearings Adjustment and Lubrication; (5) Valve Grinding and Timing; (6) The Belt and Drawbar Transmission Systems; (7) Care and Operation of the Tractor.

TRACTOR PULLS FENCE POSTS.

A clever way of letting the tractor pull fence posts is urged by the International Harvester Co. Run the tractor drive wheel up to the post. Hook a chain around the post near the ground, give it a half hitch around an angle lug on the wheel and back away. It is easier than pulling teeth.

POWER NOTES.

A bill to remove many uncertainties in the water power situation and to conserve the public interests was prepared and passed by the U. S. House of Representatives, but has not been acted on by the Senate. Our readers who realize the need of public ownership of the sources of our electric power may well investigate this and report their views to our Senators.

Tractors, farm implements and machinery at the Liberty Fair occupy a tent 260 feet long and form a most economical opportunity for learning the best points about the many various machines.

A new argument in favor of increased public utility rates is that advanced by the Santa Barbara Telephone Co. The State Banking Department had denied the company a certificate stating that its bonds are legal investments for funds of savings bank and trust companies because their earnings were not sufficient. Ergo, increase the rates.

An attachment for track-type tractors to cultivate as many as 12 rows of sugar beets at once is reported from Manteca.

"Cold Weather Tips for Avery Tractor Owners" gives a tip that may solve some California engine-starting troubles. "Moisture is much more apt to form on the spark plug and short circuit it in cold weather than in warm weather."

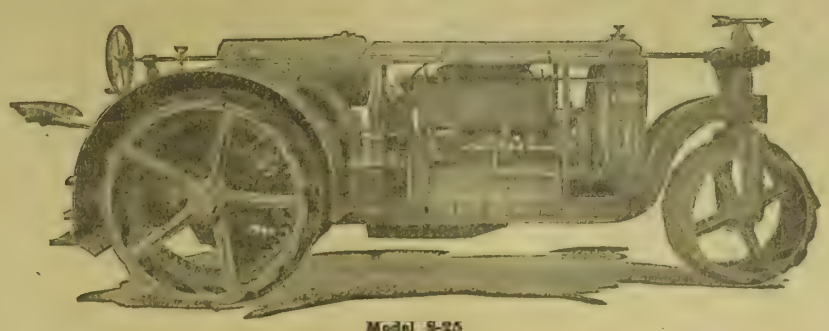
Douglas Boswell, Pacific Coast distributor for Wallis tractors, has just returned from the factory in the East. All Wallis tractors heretofore on the Coast have been of 13-25 horsepower; but Mr. Boswell has one of 50 horsepower on the way to Sacramento. It is of similar but heavier construction.

A system of developing land ready for colonists and taking a share of their crops for several years in at least partial payments for the land is that being undertaken on 15,000 acres near Chowchilla, Madera county, by the Daniel Hayes Co. They are now using five or six 75-horsepower tractors and Killefer equipment grading, leveling, and preparing the land for crops.

Samson

GMC TRACTORS SIEVE-GRIP GMC TRACTORS

Tractor



Model S-25

The durable tractor is not achieved in a day. Many features, time and experience dictate, enter into its construction.

After nearly two decades of manufacturing and field experience the GMC SAMSON SIEVE-GRIP TRACTOR is submitted as ideal durability. Many in successful operation for years, and in as effective use today, testify to its ruggedness.

The quality of the GMC SAMSON SIEVE-GRIP TRACTOR is guaranteed before built by careful selection of high-grade materials, made to specifications and over-sized to secure liberal reserve strength. Final severe tests further assure a durable product. It is built SAMSON in name and SAMSON in strength.

The GMC SAMSON SIEVE-GRIP TRACTOR performs the work of ten horses on the farm. It will do your plowing, discing, and harrowing economically and efficiently and without packing the ground. It is adapted to countless other uses on the farm for many of which horses are unsuited. It will CUT YOUR COSTS. It will INCREASE YOUR INCOME.

The durable is the efficient, economical tractor.

Our booklet, Better Farming, is yours for the asking.

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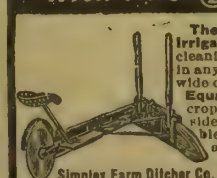
Ditch Your Land With This Simplex



The Ditcher-Terracer for irrigation work, laterals and cleaning old ditches. Works in any soil. Makes narrow or wide cut. Ditches a mile a day. Equals 100 men. Insures crops on wet land. Saves hillsides. Mostly steel. Reversible. Write for book, prices and terms. Money back guarantee.

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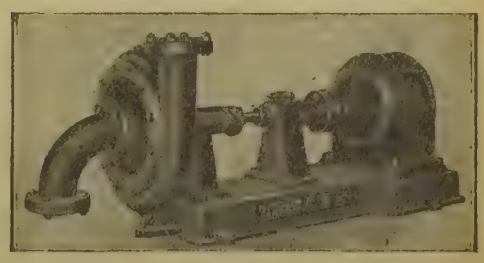

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Also DEEP WELL TURBINE PUMPS for bored wells 10 inch diameter and up

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Found—A Golden Opportunity in Dairying

Written for Pacific Rural Press by R. H. Whitten

For some time we have been contending that there has been a steady decrease in both the number of dairy cows and the production of dairy products in this State. Farm Advisor Scribner of Los Angeles county stated that 25 per cent of the dairy cows in his section had been slaughtered within the last year and a half, and reports from other parts of the State indicated similar reductions.

However, there were some who poo-hooed our statement. They said that only the unprofitable cows had gone to the butcher, and that by taking the feed that they had formerly consumed and using it on the remaining cows, so as to feed them more liberally, these cows would produce enough extra milk to make up the difference, so there would not be any shrinkage in the total amount of milk produced in the State.

But now we have real, honest-to-goodness figures to back up our statements. Through the courtesy of F. W. Andreason, secretary of the State Dairy Bureau, we have received an advance copy of his annual report for the twelve months ending September 30, 1918. It shows that up to the time of issuing the report for 1916 there had been a steady increase in the production of from one to eight million pounds a year, and it had about kept pace with the increase in population. But during the year ending September 30, 1917, there was a decrease of nearly a million and a half pounds, and during the twelve months ending September 30, 1918, there has been an alarming decrease of over eight million pounds. The counties producing over a million pounds are here given, all figures representing pounds of butter:

County—	1917	1918
Stanislaus	8,935,964	8,023,788
Humboldt	5,729,882	5,717,109
Imperial	6,245,187	5,154,808
Tulare	4,086,695	5,100,155
Kings	4,165,315	4,586,918
Merced	4,239,748	4,094,133
Fresno	4,072,867	3,421,964
Marin	2,458,548	2,800,521
Sonoma	3,391,101	2,780,856
San Luis Obispo	2,733,303	1,712,394
Siskiyou	945,908	1,511,999
Butte	1,172,774	1,156,731
San Joaquin	1,576,357	1,469,564
Glenn	1,291,092	1,255,009
Sacramento	1,398,385	1,082,310

The total production of butter in all counties of the State for the last three years has been as follows:

1916 ..... 70,030,171 lbs.
1917 ..... 68,373,021 lbs.
1918 ..... 60,358,595 lbs.

The production of cheese this year shows a little increase over previous years, but this is largely because in former years not all factories were required to report. The amount of cheese received in the San Francisco market during the past year was several million pounds less than that received during either of the two previous years.

PROBABLY 40,000 COWS SLAUGHTERED.

There are no available figures on the increase or decrease in the number of cows in the State, but let's consider a few facts and reports and draw our own conclusions. Probably the average cow in this State does not produce 200 pounds of butter per year, but to be liberal we'll figure on this basis, and as the decrease in butter amounted to 8,000,000 pounds, this would indicate that 40,000 cows have been slaughtered during the past year. True, a large number of the cows sent to the butchers have been the lowest producers, but in making our estimate we have considered only the shrinkage in butter, and if we included that in cheese also it would fully make up for any variations in these figures.

Furthermore, there is plenty of evidence that slaughtering has not been confined to the poorer cows. Prof. R. L. Adams of the College of Agriculture reports a large number of dairymen quitting in the counties south of San Francisco. "Since January 1," he says, "several herds have gone to the butcher from this section because their owners became weary of labor troubles and fighting the high cost of production. One man sold 120 cows to the butcher from his Newark dairy; a Centerville dairymen disposed of his entire herd of 170 to be slaughtered; a Gilroy man recently sold a herd of 70; a Watsonville man offered his entire herd of 85 Holsteins."

The reports received by the State Dairy Bureau have revealed similar conditions in other sections of the State. Their yearly report states: "Some of our inspectors have reported that many dairies have gone out of business or have greatly reduced their herds. For instance, William M. Russell reported that during one day's work in the vicinity of Conejo, Fresno county, he visited twelve places where the people had previously been dairying but had discontinued. At these places from 10 to 30 cows had been milked. The reason given for discontinuing was, first, that feed was scarce and high; second, that it was difficult to obtain milkers and difficult to keep them after they were obtained; third, because many other farm products had been very high during the last couple of years and after the land has been pastured or has been in alfalfa a number of years excellent crops of beans, potatoes, wheat and other grain can be produced on it, and as the profits from such crops were greater at this time, the labor less confining and less monotonous, many of the dairymen plowed up their pastures and alfalfa and planted crops."

Consequently, while there is never a good reason for keeping a boarder cow, and, especially when feed and labor is high, still it is evident that many good cows were slaughtered, and the loss to the State is serious, as we needed every one of them.

THE TIDE HAS TURNED.

After the rains in September, conditions changed. Feed became cheaper, butterfat prices went higher, and dairymen stopped selling their cows. And why shouldn't they? High prices for crops for human consumption cannot be expected much longer, and the only way good prices for hay and feed grains can be secured is to have the stock to consume them. There must always be a proper balance between the amount of feed produced and the amount of livestock carried, as feed values are determined ultimately by the livestock that there is to consume the feed. As it was, the decrease in cows affected this year's alfalfa market, and had it continued there would inevitably have been a surplus of hay next season and a corresponding period of low profits or loss for the farmers.

The dairymen who sold their herds paved the way to great prosperity for those who refused to sell, and who somehow managed to hold on. As the report before us states: "There have been good and bad years for the dairyman, but as an average the dairy business has proven to be the surest and most profitable branch of agriculture in this State. The man who changes from dairying to farming and back to dairying every time the market favors one industry or the other, will never do as well as the dairyman who sticks through thick and thin, because a man can never go out and buy a good herd of cows that will yield him a profit unless he has money enough to buy purebred stock. He must buy the best he can afford, cull out those which do not pay for feed and care, and then slowly improve the stock by using a purebred bull of a good dairy breed."

That is what some farmers are doing right now. They sold their cows at low prices and are now buying cows of unknown ability at much higher prices. The demand for dairy stock is good again, and when Uncle Sam's boys come home, so that milkers will become more plentiful, we shall increase our dairy production just as fast as young stock can be developed. It must be remembered, however, that the only way the number of cows can be increased—aside from importing from other States, which is not done to any large degree—is by raising the heifer calf, and it is just as necessary to impress upon dairymen the importance of saving every well-bred heifer calf as it is to urge them not to sell their cows. At the best it will hardly be possible to increase our herds fast enough so that production will keep pace with consumption.

BRIGHT FUTURE FOR DAIRYING.

We read a great deal about the foreign demand for both dairy products and breeding stock, but let's leave that out of consideration and think only of conditions as they will be after we have met all foreign demands.

As individuals we do not consume over one-fourth the amount of milk we should, and not one-half the cheese. And, instead of using the products of 560,000 dairy cows—the probable number in this State today—we should be using the products of 1,211,000 cows. We should be doing this when the public understands the food value of milk and its products, and their absolute necessity in the human diet.

A national campaign is being conducted along this line, and in another article in this issue we show you that California is not asleep at the switch. These campaigns, together with nation-wide prohibition, are going to increase the demand for milk, butter, cheese and ice cream, and the consumption per capita will be much greater than ever before.

All of these facts ought to be sufficient to satisfy every reader that the future of dairying is safe if it is conducted along proper lines. The dairy industry is not a business built upon some passing fancy or transient fashion. It is built upon the firm foundation of a human need that will surely last as long as human nature endures, and in spite of its ups and downs dairying always has been and always will be the most profitable branch of farming.

In the midst of all the uncertainties of the present time one thing remains sure, and that is the fact that there will always be a good demand for dairy products. Other farm activities crop up now and then, and for a while seem to overshadow the faithful cow, but sooner or later she emerges from under the cloud more illustrious than ever.

The cow is the foster mother of the human race, and those who have pinned their faith to her and, through thick and thin, have given her a fair chance to make good, have done well. More notes have been met, more mortgages lifted, more barns built, and more homes made comfortable and happy through her influence than through any other medium on the farm.

Will she fail now in this period of readjustment? No, she will not! And the man who boards the good ship Dairying and remains on her decks will ride safely over the billows of financial disaster that may threaten or even shipwreck some other lines of agricultural interest, and he will reach the port of Success with flying colors.

A Healthy Udder means comfort for the cow and a generous, easy milk flow. BAG BALM, the great healing ointment, will keep the udder free from sores, chaps, cuts, bruises, cracks, bunches and inflammation.

BAG BALM

IS ESPECIALLY EFFECTIVE AT THE CALVING PERIOD WHEN CAKED BAG FREQUENTLY OCCURS.

Its penetrating and softening effect is immediate. Every dairy should keep Bag Balm on hand.

Sold by druggists and feed dealers. In big tube packages. Write for free booklet, "Dairy Wrinkles."

DAIRY ASSOCIATION CO.
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Imperial Itchen May King, 25174

PRETTY PRODUCTIVE PROFITABLE

A Few Animals of Either Sex For Sale

See list of our winnings at Los Angeles in this issue of the Pacific Rural Press.

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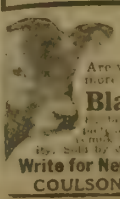

Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

[illegible] the year 1919 [illegible] milk substitute. It is more than [illegible] milk; prevents scours; promotes [illegible] Sold by dealers or direct from the manufacturer.

Write for New Data See actual figures showing you how to raise veal calf profits

COULSON CO. - - - Petaluma, Cal.

Liberty Fair Goes "Over the Top"

[Written for Pacific Rural Press by R. H. Whitten.]

There is an old saying, "Better late than never." But as applied to the Liberty Fair, just drawing to a close at Los Angeles, it should be changed to read, "Better late than on time." For it is doubtful if the fair would have been as great a success had it been opened on the date first set for it.

It is one thing to plan an affair and have everything work out according to schedule; it is quite a different matter to have the plans changed about as often as a woman changes her mind. But the men behind the Liberty Fair never wavered for a moment in their six weeks' battle with the flu. They held the exhibitors together and they planned many new features not thought of at first. And when peace was declared they decided that the Liberty Fair should become a victory fair to celebrate in a fitting way our great conquest and to impress upon the people of California the new message of the hour—the vital necessity of increased food production to feed a starving world.

The fair fulfilled its mission, and fully justified its being held at a time when the utmost is demanded of the farmer; in fact, it would have been almost a crime if the fair had been abandoned instead of merely postponed. No branch of agricultural activity was overlooked, and there were displays which will surely prove a powerful aid in increasing the production of meats, dairy products, wool, grains and fruits.

NOT HOW MUCH, BUT HOW GOOD.

Think of it!—140 acres of intensive fair activity! Yet while the show was a big one it was not a question of how much, but how good. The fair proved a surprise, not only in the wide variety of exhibits but in their excellence.

The agricultural and horticultural buildings housed the best crops that this State has to offer. The manufacturers and liberal arts building contained over 100 different exhibits. The tractor tent was filled to overflowing, and Mr. Judah, who had charge of the exhibit, declared the collection the most interesting one ever assembled west of Chicago. He called the iron steeds "the agricultural machine guns of the future."

LIVESTOCK SHOW A HUMMER.

Between 1500 and 2000 head of livestock were on exhibition, and while the show was small as compared with the older shows of the Middle West, the quality of the animals was equal to that of any other show ever held. In the beef cattle classes, for instance, herds were brought from Canada and the United States as far east as the Mississippi, and they included many famous prize winners at the big shows of the country.

All who attended enjoyed a real treat, and the educational and inspirational value of the show cannot be overestimated. Furthermore, several of the top animals in these visiting herds were sold to California buyers and will find new homes in this State, where they will help in developing our livestock industry.

The Herefords were a grand lot, but unfortunately no local herds were shown to compare fine points with the visiting herds. Shorthorns were just as high in quality, and California exhibitors made an excellent showing against the crack visiting herds.

The swine exhibits brought together some of the best hogs ever shown on the Coast. The classes were well filled, and throughout there was a rare manifestation of quality.

The showing of dairy cattle was good, but the State at large was not well represented, as most of the herds were from Southern California. In the list of winners will be found the names of several who showed for the first time.

There was not much competition in sheep classes, and the showings of horses were light, but here again the quality was good.

The goat, poultry, pigeon and rabbit shows proved big drawing cards. The entries were large, and competition was keen.

THE PRINCIPAL AWARDS.

BEEF CATTLE.

Shorthorns.—Bull three years or over: T. T. Miller, Los Angeles, Diamond Choice.

Bull, two years and under three: Maxwell-Miller Cattle Co., Steamboat Springs, Colo., Princely Stamp; Estate of Thos B. Dibblee, Santa Barbara, Hallwood Flash; Miller, Greendale Sultan; Pacheco Cattle Co., Hollister, Pacheco Lad 92nd; Will T. Henn, Kansas City, Cumberland Goods.

Senior yearling bull: Henn all—Emmet Dale, Orange Fragrance, Golden Champion.

Junior yearling bull: Pacheco, Pacheco Marshall; Miller, Matchless Elite; Maxwell-Miller, Susan's Earl; Maxwell-Miller, Gainford Butterfly.

Senior bull calf: Dibblee, Bashan Augusta; Maxwell-Miller, Beauty's Dale; Miller, Dalmeny Count; Dibblee, King Lear.

Junior bull calf: Maxwell-Miller, Broadhood's Pride; Miller, Amethyst's Sultan; Pacheco, Pacheco Lad 145th.

Cow, three years or over: Maxwell-Miller, Eliza Broadhooks.

Cow, two years and under three: Maxwell-Miller, Clover Leaf Lovely 2nd; Pacheco, Pacheco Lass 103rd; Miller, Sultana of Linwood 2nd; Dibblee, Ormondale Beauty.

Senior yearling heifer: Miller, White Mayflower; Maxwell-Miller, Clear Spring Susan; Maxwell Miller, O. J's. White Glosster; Pacheco, Pacheco Lass 111th; Pacheco, Pacheco Lass 108th; Miller, Oakdale Claret.

Junior yearling heifer: Pacheco, Pacheco Lass 118th; Maxwell Miller, Hillshade Beauty; Dibblee, Meadow View Village Girl; Dibblee, Maplewood Surprise, Maxwell Miller, Mina Marigold.

Senior heifer calf: Maxwell-Miller, Flora Anoka; Dibblee, Princess Royal; Dibblee, Lavender Queen.

Junior heifer calf: Pacheco, Pacheco Lass 141st; Miller, Crimson Bud; Miller, Sweet Marie 2nd; Dibblee, Ruby Avon; Pacheco, Pacheco Lass 148th.

Senior champion bull: Maxwell Miller, Princely Stamp; reserve, Miller, Diamond Choice.

Junior champion bull: Dibblee, Basham Augusta; reserve, Pacheco, Pacheco Marshall.

Grand champion bull: Maxwell Miller, Princely Stamp; reserve, Dibblee, Bashan Augusta.

Senior champion female: Maxwell-Miller, Clover Leaf Lovely 2nd; also reserve on Eliza Broadhooks 2nd.

Junior champion female: Miller, White Mayflower; reserve, Pacheco, Pacheco Lass 118th.

Grand champion female: Maxwell-Miller, Clover Leaf Lovely 2nd; reserve, Miller, White Mayflower.

Aged herd: Maxwell-Miller, Miller, Dibblee, Pacheco.

Young herd: Pacheco.

Calf herd: Pacheco, Miller.

Get of sire: Pacheco, Dibblee.

Produce of dam: Miller, Maxwell-Miller.

Herefords. Bull, three years or over: Curtice Cattle Co, Calgary, Canada, Beau Perfection 48th.

Bull, two years and under three: Curtice, Beau Donald 192nd; Wm. Henn, Kansas City, Beau King 10th; Hereford Corporation, Cheyenne, Wyo., Wyoming Prince; Henn, Beau Banner 5th; Henn, Famous Fairfax.

Senior yearling bull: Henn, Disturber 11th; Curtice, Beau Donald 206th.

Junior yearling bull: Hereford Corp., Bonnie Laddie; Henn, Lamplighter 19th; Hereford Corp., Perfect Ladd 4th.

Senior bull calf: Curtice, Beau Donald 215th.

Junior bull calf: Hereford Corp., New Era 2nd; Hereford Corp., Rossman Gold Dust; Curtice, Beau Donald 222nd.

Cow, three years or over: Curtice, Belle Perfection 45th.

Cow, two years and under three: Hereford Corp., Miss Dale; Curtice, Belle Donald.

Senior yearling heifer: Curtice, Belle Donald 230th.

Junior yearling heifer: Hereford Corp., Miss Rialto 2nd and Perfect May 4th; Curtice, Belle Donald 243rd.

Senior heifer calf: Curtice, Belle Donald 254th.

Junior heifer calf: Hereford Corp., Lady Fairfax 2nd; Curtice, Belle Perfection 68th; Hereford Corp., Miss Dare 10th.

Senior champion bull: Curtice, Beau Perfection 48th; reserve, Curtice, Beau Donald 192nd.

Junior champion bull: Hereford Corp., Bonnie Laddie; reserve, Hereford Corp, New Era 2nd.

Grand champion bull: Curtice, Beau Perfection 48th; reserve, Curtice, Beau Donald 192nd.

Senior champion female: Hereford Corp., Miss Dale; reserve, Curtice, Belle Perfection 45th.

Junior champion female: Hereford Corp., Miss Rialto 2nd; reserve, Hereford Corp., Lady Fairfax 2nd.

Grand champion female: Hereford Corp., Miss Rialto; reserve, Hereford Corp., Lady Fairfax 2nd.

Aged herd: Hereford Corp., Curtice.

Young herd: Hereford Corp., Curtice.

Calf herd: Hereford Corp., Curtice.

Get of sire: Curtice.

Produce of dam: Curtice, Curtice.

Aberdeen-Angus—All awards to Congdon & Battles, Yakima, Wash.

DAIRY CATTLE.

Holsteins—Bull, three years or over: Frampton Bros. of Artesia, Burke Clyde.

Bull, two years and under three: Mrs. P. H. Jarrett of Lancaster, King Segis Pontiac.

Senior yearling bull: Burr Creamery Co. of Los Angeles, Sir Manuel Hengerveld; Jarrett, King Segis Pontiac Pietertje Jr.; Jarrett, Prince Affidgara Walker; Jarrett, Prince Delmar DeKol Walker.

Senior bull calf: Burr, Sir Manuel Kemdy Ke; Halair Bros of Riverside, Rosamaines Spofford; Halair, Rosamaines DeKol.

Cow, four years or over: L. A. County Farm, Belle Juliana DeKol; Burr, Emma Palmer Longfield.

Cow, two years and under three: G. M. Brown of Los Angeles, Hazelwood Doo Doo.

Senior yearling heifer: Brown, Hazelwood Ormsby Korndyke; Stalder Bros. of Riverside, Blanche Segis Walker.

Junior yearling heifer: Stalder, Abbekirk Pontiac.

Junior heifer calf: Stalder, all—Rosemaines Segis Ormsby, Rosamaines Cleopatra Ormsby, Rosamaines Duchess Ormsby.

Senior champion bull: Frampton, Burke Clyde.

Junior champion bull: Burr, Sir Manuel Hengerveld; reserve, Stalder, Rosamaines Pontiac Netherland.

Grand champion bull: Frampton, Burke Clyde; reserve, Burr, Sir Manuel Hengerveld.

Senior champion female: County Farm, Belle Juliana DeKol; reserve, Brown, Hazelwood Doo Doo.

Junior champion female: Brown, Hazelwood Ormsby Korndyke; reserve, Stalder, Rosemaines Segis Ormsby.

Grand champion female: County Farm, Belle Juliana DeKol.

Young herd: Stalder Bros.

Get of sire: Burr; Stalder.

Produce of dam: County Farm; Burr; Stalder.

Guernseys.—Bull, three years or over: W. H. Dupee of Santee, Imp. Itchen May King; A. B. Humphrey of Escalon, Bullion of Edgemoor.

Senior yearling bull: Humphrey, Escalon Challenger.

Senior bull calf: Dupee, Dauntless of Edgemoor.

Junior bull calf: Humphrey, Escalon Gold Brick.

Cow, four years or over: Dupee, Imp. Mildred 2nd of les Godaines; Dupee, Imp. Dewn of Sarnia.

Senior yearling heifer: Humphrey, Escalon Lady.

Junior yearling heifer: Dupee, Merry Lady of Edgemoor; Humphrey, Escalon Mary; Calla Grove Farm of Manteca, Calla Grove Itchen May.

Senior heifer calf: Dupee, Century Girl of Edgemoor; Humphrey, Escalon Evangeline; Humphrey, Escalon Bo-peep.

Junior heifer calf: Calla Grove, Calla Grove Merry May; Humphrey, Escalon Dorothy.

Senior champion bull: Dupee, Imp. Itchen May King.

Junior champion bull: Dupee, Dauntless of Edgemoor; reserve, Humphrey, Escalon Gold Brick.

Grand champion bull: Dupee, Imp. Itchen May King; reserve, Dupee, Dauntless of Edgemoor.

Senior champion female: Dupee, Imp. Mildred 2nd of les Godaines.

Junior champion female: Dupee, Century Girl of Edgemoor; reserve, Humphrey, Escalon Lady.

Grand champion female: Dupee, Imp. Mildred 2nd of les Godaines; reserve, Dupee, Century Girl of Edgemoor.

Young herd: Humphrey.

Get of sire: Dupee on Imp. Itchen May King; Humphrey on Bullion of Edgemoor.

Produce of dam: Dupee on Mary Dance of Riverside Farm; Calla Grove Farm on Calla Grove Itchen May.

Ayrshires.—All awards to E. B. McFarland, San Mateo.

Brown-Swiss.—All awards to J. Irwin Burk, Gilbert, Arizona.

Jerseys.—Awards not received; will be given next week.

SHEEP.

Shropshires.—All awards to Bishop Bros., San Ramon.

Hampshires.—All awards to Calla Grove Farm, Manteca.

SWINE.

Duroc-Jerseys.—Boar, two years and over three: C. T. Thompson, Bishop, Thompson's Pilot Defender; Conejo Ranch, Newbury Park, Councilor; Ireland Ranch, Owensmouth, Cherry Volunteer 2nd.

Senior yearling boar: Conejo, Pathfinder's Pride.

Junior yearling boar: Ireland, Ireland's Orion Defender; H. W. Hellman Estate, Los Angeles, Pioneer Defender; Ireland, Orion King of Ireland.

Senior boar pig: Donald H. Graham, Lancaster, Orion's King Gano; Conejo, Model Lad; Conejo, Latest Model; Graham, Prince Dreadnaut.

Junior boar pig: Ireland, Ireland's Cardinal Model; W. B. Hewitt, Van Nuys, Golden Cherry 7th; Hewitt, Golden Cherry 5th; Hellman, unnamed; Graham, Cherry King Del Sur.

Sow, two years or over: Conejo, Enchantress; Conejo, Critic's Lady 3rd; Thompson, Belle Crescent 2nd, Conejo, Arabella.

Senior yearling sow: Conejo all—Model Lady, Western Princess, Fairy Princess.

Junior yearling sow: Conejo, Critic Rose; Hellman, Pioneer Queen; Conejo, Sunshine Girl; Conejo, Starlight; Conejo, Golden Girl.

Senior sow pig: Conejo, Pathfinder's Golden; Graham, Little Sallie; Conejo, Model Rosebud; Graham, Windsor Queen Again; Conejo, Model's Bess.

Junior sow pig: Ireland, Cardinal's Model Queen; Graham, Big Cherry Lady; Hewitt, Golden Cherry 2nd; Hewitt, Golden Cherry 3rd.

Senior champion boar: Thompson, Thompson's Pilot Defender; reserve, Conejo, Pathfinder's Pride.

Junior champion boar: Graham, Orion's King Gano; reserve, Ireland, Ireland's Cardinal Model.

Grand champion boar: Thompson, Thompson's Pilot Defender.

Senior champion sow: Conejo, Critic's Rose; reserve, Conejo, Model Lady.

Junior champion sow: Ireland, Ireland's Maid.

Grand champion sow: Conejo, Critic's Rose; reserve, Ireland, Ireland's Maid.

Boar and three sows over one year: Conejo, first and second.

Boar and three sows under one year: Ireland, Hewitt, Thompson, Graham, Conejo.

Boar and three sows bred by exhibitor: Ireland, Hewitt, Thompson, Conejo, Graham.

Get of boar: Conejo, Conejo, Ireland, Hellman, Thompson.

Produce of sow: Ireland, Hewitt, Thompson, Hellman, Conejo.

Barrow, any age: Ireland, Graham, Graham, Graham, Conejo.

Three barrows, any age: Graham, Conejo.

Best display: Conejo.

Berkshires.—Boar, two years or over: F. L. Hall, Perris, Ames Rival 118th.

Senior yearling boar: A. B. Humphrey, Escalon, G. W. F. Leader.

Junior yearling boar: Humphrey, Grape Wild Emblem.

Senior boar pig: Hall, Rosecrest Rival Laurel 2nd; Hall, Rosecrest Rival 4th; Hall, Rosecrest Rival 3rd; Humphrey, Escalon Royal 2nd.

Junior boar pig: Humphrey, Grape Wild Chief; Humphrey, Escalon Artful.

Sow of two years or over: Hall, Nilentha Lady 17th; Humphrey, Leader's Artful Belle; Humphrey, Grand Lady Fashion; Hall, Nilentha Lady.

Senior yearling sow: Hall, Rosecrest Favorite; Hall, Rosecrest Favorite 2nd; Humphrey, Escalon Ladybird.

Junior yearling sow: Humphrey, Escalon Lassie; Hall, Rosecrest Rookwood Lady 3rd; Hall, Rosecrest Rookwood Lady 2nd.

Senior sow pig: Humphrey, Escalon Blue Belle; Hall, Rosecrest Great Hope 2nd; Humphrey, Royal Polly; Hall, Rosecrest Laurel 2nd; Hall, Rosecrest Lassie H.

Junior sow pig: All to Humphrey, Grape Wild Rose 2nd, Grape Wild Rose 3rd, Escalon Artful Belle 5th.

Senior and grand champion boar: Humphrey, Grape Wild Emblem; reserve, senior and grand champion, Humphrey, G. W. F. Leader.

Junior champion boar: Humphrey, Grape Wild Chief; reserve, Hall, Rosecrest Rival Laurel.

Senior and grand champion sow: Hall, Rosecrest Favorite; reserve, Humphrey, Escalon Lassie.

Junior champion sow: Humphrey, Grape Wild Rose 2nd; Humphrey, Blue Belle.

Boar and three sows over one year: Humphrey, Hall.

Boar and three sows under one year: Humphrey, Hall.

Boar and three sows bred by exhibitor: Humphrey, Hall, Humphrey.

Get of sire: Hall, Humphrey.

Produce of sow: Humphrey, Hall.

Barrow, any age: Three prizes to Humphrey.

Three barrows any age: Humphrey.

Hampshires. Boar, two years or over: Llano Vista Ranch, Perris, Langdon's Choice; Roy Dawson, Gardena, Oro; C. J. Gilbert, Lancaster, The Harvester Again; Conejo Ranch, Newbury Park, Conejo Chief.

Senior yearling boar: Conejo, Duke's Allen.

Junior yearling boar: F. C. Fairbanks, Redlands, Harver's Choice; L. A. Denker, Saugus, Malay's Controller; Denker, Zodiac Wonder; Conejo, Authority.

Senior boar pig: Llano Vista, Liberty; Conejo, Leading Chief; Denker, Direct Kid.

Junior boar pig: Denker, Director Jr.; Denker, Malay's Pride; Denker, Tip Top; Llano Vista, Walter G.; Conejo, Gay Allen.

Sow, two years or over: Conejo, Leading Wave 2nd; Llano Vista, Compeer's Descent; Conejo, Leading Wave 3rd; Conejo, Elmyra 2nd; Llano Vista, Direct's Model 4th.

Senior yearling sow: Conejo, Wavelet; Llano Vista, Corrine; Llano Vista, Alta; Fairbanks, Duchess; Conejo, Perfect Quality.

Junior yearling sow: Denker, Little Mesa; Conejo, Senorita; Llano Vista, Fern; Denker, Beauty, Mesa; Gilbert, Second Echo.

Senior sow pig: Denker, Dearie; Conejo, Chief's Wave; Llano Vista, Winnie; Conejo, Chief's Wave 3rd; Llano Vista, Judith.

Junior sow pig: Conejo, Allen's Idol; Denker, Wildflower; Denker, Twin Oaks; Denker, Do Do; Gilbert, Martha Allen.

Senior champion boar: Llano Vista, Langdon's Choice; reserve, Fairbanks, Harvey's Choice.

Junior champion boar: Llano Vista, Liberty.

Grand champion boar: Llano Vista, Langdon's Choice.

Senior champion sow: Denker, Dearie; reserve, Conejo, Leading Wave 2nd.

Junior champion sow: Denker, Little Mesa; reserve, Allen's Idol.

Grand champion sow: Denker, Little Mesa.

Boar and three sows over one year: Llano Vista, Conejo, Denker, Gilbert.

Boar and three sows under one year: Denker, Conejo, Llano Vista, Dawson.

Boar and three sows bred by exhibitor: Denker, Conejo, Llano Vista, Dawson, Fairbanks.

Get of boar: Conejo, Denker, Llano Vista, Gilbert, Fairbanks.

Produce of sow: Conejo, Denker, Gilbert, Fairbanks, Dawson.

Chester Whites.—All awards to F. T. Spoor, Compton.

FAT STEERS.

Steer or heifer, one and under two years: Congdon & Battles, Yakima, Wash., Black Yak; Curtice Cattle Co., Calgary, Canada, Beau Donald 212th.

Steer or heifer under one year: Hereford Corporation, Cheyenne, Wyo., Chey-

(Continued on page 663.)

Government Doings of Interest to Stockmen

[Written for Pacific Rural Press by R. H. Whitten.]

Last week we gave parts of the animal report of the Secretary of Agriculture, David F. Houston, and made a few comments on his suggestion for improvements in the livestock field. But we did not cover everything of interest to stockmen, and this week we want to comment on a few more features in the report.

INCREASING THE MEAT SUPPLY.

Campaigns for increased production have given especially fruitful results in respect to pigs and poultry, it is stated. Indications are that the increase of 15 per cent in pork production this year over 1917, asked for by the Food Administration, will be realized, at least in weight if not in number of hogs. Poultry and eggs also show a material increase and enormous quantities of the latter were preserved by householders in the season of plenty for use in time of scarcity.

Steps were taken also to encourage the growing of cattle and sheep, but results are naturally slower with these animals than with pigs and poultry.

In fighting animal diseases the department finished work that up to December, 1917, resulted in the freeing of 67,308 square miles in the Southern States from cattle fever ticks, and that up to December of this year will add 79,217 more square miles to the cleaned area.

Losses from hog cholera in the year ending March 31, 1918, amounted to only $32,000,000, as compared with $75,000,000 in 1914—a reduction of more than 50 per cent in less than five years. Thus the death rate from hog cholera has been reduced from 144 a thousand in 1897 and 118 in 1914 to 42 in 1917, the lowest in 35 years, as the result of methods of control involving farm sanitation, quarantine and the application of anti-hog cholera serum. Through treating immature pigs with serum and allowing them to be shipped out as stockers and feeders, it is believed that during the last year the nation's pork supply was increased about 40,000,000 pounds.

Efforts to eradicate tuberculosis are concentrated on driving the disease from herds of purebred cattle, with the object later of attacking the disease in swine and of driving it from circumscribed areas. An accredited list of purebred cattle herds, from which breeding stock may be secured with reasonable assurance that it is free from tuberculosis, has been established. Further progress is recorded in the eradication of parasitic and other diseases that for many years have exacted great annual tribute from livestock on American farms.

SUPERVISION AND CONDEMNATION OF MEATS.

The Federal meat inspection service covered 884 establishments in 253 cities and towns in the fiscal year 1918. The figures are in the annual report of the Secretary of Agriculture.

There were slaughtered under inspection 10,938,287 cattle, 3,323,079 calves, 8,769,498 sheep, 149,508 goats, and 35,449,247 swine—a total of 58,629,612 animals. Compared with the preceding fiscal year, these figures represent a decline of 5,000,000 in the total number of animals, but an increase of nearly 1,750,000 cattle and more than 600,000 calves. Condemnations amounted to 206,265 animals or carcasses and 528,481 parts of carcasses. The supervision of meats and products prepared and processed covered 7,905,184,924 pounds, and resulted in the condemnation of 17,543,184 pounds. There were certified for export 2,510,446,802 pounds of meat and meat-food products.

PREDATORY ANIMALS KILLED.

Destruction of predatory animals by the department's hunters in the West is estimated to have saved during the year livestock valued at $2,376,650. Co-operative State campaigns, organized to exterminate native rodents such as prairie dogs, ground squirrels, pocket gophers and jack rabbits, which annually destroy $150,000,000 worth of food and feed products, have proved to be practical and of great immediate value in increasing grain and forage production.

STOCK ON RANGES.

The number of cattle permitted to graze during the 1918 season on the national forest ranges was nearly 2,140,000 and of sheep more than 8,450,000. In two years there were placed on the forests approximately 1,000,000 additional head of livestock, representing about 25,000,000 pounds of beef, 16,000,000 pounds of mutton and 4,000,000 pounds of wool.

"The use of the national forest ranges is increasing and their productivity is rising under the system of regulation," says the report. "Never was the wisdom of Government control of these ranges more manifest than at the present time."

THE DAIRY INDUSTRY.

Continued encouragement was given to the development of the dairy industry in the Southern and Western States, to the organization and operation of cheese factories in the mountainous regions of the South, and to the building of silos as a means of providing winter feed. The food values of dairy products was brought to the attention of the consuming public and their economic use was advocated.

MARKET NEWS SERVICE.

The market news service established by the department on a relatively small scale were enlarged until at the close of the fiscal year there were approximately 90 branch offices distributing market information to all sections of the country over practically 14,000 miles of leased wires. The services cover fruits and vegetables, livestock and meats, dairy and poultry products, grain, hay and feed and seeds.

The news service on livestock and meats was extended to include additional important livestock and meat marketing centers and producing districts. New features also were added to make the service more useful to producers and the trade. The daily reports on meat-trade conditions, which formerly gave information on the demand, supplies and wholesale prices of Western dressed fresh meats in four of the most important Eastern markets, now cover also Los Angeles and San Francisco. As a supplement to the daily reports, a weekly review is published. The daily telegraphic report on livestock shipments west of the Allegheny Mountains was expanded to include all livestock loaded on railroads throughout the United States. Information regarding the "in" and "out" movement in certain feeding districts is being published. This work is valuable in indicating the potential meat supply of the country and will be developed as rapidly as available funds permit.

On June 1, 1918, the department took over the furnishing of all telegraphic market reports distributed daily from the Chicago Union Stockyards on livestock receipts and prices, including not only those regularly sent over the leased wire of the Bureau of Markets but all reports used by commercial news agencies and press associations. The substitution of a Government report for the previous unofficial service has exerted a material influence in restoring confidence in the reports of market conditions, the lack of which has been a fundamental obstacle to the economic development of the livestock industry.

DAIRY AND POULTRY PRODUCTS.

The news service on dairy and poultry products gives prices of butter, eggs and cheese, trade conditions, market receipts, storage movement, and supplies in storage and in the hands of wholesalers and jobbers. Since the fall of 1917 it has covered Washington, Boston, New York, Philadelphia, Chicago, Minneapolis and San Francisco. Data were secured each month from approximately 14,000 dairy manufacturing plants in the United States, showing the quantities produced of such products as whey, process butter, oleomargarine, cheese of different kinds, condensed and evaporated milk, various classes of powdered milk, casein and milk sugar.

LOCAL MARKET REPORTING SERVICE.

What is known as the Local Market Reporting Service covers an entirely new field and is a logical and necessary supplement to the national telegraphic news service. The first experiment was so successful that, when emergency funds became available, the work was broadened and, in co-operation with local authorities, agents were placed in 15 cities. This service consists largely of reports on local market conditions and prices based on daily observations and is conducted primarily for the benefit of growers and consumers, though it is also very useful to dealers. Consumers' figures are made public through the local newspapers and are helpful guides for the housewife. The growers' reports contain brief discussions of market features, changes and developments, and give tables showing prices received by producers for certain products and, as well, those of wholesale and commission dealers.

GRAIN, HAY AND FEED.

Bi-weekly statements on the stocks of grain, hay and feed, the supply of and demand for these commodities and the prices at which they were being bought and sold in carload lots were issued from ten leading cities, including San Francisco.

NEWS SERVICE FREE TO YOU.

This market news service is free to all farmers. The local representatives do not hunt up farmers who might be interested, but anyone who desires the reports may have his name put on the mailing list and receive them. Write to the U. S. Bureau of Markets, 315-17 Consular Building, San Francisco, or International Bank Building, Los Angeles, and tell them in what branches you are interested. They will be glad to send you the proper bulletins regularly.

DON'T SHIP LIGHTWEIGHT HOGS.

Because the producers are flooding the market with immature hogs, the Food Administration for California has issued a warning to farmers that lightweight animals should be kept on the farm. The packers are short-handed on account of the influenza epidemic and the capacity of their plants has been much reduced.

In accordance with instructions sent out from Washington, growers are urged not to ship any hogs weighing less than 150 pounds, under which weight they are regarded as immature. Loss to growers will result from a continuance of present conditions, and a waste of badly needed pork will result.

Present conditions are only temporary, as there is a serious shortage of hogs in this State as well as in the country at large.

The Placer, Nevada, and El Dorado Farm Bureaus are to co-operate in holding auction sales at Auburn. The matter of corrals and scales has been taken up with the Railroad Administration. It is planned to sell at auction cattle, hogs, sheep, goats, and poultry.

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LIVE OAK, CALIFORNIA
Shorthorns and Berkshires
Our second annual sale of Shorthorns will take place in January. Demand is very good for Berkshires, but we can supply your wants.

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Are all heavy boned, and of Scotch and Scotch-topped breeding.
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Three outstanding under-a-year bulls sired by Sir Type, a son of Cumberlands Type.
A few under-a-year heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.
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Steers Bring World-Record Price

[Written for Pacific Rural Press.]

The highest price ever paid on an open market for beef cattle, other than show animals, was received by E. H. Lehmann, Eureka, Kan., on a carload of Hereford steers sold on the Kansas City market, November 16. The consignment arrived during the American Royal Show, and the fact that a new record had been established caused a great deal of interest among visitors at the show as well as among breeders and cattlemen at the stockyards.

The average live weight of the 15 steers, all except one of which were three-year-olds, was 1612 pounds. The total amount received by Mr. Lehmann was $6,047.50, an average of $403.16 a head. the price being 25 cents per pound.

An interesting story is told by the American Hereford Journal in connection with this sale, and it has a good moral for California ranchers who are not raising livestock.

A few years ago Mr. Lehmann was a firm believer in the idea that he was destined to become wealthy through raising wheat in Kansas. The height of his ambition at that time was to own a threshing machine, which was also believed a short and certain road to wealth. But the winds came and blew the wheat fields bare. Drouth, Hessian fly and a few other such things soon did the rest, so that at the end of the season there was little left to thresh. When this happens year after year, it begins to be very trying. Naturally, Mr. Lehmann began to look for other things.

About twenty years ago he quit the wheat and began working for cattlemen. From the moment he entered the cattle business things began to look better. And prosperity has come now in no uncertain degree. But the greatest triumph of his career in the cattle business was when he sold these Hereford steers on the open market at the new record price. News of the transaction spread rapidly throughout the stockyards district and visitors soon began flocking by the score to see these great record-breakers. The steers weighed well above 1,550 pounds and were finished to the last notch. Regardless of the big price they brought, they would have attracted attention anywhere.

They were range-bred and range-fed and had never been pampered. They had never been in a barn or a shed. Last winter they were fed on cotton cake and alfalfa hay. On April 25 they were turned on grass and fed two pounds of cake every day till June 1. From that time up to July 15 they received no more cake. But the dry weather came on then, so we started to feed cake again on July 15 and kept it up till the date of shipment, November 16. The last three weeks they were fed oats and some molasses feed.

Mr. Lehmann has a splendid ranch in the Flint Hills district of Kansas. He owns three sections and has about 10,000 acres leased. Mr. Lehmann now has more than 3000 cattle. He takes great pride in his herd of purebred Herefords, numbering from 150 to 200 head. His two herd bulls are Beau Fairfax, bought for $2,000 in the Royal sale last year, and Beau Perfect 10th.

Is there any reason why similar success cannot be achieved right in California? True, the prices paid by the packers here are not quite as high as those paid in the Middle West, but cattle can be raised much cheaper out here. And shouldn't the net profit be about as good?

California Winnings at the International

[Written for Pacific Rural Press.]

Just as we were going to press last week we slipped in a note that the University Farm Shorthorn steer, California Marvel, had won the championship at the International Livestock Show at Chicago. This, however, was not the championship for all breeds, but the senior championship for Shorthorns. Still, it is a very high honor, as the Shorthorn is one of the most popular breeds of beef cattle. And considering that California had to compete against the Middle West, this leadership among Shorthorns gives her an enviable reputation.

This winning is another proof that "blood will tell." It is also an illustration of the value of line-breeding. California Marvel is a son of Sultan Mayflower, a grandson of the famous Whitehall Sultan, and is out of the cow, Glenbrook's Marvel, herself tracing back to Whitehall Sultan. She was the dam of California Favorite, the grand champion steer at the International in 1916.

California Marvel first came in the limelight when he was made grand champion of the Pacific International Livestock Show at Portland last year. It was expected that he would meet stiff competition at the Chicago International from the junior yearling pure-bred Aberdeen-Angus, Fyvie Knight, shown by Purdue University. The highest honor went to the latter, and he was afterwards bought at auction by Wilson & Company, packers, for $3,350, which is at the rate of about $2.50 per pound—said to be the highest price ever paid for a steer. It was announced that steaks from him would be sent to France for Presidents Wilson and Poincare.

Other winnings made by the University Farm exhibit include: first senior Angus calf on U. C. Jock 3rd; second junior cross-bred calf on California Grizzly; champion grade Shropshire Wether; reserve champion pen of Poland-China barrows; first for best five steers, wethers and barrows.

A total of five firsts, six seconds and special prizes isn't such a bad record. We certainly are proud of our California stock, and of the men at the University Farm who have put the animals in condition to win — particularly Professors True, Thompson and Miller, and herdsman Alex McDonald. Long may they continue with us.

HIGH QUALITY AT INTERNATIONAL LIVESTOCK SHOW.

Never before has the International brought out as high quality as that seen in the animals exhibited at the show just ended at Chicago. Considering the labor conditions and the influenza epidemic, the entries were large, and there was keen competition in nearly all classes.

The complete list of awards is not yet available, but from those at hand the following will be of interest to our readers:

Shorthorns.—Grand champion bull, Wm. Hartnett, Waukesha, Wis., on a two-year-old, Lord Rhybon. Junior champion bull, Anoka Farms, Waukesha, Wis., on a senior bull calf, Anoka Omega.

Herefords.—Grand champion bull, O. Harris & Sons, Harris, Mo., on a two-year-old, Repeater, Jr. Junior champion bull, the same firm, on Repeater 129th.

Duroc-Jersey Hogs.—Grand champion boar, Ira Jackson, Tippecanoe, Ohio. Grand champion sow, H. W. Mumford, Ann Arbor, Mich.

Fat Cattle.—Grand champion steer, Purdue University, Lafayette, Ind., on Fyvie Knight 2nd. Champion Shorthorn, University of California, on California Marvel. Champion Aberdeen-Angus, Purdue University, on Fyvie Knight 2nd. Champion Hereford, Kansas Agricultural College, Manhattan, on Victor Hessler. Champion of grades and crossbreeds, E. P. Hall, Mechanicsburg, Ill., on Black Beauty.

Fat Swine.—Berkshires: Champion barrow, Quaker Oats Co., Chicago; champion pen, same concern. Poland-Chinas: Champion barrow, Iowa State College; champion pen, University of Missouri. Duroc-Jerseys: Champion barrow, Pennsylvania State College; champion pen, same college. Chester Whites: Champion barrow, University of Illinois; champion pen, J. K. Milner, Thorntown, Ind. Hampshires: Champion barrow, Simon Albrecht, Tiskilwa, Ill.; champion pen, University of Nebraska. Grand champion barrow of all breeds, University of Illinois, on a Chester White. Grand champion pen, University of Missouri, on Poland-Chinas.

Attention—Hereford Breeders

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The World's Largest Herd Western Raised for Western Men

MISS RIALTO 2ND,
Never Defeated Grand Champion Wherever Shown.

Our herd won at Los Angeles Liberty Fair Every Blue Ribbon competed for, except one. Won ALL Championships on Females. Junior and Reserve Junior Championship on Males. MISS RIALTO 2ND still retaining her supremacy as Grand Championship Female, wherever shown this year.

These Great Bulls in Service

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Over 900 Breeding Cows

representing the very choicest blood lines. Every female in our herd is descended from English importations and have been retained in our herd because of their size, bone, quality, hardiness and proven breeding worth.

"Wyoming Herefords" are maintained on our 25,000 acre ranch under the most progressive methods.

We Know Western Needs

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One, or a Carload

Because of the size of our herd we can furnish one or a carload of bulls, and an order for one receives just as careful attention as an order for a carload.

We won Grand Champion on carload of females at Denver the last two years. We have stock for sale at all times. Glad to answer questions and explain anything.

Ranch six miles east of Cheyenne, Wyoming. Twenty-five thousand acres devoted exclusively to the production of Registered Herefords. Sixteen hundred head on ranch at present time.

The Hereford Corporation of Wyoming

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CHEYENNE, WYOMING.

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

R. C. Sturgeon of Tulare now has 25 registered Holsteins and 22 grand young heifer calves coming on. He is developing one of the finest herds in the San Joaquin Valley.

George Wendt, formerly with the Vina Ranch and lately in charge of the Longheath Farms herd of Holsteins at Mason, Nev., has accepted a position as superintendent of the Holstein herd of the Henderson Company, Sacramento.

A new California State record for Jerseys has been made by the cow Fern's Silver Ray, owned by F. H. Van Derpoel of Imperial county. She has completed a yearly record of 779.54 pounds of butterfat at eight years of age.

Tilly Alcartra has gone over the top. The world record for yearly milk production was 31,246 pounds, and on December 5 she had produced 31,300 pounds. She is now milking about 75 pounds per day and has 32 days to go to complete her year, so will smash the former record all to smithereens.

Beef Cattle.

Robert H. Hazlett at his first public sale of Herefords held at Kansas City last month made an average of $1,115 on 48 head; five bulls averaged $2,565, with a $6,100 top.

Wm. Henn of Kansas City has sold 5 Hereford bulls from his show herd at the Los Angeles Fair, all going to the Diamond Bar Ranch at Spadra. The bulls sold for an average of $1,100 each.

Congdon & Battles of Yakima, Wash., sold their first prize steer at the Liberty Fair to the Newmark Company at 22c a pound live weight. The steer weighed 1400 pounds and will be slaughtered for Christmas beef.

The first sale under the auspices of the Pacific Northwest Shorthorn Breeders' Association held in Southern Oregon was held at Roseburg, November 23, and 24 animals sold for an average of over $239 per head, with a top at $400.

Congdon & Battles of Yakima, Wash., sold from their show herd at the Liberty Fair the junior Aberdeen-Angus bull calf, Kendrick C. B. 2nd, to George Kirkwood of Los Angeles for his range cattle interests. The price was $1,000.

At the Livestock Show at Buenos Aires $42,500 American money was paid for the champion Shorthorn bull, said to be the world's record price for such an animal. Another bull sold for $20,500 and another for $20,000. The champion Hereford bull also established a record selling price for that country, bringing $25,000.

The highest average for Shorthorns made in this country since the historic New York Mills sale was reached at the recent Anoka Farms sale at Waukesha, Wis., when 48 Shorthorns, mostly calves sold for $89,550. Anoka Omega, junior champion Shorthorn bull at the International, topped the sale at $12,000. Thirteen bulls averaged $3,457 and 32 females averaged $1,275.

A world record was made in the homeland of the Hereford breed at Herefordshire when the S. C. Hayter herd was dispersed, November 7. Eighty-four head brought an average of $2,660; 33 cows with calves averaged $4,205; 4 bulls averaged $13,790. Two sales were made at world record prices, the four-year-old bull, Ringer, bringing $47,250 and a bull calf bringing $11,025.

George Watterson, proprietor of the Hereford Farms of Bishop, reports sales of registered Herefords as follows: 75 cows and heifers to C. B. Harris, Los Angeles, and S. R. Crowe, Hayward; a yearling bull to S. R. Crowe, Hayward; 20 bull calves to Tehachapi Cattle Company, Bakersfield; 2 bull calves to Thomas Williams, Bishop. Most of these animals are grand-daughters or grandsons of the bull Repeater, owned by O. Harris & Sons of Harris, Mo.

Swine and Swinemen.

Conejo Ranch, Newbury Park, has sold the Hampshire show sow, Leading Wave 2nd, for $500 to James McGill, the Indianapolis baseball magnate; also four young pigs at $400.

During the month of October the Castle View Ranch placed 47 sows, 17 bred gilts and 12 service boars, all registered Berkshires, among the ranchers of Sonoma and adjoining counties.

Mrs. Joseph Seogram Anderson, the noted horsewoman and proprietor of the Charmeran Stock Farm, Pleasanton, recently purchased a splendid young Berkshire boar from the Castle View Ranch of Santa Rosa.

Slocum & Sons of Willows have sold a large number of very fine registered Duroc-Jersey hogs to the farmers of the Durham State Land Settlement, who have decided upon Durocs as the only breed that they will raise.

Frank B. Anderson, the Berkshire breeder of Sacramento, reports sales of boars to the following: A. F. Leifer, Sacramento; H. A. Meckfessel, Arbuckle; Nahas Bros., Merced; L. N. Carpenter, Lovelock, Nev., and Rogers Ranch Co., Lovelock, Nev.

Llano Vista Ranch of Perris has sold the three-year-old Hampshire boar, Langdon's Choice, to James McGill, who also made purchases from the Conejo herd. All of the animals purchased will be cared for by L. A. Denker of Saugus for the present and later Mr. McGill expects to start a ranch of his own.

Lea Bleakmore, owner of Oak Knoll Farm at Lakeport, reports that his recent sales of Chester Whites include a fine young boar, Oak Knoll Chief, to Quigley Bros. of Richmond; also 3 gilts and 2 bred sows. The demand is heavy for gilts bred for spring farrow, and many orders are being filled.

Winsor Ranch and Peters, Lamson & Walker of Bonita have in Model Defender Lady one of the greatest Duroc-Jersey sows on the Coast. She has been grand champion at Riverside two years in succession and has had four litters during the two years, none of them less than 11 pigs; yet she will not be three years old until February. In ordinary condition she weighs 750 pounds. The owners expect to select their 1919 show herd from her litters.

Mark Bassett of Hanford is justly proud of his young herd sire, King's Gerstdale Jones, purchased several months ago from P. Hancher of Rolph, Ia. This September boar is by Hancherdale Jones 1st, for which $3,000 was refused. He has all of the size, stretch and bone of the big types, coupled with the smoothness and easy-feeding qualities of the medium types. Mr. Bassett already has several fine litters by him and he says that the pigs are the most promising of any ever farrowed on his ranch.

Allen Thompson, president of the Tulare County Duroc-Jersey Breeders' Association, writes that they are getting ready for their first consignment sale, to be held January 10, and will offer about 40 of the best bred gilts and sows in their herds, bred to some of the best boars in the State. The consignors will include Henry Cummins, Goshen; S. A. Williamson, Visalia; Joe N. Chenoweth, Visalia; C. E. Ellis, Tulare; Allen Thompson, Tulare; R. C. Sturgeon, Tulare; R. E. Clifford, Strathmore.

Livestock Miscellaneous.

Manager Joseph E. Painter of the San Francisco Livestock Show, to be held February 8 to 16, has just returned from an extended trip through the Middle West. He took in the Royal and International shows and visited many prominent breeders. The new date has found much favor with them and a large number have promised to exhibit.

The twenty-second annual convention of the American National Livestock Association will be held at Denver, January 21, and will continue for three days.

The Tehama County Stock Association has officially disbanded and abandoned its charter to reorganize as a part of the California Cattlemen's Association.

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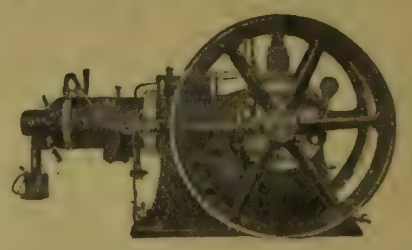

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The California Hog Book, by W. S. Guilford, issued by the Rural Press nearly two years ago, is winning its way among the swine breeders of the Coast. Here is what one buyer thinks of it:

He Changed His Mind

On July 4th he wrote us that he had heard of the book and to send him a copy to his address, C. O. D., at Los Angeles. On July 11th he wrote us:

"I am in receipt of a package with charges of $2.03. If this is the book I wrote about, it is too expensive for me. I have not opened it. The package is at your disposal."

Later, on the same day, he writes:

"Wrote you this morning, offered to return Guilford's book on hogs. Began reading it, wouldn't part with it now for twice the money. Many thanks.—M. McC."

California Hog Book, Price $2.00 Postpaid

Pacific Rural Press, Publisher
525 MARKET STREET SAN FRANCISCO

LIBERTY FAIR GOES "OVER THE TOP."

(Continued from page 659.)

enne; T. T. Miller, Los Angeles, Introduction.

Champion steer or heifer: Congdon & Battles, Black Yak.

FAT SWINE.

Car lots of 50 fat hogs, 175 to 300 pounds: Donald H. Graham, Lancaster; Conejo Ranch, Owensmouth.

Poland-Chinas.—Boar, two years or over: Fred Hartsook, Lankershim, I B A Wonder; M. Bassett, Hanford, Orange King.

Senior boar pig: Bassett, Big Bone Model; H. I. Marsh, Modesto, Big Major; A. L. Bassett, Hanford, Big Model Fellow; Hartsook, Major Hadley Wonder 3rd; Marsh, Major Hadley Wonder 2nd.

Junior boar pig: A. L. Bassett, first and second on Model's Equal and Calif. Model; M. Bassett, third and fourth on Model Big Chief and Model Boy; Marsh, Major Improver.

Sow, two years or over: First, second, third and fourth to Hartsook on King's Wonder Giantess, Nelson's Wonder A. 2nd, Model Giantess and Miss Giantess; M. Bassett, Hustler's Giantess.

Senior yearling sow: M. Bassett, Call Belle; Hartsook, Model Daughter; Hartsook, Model Lady; A. L. Bassett, Long Model.

Junior yearling sow: M. Bassett, Lady Longfellow; Marsh, Wonder's Giantess; M. Bassett, Model Picture.

Senior sow pig: A. L. Bassett, Big Model Maid; Marsh, Major's Beauty; A. L. Bassett, Model Miss; same, Model Maid; Marsh, Long Wonder Lass.

Junior sow pig: A. L. Bassett, Model Daisy; M. Bassett, Smooth Model; same, Miss Hulda; Hartsook, Wonder Prospect Girl; same, Wonder Prospect Lassie.

Senior champion boar: Hartsook, I B A Wonder.

Junior champion boar: M. Bassett, Big Bone Model; reserve, A. L. Bassett, Model's Equal.

Grand champion boar: Hartsook, I B A Wonder; reserve, M. Bassett, Big Bone Model.

Senior champion sow: M. Bassett, Lady Longfellow; reserve, same, Call Belle.

Junior champion sow: A. L. Bassett, Model Daisy.

Grand champion sow: A. L. Bassett, Model Daisy; reserve, same, Big Model Maid.

Boar and three sows over one year: Hartsook, M. Bassett.

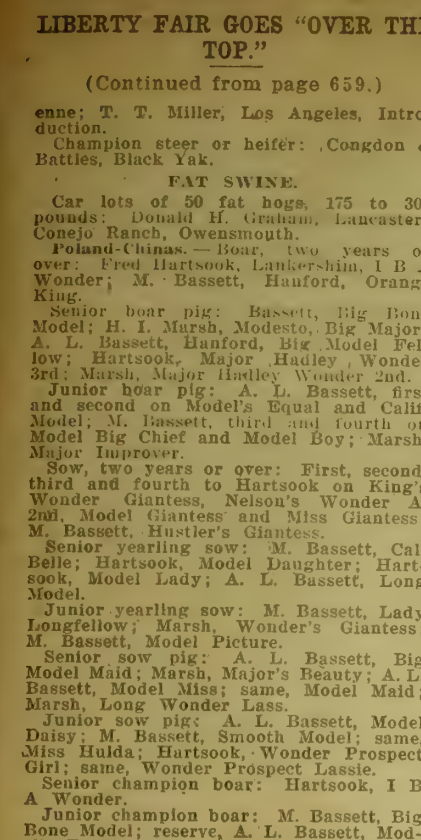
Boar and three sows under one year: A. L. Bassett, M. Bassett, Marsh, Hartsook.

Boar and three sows bred by exhibitor: A. L. Bassett, M. Bassett, Marsh, Marsh.

Get of boar: A. L. Bassett, M. Bassett, Marsh.

Produce of sow: A. L. Bassett, M. Bassett, Marsh.

Four pigs under six months from one litter: A. L. Bassett.



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Poland-Chinas.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

DIMMICK BROS. offer for sale at present five bred sows, due to farrow in September. All are bred to Model Wonder. Buy one of these sows and raise a litter from one of the best sires of the breed. Dimmick Bros., Box 811, Lemoore, Cal.

McCARTY'S BIG TYPE POLANDS—Spring boars—cholera immune—strong backs, good feet and bone, lots of strength, and quality, everything that goes to make the Profit Producing Hog. Sired by Kansas King, first prize Senior Pig at Topeka, 1917. None better in California. Our guarantee, "Money Back If No Like." Write now for prices. Alex D. McCarty, 324 Insurance Exchange Building, San Francisco, Cal.

BIG, SMOOTH POLAND-CHINAS—One April boar by Grand Champion Kings Big Bone Leader. One 12-month-old boar by Smooth Progress; April, May, June, and July gilts. Everything guaranteed. A. Buckland & Son, Rt. E. Box 126, Fresno.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

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20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

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LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

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REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

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MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

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GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

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BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
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In charge of Natomas Land sales.

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CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa

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FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B 724W, Sacramento, Cal.

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BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal

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"BILLIKEN"—CHESTER WHITES—Time to breed for 1919 spring farrows. Do you need a boar that will produce those fine growthy pigs? Have only 10 yearling boars left. For December delivery have a nice lot of yearling gilts that are bred for March farrow. Weaned pigs, both sexes. C. B. Cunningham, Mills, Cal.

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WEANLING PIGS for sale by a son of the grand champion of 1917 Jack Borge, Los Banos.

DUROC-JERSEYS—Weanlings of either sex ready for immediate delivery. H. E. Boudier, Napa.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

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MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Ripon, Cal

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal

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STRAIGHT, deep-bodied sons of Finderne Solomo Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Tovon Farm Association, First National Bank Bldg., San Jose, Cal.

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FANCY GRADE HOLSTEIN COWS and heifers from herd testing 100 per cent. Animals qualified for certified dairies. The Lewis Company, San Jose.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier Cal

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EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

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BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

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THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

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SUNNYBROOK RANCH, Willits, Cal.—Registered Holstein-Friesian bulls for sale

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SUNSHINE FARM JERSEYS—Young bull ready for light service, for sale. E. E. Greenough, Merced, Cal.

FOR SALE—Young registered Jersey bull, Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

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EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

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CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, 333 Vicente Road, Berkeley

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

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NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B McFarland, 412 Claus Spreckels Building, San Francisco.

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BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

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SHORTHORNS—Carruthers Farms, Live Oak, Cal.

AM A SPECIALIST in registered beef cattle and familiar with the best herds in the country. If you need Shorthorns or Herefords, make use of my experience, save money and be satisfied. R. M. Dunlap, Hotel Land, Sacramento.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

GEORGE CALLAHAN, Breeder of registered Herefords, Milton, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits Cal.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

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KAUPKE BROS., WOODLAND, CAL.—Breeders, importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep.

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FOR SALE—Fine young Jack from imported stock. Raised right. C. E. Ruggles, Esparto, Cal.

MISCELLANEOUS.

FOR SALE—On account of farming my dairy ranches this year will sell 125 head of fine bred Holstein Milch Cows and Heifers, 160 head of Holstein and Durham Milch Cows and Heifers, fresh and springing. Prices right. Apply, C. H. Widemann, Pescadero, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal

FOR SALE—Twenty first-class dairy stock grade Jersey, Durhams and Holsteins, one to two years old. L. W. Flanders, 124 Homestead Road, Cupertino, Cal.

FIFTY HEAD of Angora goats for sale. Address F. W. Nason, Jamesburg, Monterey county, Cal.

Worms the Huns of Hogdom

[Written for Pacific Rural Press by R. H. Whitten.]

A kindergarten teacher was telling her pupils about the damage done by different animals, and happened to mention sparrows and worms. To draw a comparison she asked, "Now, Tommie, which are the most destructive, sparrows or worms?" "I don't know," answered Tommie, "I ain't never had sparrows."

That was a hard question for little Tommie, but an experienced hog man will quickly tell you that worms cause more trouble than all other ills to which hogs are heir. One veterinarian even goes so far as to make the statement that worms cause more losses than hog cholera. He does not mean more deaths, but because of the unthrifty condition of worm-infested hogs, the difference between what they bring when marketed and what they would bring if worm-free represents a greater amount than that represented by the losses from cholera.

Since a hog's stomach and intestines are what makes him valuable, any derangement of their functions reduces profits directly. Hogs infested with worms gain slowly, if at all. The worms sap their vitality, and the hogs use a good share of their energy in coughing instead of for growth and fattening. Furthermore, they are kept in such a weakened condition that they are more susceptible to diseases, including cholera, and as bad as worms are, of themselves, they are generally the fore-runners of disease.

It doesn't require the eye of an expert to tell that these thrifty, money-making hogs are free from worms.

HOW WORMS AFFECT HOGS.

There are a dozen different kinds of worms that infest hogs, but the ones most often found are the common round ones. They are from six to twelve inches long; seldom exceed one-fourth inch in diameter; are cylindrical, pointed at both ends, and vary in color from white to light pink. They multiply by eggs which pass out with the manure, are swallowed by other hogs on contaminated feed, and upon reaching the alimentary canal hatch out the worms. These worms are usually found in the small intestine, two or three feet from the stomach.

The round worms are not blood suckers; consequently they do not attach themselves to the inner lining of the intestine to obtain nourishment, but simply as a means of anchorage. They live by absorption of the food taken in by the animal; consequently a worm-infested hog does not even get a chance to assimilate and use its own feed, but must share it with the worms.

Considering that a worm is often a quarter of an inch in diameter, it is easy to see that the presence of a half dozen in one section of the small intestine will impede the passage, cause inflammation, and result in severe digestive disturbances. In badly infested animals the worms often work their way up the gall duct into the gall bladder, and sometimes even penetrate the liver, causing great derangement of the organs.

Also the worms throw off waste material which is toxic, and when absorbed by the hog it acts upon its nervous system. Hence it is not uncommon for the badly infested hogs to show cerebral disturbances. They have "fits" and act "crazy."

There is another worm—the thornheaded worm—which is about the same size as the common round worm and also infests the small intestine, but it fastens itself to the walls. Its head is provided with barbs pointed backward so that when the head is thrust into the wall of the intestine the worm cannot be detached without considerable force. The irritation caused by the barbed head produces a small fibrous tumor in which the head of the worm is imbedded. Sometimes a dozen or more of these worms will be found in one hog.

ALL HOGS SHOULD BE TREATED.

Few hogs are free from stomach and intestinal worms unless they have been given treatment to remove them. Young pigs usually suffer more from infestation than older ones and this has led many breeders to believe that mature hogs will not harbor worms, and hence need not be treated. But worms are found in older animals, and even though these animals do not suffer as much inconvenience as younger ones, they serve as a fertile fount to infect the young. Consequently, all hogs of all ages should be kept free from worms.

A good hog man will be on the lookout for symptoms of worms and will notice the least little sign of unthriftiness. He will associate a rough coat of hair, scurvy skin, poor returns for the feed consumed, pot belly or occasional diarrhea with probable worm infestation. And the occasional passing of a worm will cinch the diagnosis.

TRIED AND TESTED REMEDIES.

It is not a difficult matter to rid hogs of worms and many useful remedies have been recommended. The Government worm medicine consists of five grains of calomel and eight grains of santonin for every 100 pounds of live weight, given in the slop, and fed to the hogs on an empty stomach. This remedy gives good results but it has been found advantageous to add areca nut and sodium bicarbonate, and the formula of the Iowa Experiment Station is to be recommended. It is: 5 grains santonin, 3 grains calomel, 3 drams areca nut, 1 dram sodium bicarbonate for each 100 pounds of live weight. To make sure that all worms are expelled the dose should be repeated in ten days.

The capsule method of dosing hogs is coming into favor. The capsules are easily given and each hog gets his proper dosage. Santonin and calomel are generally used, and as to amounts Prof Ervard, of the Iowa station, says:

"A five grain capsule would be sufficient for a fifty pound pig and eight grains would be ample for a hundred-pound pig. We ordinarily figure eight grains of santonin plus approximately an equivalent amount of calomel for each one hundred pounds of hog up to a couple hundred pounds, although, really, we very seldom give more than fifteen grains of santonin even to heavy hogs, and usually ten grains is about as high as we would go for a two-hundred-pound hog. I would say that the dosage is entirely arbitrary and it practically all depends upon the cost. If santonin was very cheap, I would give two-hundred-pound pigs fifteen grains, whereas, if it was very high as at present, I would hold it down to about ten."

Since we got into the war the price of santonin has advanced so that its use is almost prohibitive, and in some cases it cannot be purchased at any price. A worm seed substitute, recommended by the Bureau of Animal Industry, may be used with good results. Withhold all feed and water for twenty-four hours, then give each pig from one to four ounces of castor oil, to which has been added oil of the American worm seed, as follows: Small pigs, two to three months old, 35 drops; pigs weighing 50 to 100 pounds, 50 to 100 drops; larger pigs, one teaspoonful.

One teaspoonful of turpentine per 100 pounds live weight fed in milk or slop for three consecutive meals, will kill or drive the worms out, especially if a physic of one pound Epsom salts to 1,000 pounds live weight pork, fed in slops, follows the turpentine. This will dislodge and carry out all dead undigested worms, together with those that are only sickened by the turpentine. Salts will also flush out all the eggs.

Ridding the hogs of worms is only one step in the war on these Huns of Hogdom. The next problem is to prevent re-infestation. All manure passed during the treatment should be destroyed by mixing with lime, as it will be teeming with eggs. Then a good mixture should be kept before the hogs at all times, and it can be prepared so as to prove a worm preventative, a digestion corrective and a general tonic.

A good tonic is made up as follows:

8 lbs. charcoal.
8 lbs. wood ashes.
8 lbs. air-slaked lime.
6 lbs. salt.
2 lbs. powdered sulphur.
1 lb. copperas.

Mix the lime, salt and sulphur thoroughly; then mix with the charcoal and ashes. Dissolve the copperas in two parts of hot water and sprinkle over the whole mass, mixing it thoroughly. If six pounds of bone meal is added to this mixture it will prove a good developer as well as a tonic. It is best to omit the copperas when feeding to sows in pig.

WARNING — Half-hearted effort never wins in anything. The worm is on the job all the time, and to beat this little Hun we must be just as persistent. Keep at it!

Poland-China Sows and Gilts

Bred to Purebred Duroc Boars

Am offering for sale 60 fine range raised sows from 2 to 5 years old and 100 Gilts, all gentle stock in good condition and all bred for spring farrow to purebred Duroc-Jersey boars. *Prices Reasonable.*

WOULD CONSIDER TRADE FOR GOOD EWES

Write for further particulars and prices.

Frank Azhill

Alder Point, Humboldt County, Cal.

Grand Champion Herd of Hampshires

FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.
Best families.
Finest individuality and clean-cut markings.
Call or write.

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

OAK KNOLL FARM

LAKEPORT CALIFORNIA

We have sold all our young boars and are now booking orders for March delivery. Highlander, the $1,000 Grand Champion Boar, heads our herd of

CHESTER WHITES

SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

Sheep Industry on the Increase

[Special Information Service, U. S. Department of Agriculture.]

Sheep Increases

Sheep increased 12.6 per cent in the United States from July 1, 1917, to July 1, 1918. Estimates for 1918 show 257,921,000 pounds of wool produced, as against 245,573,000 pounds in 1917. This does not include approximately 48,000,000 pounds of pulled wool for each year.

However, while the sheep industry is gaining impetus, it is by no means keeping pace with the increase in population, and still more sheep are needed. Don't hesitate to go into sheep raising. It will put a fleece lining in your pocketbook.

There has been a gradual and logical movement in the sheep industry toward more and better flocks on the farms. The number and size of the flocks on the ranges is declining, according to the U. S. Department of Agriculture, but there is a distinct trend toward wool and mutton in sections where more intensive farming is practiced, and the farm flock is destined to play a more important part in permanent agriculture.

REASON FOR FARM TREND.

The increase in the farm States and the decrease in the range territory is due partly to the fact that range lands have increased in value and the continued homesteading has broken up the areas which were once in free range. In the farm States also the wool type of sheep has given way to the wool and mutton varieties, which has been the principal factor in bringing about an increase. The decline in the sheep industry on the Western range should not be interpreted to mean that the business in that section is going to entirely disappear, for there is every reason to believe that the range country will always continue as an important sheep producing center. Large areas in Western States will not economically lend themselves to any other grazing purposes.

Sheep which yield both wool and mutton are well adapted to more or less intensive farming. Farmers are beginning to realize that sheep of this kind fit admirably into a system of mixed farming, and with the meat and wool markets becoming more stabilized there is little need to become concerned with the yearly market fluctuations of these two products. Sheep on farms should be assured a larger place, as they can successfully share with other stock in the economical and profitable utilization of farm crops, as well as being producers of valuable clothing material for which there is no complete substitute.

MISTAKE TO RUSH IN.

One of the chief drawbacks at the present time to a more rapid development of the industry is the lack of knowledge of good flock management. There is danger in the tendency to rush into this new line of farming, which increased prices have brought about, where experience is lacking. While there is nothing difficult about managing sheep, it must be remembered that sheep breeding is essentially a long-term proposition and not a one-season crop like wheat, corn, or barley; and should be entered into with this well in mind if disappointment and failure are to be avoided.

Sheep require a small amount of high-priced grain compared with other farm animals. They utilize and thrive upon forage crops to a great extent and will make use of rough feeds about the farm which other stock will not eat. They require a small amount of labor also, which is one reason for the increase in the industry in the farming States.

The rising prices of wool and mutton since 1914 no doubt have added further impetus to sheep raising. Since the advance in price began before the war, it is fair to assume that the war is not to be given all the credit for this spirited activity and that the industry is likely to enjoy continued fair prices for a considerable time after the conclusion of peace.

Livestock Queries

Period of Heat of Ewes.

To the Editor: How often does an ewe come in heat and how long does she stay in heat?—J. A. L., Red Bluff.

[Answered by Livestock Editor.]

Ewe lambs reach puberty at about six months, but should not be bred until they are sixteen or eighteen months old. They come in heat at intervals of from fifteen to nineteen days and stay in heat from one to three days. After an ewe lambs she comes in heat in from five to six months. The average period of gestation is 147 days, although ewes have been known to lamb in 140 days and have gone as long as 156 days.

Mange in Horses.

To the Editor: I have a horse that has the mange. What causes it, and is there a cure?—Mrs. S. G. H., McFarland.

[Answered by Livestock Editor.]

Mange in horses is caused by mites that work their way into the skin. Consequently the treatment should be local. If a large area is affected, it is best to wash the animal with a 2 per cent solution of Kreso or any good coal tar dip. If the area affected is small, use an ointment made of 10 parts potassium sulphide, 2 parts potassium carbonate, 300 parts lard.

Cow Will Not Breed.

To the Editor: Can you tell me what the trouble is with my cow? She had her second calf in June. It came hind feet first and was dead. The cow seems to be perfectly well, but will not breed. Has been served four times, but does not get with calf.—M. C., Napa.

[Answered by Dr. E. J. Creely, San Francisco.]

Hind legs first is a normal presentation if the body does not come backwards. Your cow probably was torn at the neck of the womb. Sear tissue has formed and prevents the introduction of the fertilizing fluid of the male. The neck of the womb should be dilated just previous to being bred, or it may be necessary to cut open the binding tissue. This should be done by a qualified veterinarian.

Books on Goat Raising.

To the Editor: Please recommend a good book on goat raising.—F. R. B., Red Bluff.

[Answered by Livestock Editor.]

You do not state whether you want a book on milch goats or Angora goats. For the latter we recommend "Angora Goat Raising," price $1. For a general treatise we recommend "The Book of the Goat," which covers both milch and Angora goats, price $2.50. Both can be secured from the American Sheep Breeder, Union Stockyards, Chicago, Ill.

Confining Fattening Hogs.

To the Editor: Would you advise putting hogs in a small pen for the last month of their finishing off period?—J. G. H., Fresno.

[Answered by Livestock Editor.]

If the pigs have been on pasture, and are well-grown and vigorous, you will get faster gains by keeping them penned up for the last month or two. At the Iowa Experiment Station they succeeded in making 300-pound market hogs in eight months by confining them during the last sixty days.

for the safety of your hogs

Calco Hog Troughs prevent disease—they are absolutely sanitary.

Calco Hog Troughs are made of Armco rust-resisting iron—strong, durable, smooth.

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

TROUBLES FROM POISONOUS DIET.

While it is well known that musty, moldy, grain, leaves, or swampy ground will poison chickens, give them canker in the mouth and throat, and various other troubles, it is not generally known how the lay person can detect the trouble by the symptoms, and apply the remedy.

ASPERGILLOSIS.

The symptoms in fowls are drooping tail, watery eyes, throat swollen, and often tongue and mouth lined with yellow canker. Nearly all authorities claim that the only cure is prevention, and they are, in the main, right. Sometimes, however, a bird can be saved by prompt measures. Painting the parts with pure creolin, then dusting with powdered borax, will kill them quicker than anything else, and if the bird's strength holds out it will be saved. To keep up the strength, wet the mouth and tongue with straight tincture of iron once or twice a day and give pill made of bread and milk. If there is no improvement in three days, the case is hopeless.

LIMBERNECK.

Aspergillosis should not be confounded with limberneck; both are the result of poison in the system, but from different causes. Limberneck is usually caused by the fowl's eating rotten meat, maggots, or other animal food that has laid around rotting, such as gophers, or buried chicken carcasses they dig up. This is why it is always safer to cremate diseased poultry than it is to bury them. The diligent hens often scratch until they unearth them. Keep all such material out of reach and you will have no limbernecks, though in extremely hot weather I have had fowls that had very much the same symptoms, so nearly alike were they that no one could tell them apart. But in the latter case the birds can generally be saved.

THE UNSEASONABLE MOLT.

There seems to be a general complaint that hens and pullets are either gone into a molt or are about to do so. This is no doubt owing to a change the millers and feed men are making in the mash stuff they are selling. The only thing that can possibly be done is to feed as well as possible and get them over the molt in a short time. It may turn out to be only a partial molt anyway, but any kind is disastrous at this season of year. But these things are among the unavoidable and all the poultryman can do is grin and bear it. Plenty of green feed, bone and animal food will shorten the molt, but too much animal food, served without green feed, will provoke liver disorders and indigestion, so look well to the green feed question. Those who can turn the chickens out for a spell every day, even though it be for but a few hours, will get the hens back to work the quickest.

All changes of feed upset the hen's mechanism when she is in laying condition, and the millers and feed men ought to know this and avoid making changes in the mash without telling their customers, so that the change could be made gradual by feeding smaller quantities.

LOOKS LIKE BLACK ROT.

To the Editor: My turkeys have been very hearty birds until the last few days. Their combs and heads seem to turn blue and their appetite is not so good, and in a few days they die. We opened some and find their liver enlarged and full of white spots.—Mrs. W. W. B., Chico, Cal.

[Blue color in comb is always suggestive of internal trouble, but if the color is very dark—purplish like—it is black rot, and nothing you can do will save those that are badly affected. However, as the liver is affected there is some hopes, while if it were the lungs there would not be. Give the whole flock tincture of nux vomica, allowing ten drops to a quart of water, and keep it up, allowing no other water until there is improvement.]

RABBIT DRAGS HIND LEGS.

To the Editor: Can you tell me what to do for a rabbit that drags its hind legs?—G. S., Le Grand.

Dragging the hind legs may come from one of two causes. It may be rheumatism or kidney trouble. Get a 50c bottle of Sloan's liniment from feed dealers and rub the back and legs very gently, also give a few drops internally. If you rub too hard, you will injure the fur, so go light.

Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

WHITE LEGHORN CHICKS—hatched in January and February are money-makers if stock is good and right care given. We are equipped to fill large as well as small orders—and to your satisfaction. Write for special letter on them, also circular describing Brown and Buff Leghorns, Rhode Island Reds, White and Barred Rocks, Black Minorcas. Price and quality will both please you. Booking orders now for 1919 season. Be forehanded. The Mission Hatchery, Box 17, Campbell, Cal.

BABY CHICKS—We specialize this season on money-making White Leghorns—hatching from stock with high records that are unimpeachable. Also Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons, and White Wyandottes. Especially interesting circular with price list ready January 1st. B. W. Archibald, Soquel, Santa Cruz Co., Cal.

OUR 200-290 Egg Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Orpingtons, Ducks, clear $5 for customers now. Breeders, pullets, chicks. Half booked for January, February, March delivery, last year's prices. Many repeat orders. 30,000 capacity hatcheries full now. J. Beeson, Pasadena, Cal.

LARM'S REDS—Larm's strain Rhode Island Reds, single and rose comb hatching eggs from 270 egg record layers. Breeding pens. Cockerels. First prize winners in leading California shows. Wm Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTERN BRED Mammoth Bronze Turkeys. Being sure my birds will give the usual satisfaction, I guarantee them to be as I represent. If not, return at once C. O. D. R. M. Dodge, Stafford Farm, R. D. 2, Box 129, Bakersfield, Cal.

BABY CHICKS—Ready in January. Order early and get the date you want. White and Brown Leghorns, Black Minoreas, R. I. Reds, Barred Rocks. Safe delivery guaranteed. Write for circular. Sequoia Poultry Ranch and Hatchery, Palo Alto, Calif.

MOVING FLOCK 200-egg hens new crowded quarters. Will sell 100 laying pullets, hens 50c off. Anconas, Buff, White Leghorns $1.50, $1.60, $1.75. Clearing $5 yearly. Guaranteed to please or money back. J. Beeson, Pasadena, Cal.

BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

BABY CHICKS.—Hatched from our own stock in our own hatchery. Hens are of S. C. White Leghorn utility stock bred for commercial laying. H. A. George, Route 2, Box 29, Petaluma.

FLEMISH GIANTS—Conditions require me elsewhere. Closing out rabbitry at cost. Every specimen from imported stock. Write for cut prices and particulars. S. Arms, Byron, Cal.

BABY CHICKS (White Leghorns) shipped on approval before remitting. No week ones charged for. Schellville Hatchery, Schellville, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

BABY CHICKS—Booking orders for spring deliveries. White and Brown Leghorns, Rhode Island Reds, Barred Rocks. E. W. Ohlen, Campbell, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

EASTMAN'S BRED-TO-LAY Hoganized and trapnested Barred Plymouth Rocks. January chicks. Eggs. Cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MODEL POULTRY FARM—White Leghorn specialists. Our fifteenth year. Baby chix and hatching eggs for sale. Also first-class breeding cockerels. Our prices are right. W. C. Smith, Prop., Corning, Cal.

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PLACE ORDERS EARLY for chicks with the Madera Hatchery, Madera, Cal.

A Merry Xmas and Happy New Year to You and Yours

100,000 Pounds of Turkeys, Live and Dressed

Wanted for Christmas and New Year's Trade

Dear Sir:

As we predicted in our circular sent out for Thanksgiving Turkeys sold at the price we mentioned. The demand for Turkeys for CHRISTMAS is far greater than it is for Thanksgiving, and we shall need at least 100,000 pounds of TURKEYS to supply our trade with. We anticipate that high prices will prevail and we will not be surprised to see Fancy Dressed Turkeys sell at 48 to 50 cents per pound.

Commence now and fatten your Turkeys as much as possible. Ship them to us Dressed to arrive here December 21, 22, 23, and 24. If you are needing any money, when you ship your Turkeys you can draw on us for 37½ cents per pound as an advance on Choice Dressed stock, and we will make prompt cash returns as soon as the Turkeys arrive and are sold. Mark your Boxes and Coops very plainly with our cards and Wells Fargo shipping tags, placing your name and Post Office address on each tag.

We also need large quantities of Live and Dressed Chickens, Geese, Ducks, Rabbits and Hare. If you or any of your friends have any other kinds of Produce for shipment we can handle the same for you, and will give you good satisfaction with sales.

Ship us all the Grain, Dried Fruit, Beans, Potatoes, Honey, Beeswax, and Wool you have on hand. Don't hold these goods.

We would be pleased to have you drop us a line and let us know about how many head of Turkeys we may expect from you for our Xmas Holiday trade.

Yours very truly,

W. C. PRICE & CO.

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This shows two Knapp Heavy Plows behind a 75 h. p. tractor. These plows make a cut 100 inches wide and 14 inches deep. Write for New Folder.

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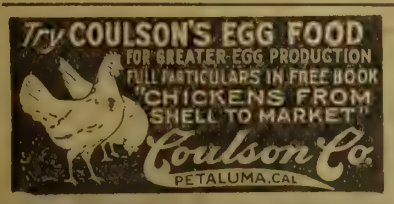

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Roup, colds, bowel troubles, sore head limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library.
GEO. H. LEE CO., Dept. 428 OMAHA, NEB.

The San Jose poultry and rabbit show, held last week, was more largely attended than of recent years.

J. A. Wilder has acquired 2300 acres of range land in the Santa Cruz Mountains and has stocked the land with 2000 Angora goats. He plans on raising them for both wool and meat and to eventually carry 10,000 goats.

HATCHING GOSLINGS IN WINTER.

Ducks and geese are commencing to lay, and breeders are getting anxious to secure early hatches. Now, in hatching ducks, they are so well known and their care is so nearly on a par with chicks that most people can raise them successfully. But with geese it is different, and yet the goose is so near akin to the duck that everybody ought to be familiar with their care. The goose takes thirty days to hatch and if set under hens the nest should be made on the ground in a sheltered spot, or in a box with moist earth filled in and a sprinkling of litter over. When the goslings hatch they should be kept warm until the hen has finished her task, then give her her brood, but confine her so that she cannot ramble around with the little fellows. Give them some straw to help out on the nest, as they love to snuggle under something. Feed and water the hen before giving her the goslings, but do not feed the goslings until about the third day, then feed just what moist mash they will eat up in a few minutes, and always set out a dish of water with the chill taken off for them to drink when they eat. Water at other times is not needed in cool weather. Have the dish covered so that all they can get in is their bill. Cold water and wet grass mean death to young goslings. Don't ever forget that warmth and a dry bed are necessary to their welfare and the more comfortable you make them the faster they grow and the cheaper the meat you will raise.

THE HEN'S WAR WORK RECORD.

When the story of the war is written, there should be a page reserved for the achievements of the American hen in the fateful year that is drawing to a close.

Toasts will be drunk to the American eagle—the praises of our heroes will be sung and everything from posters down to corn that helped win the war will be given just credit. At such a time the great American hen should not be forgotten.

The annual report of Secretary Houston of the Department of Agriculture shows what the hens did in the war year. "They had a fearful responsibility put upon them and did nobly." There were few slacker hens in 1918.

The hens set up a production record that wipes all earlier marks off the slate. There were 1,971,000,000 dozens of eggs laid during the year, which, reduced to figures that are understandable, shows that the hen produced every day between five and six eggs for every man, woman and child in the country.

The egg crop was 147,000,000 dozens larger than in 1914 and 226,000,000 dozens larger than the average for the five-year period prior to the war.

Where is the fellow who said the poultry industry of the United States was heading for the sewer?

POULTRY NOTES.

Los Angeles is to hold three poultry shows this season. One is now in progress in connection with the Liberty Fair, while the Los Angeles Poultry Association will hold its twenty-first event from December 17 to 22, and the Poultry Breeders' Association of Southern California will hold its exhibition from January 8 to 14.

Judge Wood of Amador county, while sitting in the Alameda county Superior Court last week, rendered a decision in the case of the California Poultry Producers, Inc., vs. J. R. Bell for the defendant. Judge Wood said that the contracts made between the Poultry Producers, Inc., and the individual poultry raisers could not possibly be enforced, due to the fact that they were contrary to existing laws, because of the injustice and hardship worked upon the producers, the inability of the producers to sometimes perform some of the provisions and the absence of provisions in the contracts making them fair and just to all of the parties involved.

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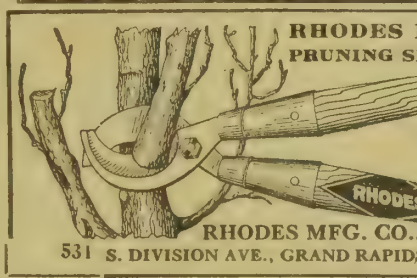

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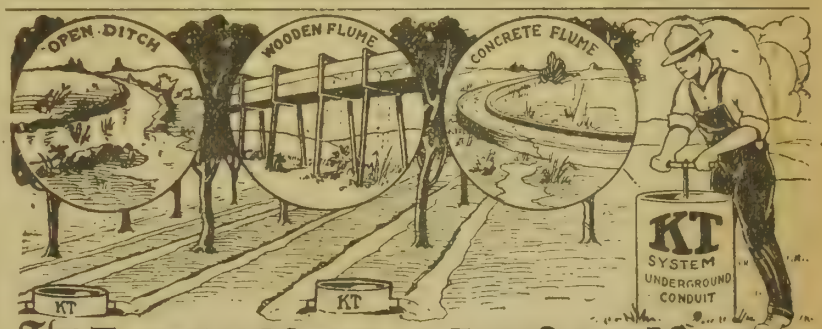

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of underground conduits, equipped with gates and valves. This provides for a perfect distribution of the water at the exact spot required, and at just the time it is needed. It also eliminates the constant losses resulting from evaporation, seepage and ditches choked with weeds—wasting time, water, land and money.

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Irrigation Pumps
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Ask for latest circular—No. 25
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THE HOME CIRCLE

WHEN I WAS FOUR.

When I was four—or thereabouts,
And wore a pinnie made of blue,
My mother hardly ever knew
My whereabouts.

I mind me showing her a sore
And see e'en now her brows upbent
In counterfeit astonishment,
When I was four.

Her working bag, all bound with gimp,
Held hooks and buttons for my play;
And when I mussed it up she'd gently say
"The little imp!"

I often turned it on the floor,
And lost the thimble, tape or thread,
And she, if grannie scolded, softly said
"He's only four."

And when I cried aloud because I fell,
'Twas mother always ran, she'd never miss
But take me in her arms and give a kiss
"To make it well."

Alone it was my mother, only she,
Who really understood my griefs and passion,
Who in her dear, sympathetic fashion
Gentled me.

—Ian Todd.

SKIPJACK.

Joseph opened his eyes and stared bewildered at the white cloth tent roof over his head. Where was he, and what smelled so sweet right under his head?

Then his eyes shone happily. Why, of course!—camping out—camping out at last, for the first time in his little seven years—and hadn't he always known just how it would be, because mother used to go camping with her mother and father every summer, beginning at two, and here he was seven!—and hadn't she told him just how sweet the fir bough bed would smell under his head when he went to sleep? But though he had tried and tried to pretend it all, he never could begin to pretend so sweet a smell as this.

The night before, he and mother had cut the boughs themselves, with his own new camp hatchet, and had piled up a high, springy bed. With some thick blankets over it, no one ever had had so comfy a bed; and he had tumbled into his fragrant nest, and that was all he knew till just now, when he opened his eyes and saw the tent roof instead of his own ceiling, and smelled the sweet fir boughs.

He looked across the tent. Mother and daddy had gone; and was it a fire he heard crackling outside, and daddy whistling? That must be bacon he smelled!

Out he fled, in a fever of impatience, just as the corner of the tent flap was lifted up and mother peeped cautiously in. He was about to shout good-morning, when she put her finger on her lip, and, crossing quickly to him, drew him to the tent door, whispering:

"Keep quiet, and see that cunning, cunning chipmunk out there on the log where we put our wash basin and pail of water last night. He doesn't know what to make of that shiny tin basin, does he? See how he whisks his tail, and tries to find out what is on his log—and yet he doesn't dare touch it."

"Oh, mother, isn't he funny? See him now! He sat right up and folded his hands on his stomach, and chattered to himself about it!" chuckled Joseph, gleefully, under his breath.

That was Joseph's first glimpse of Skipjack, as he promptly named his little chipmunk friend.

"We'll be very friendly and quiet with him," advised mother, "and perhaps he may grow friendly with us."

So in a few days, when the camp provisions needed replenishing, and daddy had to tramp to the nearest little mountain town to get more, Joseph begged, "You won't forget plenty of peanuts for Skipjack, will you, daddy?"

Daddy promised, and brought such a big bag that even Joseph was satisfied.

"Let's put two or three out on the wash basin log, and then he'll be pleased and come again, and we'll watch for him and give him some more every time and see if we can't get him tame."

Sure enough, Skipjack, who seemed overwhelmed with curiosity in regard to the wash basin and soap dishes that now decorated his own favorite log, soon appeared—and—could it be a peanut?

He cocked his little shiny black eye at it, whisked his tail very fast, sat on his little hind legs and looked again, finally seized one peanut, stuffed it in his cheek, gave a flying leap to the ground, another flying leap up the trunk of the nearest pine tree, raced to the topmost branches, in spirals round the trunk, down again, in the same excitement, and finally scampered off and popped down into one of his many convenient holes.

Joseph and mother and daddy, watching, but concealed behind some bushes, were convulsed with merriment. After that, Joseph kept the old wash basin log spread as a tempting feast, till frisky little Skipjack lost all fear of the basins, pails and soap boxes and scampered over them all, and didn't mind even if they clattered a little. At first, the least clatter was enough to send him tearing off the log and up the highest tree.

One day daddy brought a fresh supply from town, and Joseph, finding an empty lard pail with a cover, put the peanuts in that, and banged the cover on tight.

"Now they are safe, even if he gets very friendly," he remarked, "and I'll put the pail in my corner of the tent."

Next morning, when he went to get some nuts, being reminded by Skipjack, who sat out in the sunshine on the wash basin log, chattering impatiently, he found the cover off and the pail empty.

"Why, mother, did you or daddy take Skipjack's peanuts?" called Joseph.

No, they had neither one seen them. But who could have taken every single peanut, and right in the tent, too? There wasn't anybody who could possibly have opened the pail except mother or daddy or himself. Then his eyes opened very wide and he gasped:

"Mother! Daddy! You don't suppose Skipjack took them himself, do you? He has little hands, you know—but he couldn't, could he; and he wouldn't dare walk right over me when I was asleep, to get them, would he?"

Daddy gave a low, ruminative whistle. "The scamp! I wonder if he did! But if he has made off with a whole pailful of peanuts he certainly has no business to sit up on that log now and claim to be starving! Listen to his chattering!—as if he had been starved a month! I'll tell you, Joseph, I'm going into Edgewood again today, and I'll bring another supply of rations for Mr. Skipjack, and we'll spy on him!"

Joseph was all impatience till daddy came back. He had his lard pail ready, and he and daddy put a few peanuts in it and set it out on the log, and then, with mother, hid themselves, to watch, and kept very, very still.

Presently Skipjack frisked up on the log, his nose so close to the bark, smelling for peanuts, that he almost bumped into the pail; and Joseph, in hiding, clapped his hand over his mouth to keep from laughing out loud.

In his astonishment Skipjack sat up very straight and whisked his tail very fast, then hopped off the log, then hopped up again, apparently looked very hard in all directions to make sure no one would detect him, and then set industrious to work to open the pail.

The cover was on tight, and the pail was tall, but Skipjack was persevering. Using his little front paws like hands, and pushing with his little black nose, he had the cover almost off, when off rolled the pail with a great clatter to the ground.

Such an unexpected interruption sent poor Skipjack chattering to the top of his pine tree, and Joseph threw himself flat on the ground and pressed both hands hard on his mouth. But presently Skipjack was back, very indignant, and more than ever bent on getting that cover off—and yes—bang!—there it went, and Skipjack had the pail on its side, stuffed a peanut into each cheek, took a third one between his teeth and scampered gaily for his hole.

"Well!" said daddy. "I wouldn't have believed it!"

"Oh, daddy, isn't he the smartest, cunningest Skipjack!" Joseph shouted with long pent-up laughter.

"I'll take a hand in this game now, too," said daddy, "and we'll see how much the little scamp does know."

He took the pail, put a few nuts inside, put the cover on tight as before, then stood the pail bottom side up, on the log, and once more they all went into hiding.

Soon Skipjack reappeared, always wary, but intent on finding his peanuts. He spied the pail at once, and immediately set to work. But where was the part that came off? He chattered very wrathfully; then in a sudden flash he seemed to solve the problem. The pail was pushed over, cover off, and peanuts carried off as before.

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It is the foundation of health and human energy. It produces the stamina and the strength to do things. On the field of battle—as well as on the tables where peace and plenty reign—chocolate has proved itself a 100% food.

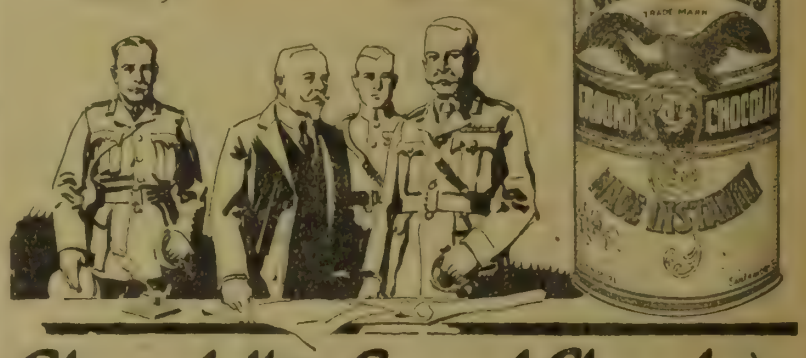
To insure supreme quality chocolate you must *insist* upon Ghirardelli's. It comes *only* in cans *—for your protection.*

At the store where you do your trading—in ½ lb., 1 lb. and 3 lb. cans.

"Say Gear-ar-delly"

D. GHIRARDELLI CO.

Since 1852 San Francisco



Ghirardelli's Ground Chocolate

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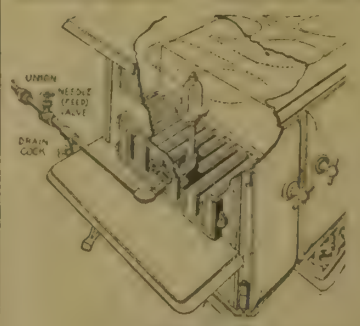

All the heat possible for the least money—that's what we all want and that is what we are offering you in the perfection of combustion with a cheap by-product—common kerosene—as produced by the "Premier" Burner.

You can buy an installation complete or in part—all connections standard.

The Burner—$5.00 Prepaid

Balance of outfit, complete for one burner, in medium size cookstove—$4.85, express charges collect.

PREMIER BURNER CO.

246 SOUTH SPRING ST. LOS ANGELES, CAL.

Ask for Circular "B" and drawing —Mention size and style of stove.

OPPORTUNITY

They do me wrong who say I come no more
When once I knock and fail to find you in;
For every day I stand outside your door
And bid you wake and rise to fight and win.
Wail not for precious chances passed away!
Weep not for golden ages on the wane!
Each night I burn the records of the day;
At sunrise every soul is born again.

Laugh like a boy at splendors that have sped;
To vanished joys be blind and deaf and dumb;
My judgments seal the dead past with its dead,
But never bind a moment yet to come.
Though deep in mire, wring not your hands and weep;
I lend an arm to all who say: "I can!"
No shamefac'd outcast ever sank so deep
But yet might rise and be again a man.

Dost thou behold thy lost youth all aghast?
Dost reel from righteous retribution's blow?
Then turn from blotted archives of the past
And find the future's pages white as snow!
Art thou a mourner? Rouse thee from thy spell;
Art thou a sinner? Sins may be forgiven!
Each morning gives thee wings to flee from hell;
Each night a star to guide thy feet to Heaven.

—Walter Malone of Mississippi.

"I'm his friend now," laughed daddy, "and he can have all the peanuts he wants this summer!"

"But he doesn't eat them, does he?" asked Joseph. "He can't eat all he carries off."

"No, he has various storehouses—the holes you see him pop down—and he eats some and puts away the rest for winter. He'll have a very comfortable time next winter, won't he?"

"But what does he do when people don't come and camp near him and give him peanuts?"

"Oh, there are pine-nuts, you know, and hazelnuts, but he seems to prefer peanuts, doesn't he? Or maybe he is lazy and thinks it's easier to have peanuts handed out to him, all ready to store, than it is to skirmish all through the woods after his own winter supplies."

All that summer Joseph and mother and daddy grew more and more intimate with bright, furry little Skipjack, and he apparently trusted them more and more daily, till at the end of the summer he considered himself one of the family, and would dart up on Joseph's shoulder, or into his pocket after peanuts—but only if Joseph would keep still. He never learned quite to trust any sudden movement.

When it came time to pack up to go home, poor little Joseph was almost in tears, but not quite, because, you see, he was "seven—going on eight."

"Never mind, dear," comforted mother; "we all know he has plenty of peanuts for all winter—more than a dozen Skipjacks could possibly eat—and he will sleep in his holes, and wake up and eat the peanuts you gave him, and next winter you can think about him all curled up snug and warm underground, with lots and lots of peanuts around him, all ready to eat whenever he wakes up. We have all had such a good time here that you know we are coming back next summer, and we'll bring a flour sack of peanuts with us, and put some out on the wash basin log just the first minute we get back; and I'm sure little Skipjack will whisk right out of one of his holes to see us, and after he has sat up on his little hind legs and folded his hands over his little fat, furry tummy, and looked at us very hard, to make sure it is really we, his own old friends, you'll find he will soon be just as friendly as ever. Surely, Joseph, you wouldn't want to take him with you! Think how very, very unhappy he would be in a tiny cage, when he has been used to scampering up great trees, and over logs, and down holes. I hope you'll never, never want to cage any happy, wild thing, dear," she added wistfully.

"No, mother, I couldn't bear to make him unhappy; and if we are coming back sure pop next summer, why, it's all right." Joseph looked almost happy again.

"Sure pop," laughed back mother, with a hug, "aren't we, daddy? Next summer we'll bring a camera and take Mr. Skipjack's picture; and maybe we'll find something else to make friends with, too."

"What?" Joseph was all interest.

"I don't know," mused mother, "but you know how Farmer Griffin's chickens have been disappearing all summer, and yet nobody has seen the thief, though they find plenty of his footprints, and we might get on friendly enough terms with that old coyote, at least to see him."—Rose Brooks.

NEW ENGLAND APPLE BROWN BREAD.

Here is a recipe for the best ever apple brown bread: Two cups corn meal, 1 cup rye, 1 cup wheat or graham flour, 1 cup molasses, 1½ cups warm water (part sour milk is better), 3 apples chopped fine or some think apple sauce, 1 cup raisins, salt and a spoonful of soda. Put into a greased and floured pail or baking powder tins with tight cover. Steam four hours, remove cover and dry in oven a few minutes. The amount of wetting cannot be told exactly; it should be a batter about like gingerbread. This brown bread, served with baked beans, is all one can desire.

PUMPKIN RECIPES.

Pumpkin Croquettes.—Mix 2 cupfuls of stewed and drained pumpkin with 2 tablespoons of butter, salt, pepper and paprika to taste, and ½ cupful of crumbs. Heat, stir well together and when cool form into croquettes; brush over with beaten egg, roll in bread crumbs. Fry in hot fat, drain and serve with a tomato sauce.

Pumpkin Souffle.—Add to 2 cupfuls of hot stewed pumpkin, which has been pressed through a sieve, 1 tablespoon of butter, the yolks of three eggs well beaten, 1 tablespoon sugar, 1½ cups of rich milk, salt, pepper, paprika to taste, then fold in the beaten whites of the eggs. Pour into a buttered baking dish and bake until firm. Serve at once.

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Unusual warmth, comfort and economy!

Cut out winter underwear frills and *save a lot on the price you usually pay!* Put it flush up to Hanes quality, Hanes workmanship, and Hanes fleecy warmth to carry you through the stiffest winter with maximum comfort! *And it will!* Hanes Heavy Winter Weight Underwear—Union Suits and Shirts and Drawers—is value extraordinary! Made of fine, long-fibre cotton, it will win you hands down after the closest inspection.

Every Hanes seam is guaranteed unbreakable. Every pearl button is sewed to stay on! Tailored Collarette fits the neck snugly, preventing gaps. Elastic shoulders hold their shape and give with every motion.

GUARANTEE—*We guarantee Hanes Underwear absolutely—every thread, stitch and button. We guarantee to return your money or give you a new garment if any seam breaks.*

Union Suits HANES Shirts and Drawers
ELASTIC KNIT UNDERWEAR

Illustrated here is the Hanes Heavy Winter Weight Union Suit, the highest type of underwear ever sold at popular prices. Note the snug-fitting elastic wrist and leg cuffs. *Closed crotch stays closed!* Hanes Heavy Winter Weight Shirts and Drawers are the standard of the nation sold at a popular price.

Keep the Boys Warm

Hanes Union Suits for boys are actually the men's suits in boy sizes! In friendly warmth, comfort-fit and long service they are in a class by themselves—the finest boys' union suits we have ever seen. If your dealer does not have Hanes *write us at once.*

P. H. HANES KNITTING CO.
Winston-Salem, N.C.
New York Office: 366 Broadway

Warning to the Trade—*Any garment offered as Hanes is a substitute unless it bears the "Hanes" label.*

HANES
Greatest Winter Underwear Sold at Popular Prices

Convert your old-fashioned bathrooms

into modern bathrooms to which you can conduct your guests with a feeling of pride.

The combination of beauty and simplicity contained in Pacific Plumbing Fixtures make them the vogue. Their added convenience, and the amount of unnecessary work they save, will more than compensate for their moderate cost.

Write for a copy of the Book of Bathrooms. It's a 56-page book, brim full of helpful ideas on bathroom arrangement.

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ASK YOUR DEALER About This Labor Saver

Cocoa Naptha Soap is made right here at home by the Los Angeles Soap Company.

Dealers like to handle it because it gives such universal satisfaction.

NO BOILING—
LESS TOILING—
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The Biggest Cake of Laundry Soap for the Least Money

Market Comment

Duration of Wheat Price Guarantees.

Judging from a considerable number of inquiries regarding purchase of the 1918 and 1919 wheat crops, in view of prospects for early peace, the following statement is issued by the U. S. Food Administration: The President's proclamation of February 21, 1918, fixing guaranteed prices for the 1918 wheat crop, applies to wheat "harvested in the United States during the year 1918 and offered for sale before the first day of June, 1919, to such agent or employee of the United States, or other person as may be hereafter designated," at the principal primary markets specified. The Food Administration Grain Corporation was designated, June 21, 1918, to purchase the 1918 wheat crop and will therefore continue to exercise that duty and obligation, even though peace should be signed prior to June 1, 1919. The Food Control Act provides that termination of the act shall not affect any obligation accrued or accruing during its existence, and the purchase of the 1918 wheat crop is such an obligation. The President's proclamation of September 2, 1918, establishing guaranteed prices for the 1919 wheat crop, applies to wheat harvested in the United States during 1919 and offered for sale before June 1, 1920. As in the case of the 1918 crop, the wheat must be offered for sale "to such agent or employee of the United States, or other person as may be hereafter designated," at any one of the principal primary markets. Up to the present date, however, the agency by which the 1919 wheat crop is to be purchased has not been designated. Thus, although the guarantee for the 1919 wheat crop will continue until June 1, 1920, there is no present assurance it will be purchased or handled by the Food Administration Grain Corporation.

Government's Bean Purchases.

Recent bean purchases by the United States Grain Corporation, amounting to about 60,000,000 pounds, included 25,000,000 pounds of Colorado and New Mexico Pintos at 7c f. o. b., 15,000,000 pounds Michigan white beans at 9@9¼c, 5,000,000 pounds California pink beans at 7c, 10,000,000 pounds California small white beans at 8¾@9c. These purchases and some earlier in the season are expected to cover the army and export requirements for the next 90 days.

From Orchard to Market.

A Lindsay orange grower has just handed the Rural Press the following statement of present cost in getting oranges from the orchard to the consuming market:

Picking (lug box) 10c
Hauling to packing house (per box) .. 7c
Packing (packed box) 62c
Freight to New York $1.12

In estimating total cost it must be borne in mind that the lug boxes furnish fruit for only 66 per cent of the packed boxes.

Poultry Shipping Embargo Removed

The American Railway Express Company has rescinded the order placing an embargo on the shipping of standard-bred poultry for breeding purposes. This is good news to the poultry breeders of America, as all shipments will be carried by all express companies without delay.

January Hog Prices.

It was decided by representatives of the United States Food Administration, the committee of packers sharing in foreign allotment orders, representatives of the agricultural advisory committee and special representatives for the swine producers that the prices of hogs for January shall be continued on the same basis as in November and December.

New Low Price for Horses.

The U. S. Agricultural Department states that farm horses are now cheaper than they have been for ten years. Prices paid this year, it says, average $127.98. In 1910 the high-water mark was reached at $145.22, and prices have fluctuated between the two figures since then.

THE MARKET REPORTS

Where commodities are consigned on a commission basis, the only price obtainable is the San Francisco price, from which customary charges are deducted to ascertain actual price paid to producer. Lines of commodities sold on exchanges, as butter, eggs, cheese, grain, etc., are priced according to exchange figures, which are not the prices paid to grower. From these figures must be deducted the legal percentages permitted to be taken by wholesalers before remitting balance of sale price to shippers. Schedules of discounts governing these transactions may be obtained from the offices of the Food Administration or of various exchanges.

SAN FRANCISCO

San Francisco, December 11, 1918.

WHEAT.

Per bushel—
No. 1 hard $2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1 .... 2.16
do, No. 2 .... 2.13
do, No. 3 .... 2.09

Recleaned for seed, per ctl.—
California Bluestem .... $4.15@4.25
Early Baart .... 4.15@4.25

BARLEY.

Prospect of shipments to Europe and possibly to China, if the local brewers decide to build in that country, gives additional strength to the barley market, although there are no quotations on shipping and brewing descriptions.
Choice feed, per ctl .... $2.20@2.25

OATS.

Oats are firm in sympathy with the stronger barley market. It is reported that the local grain exchange plans to renew "calls" of all the grains after the first of the year. This report adds to the firmness of the grains.
Red feed, per ctl .... $2.50@2.60
Red for seed .... 2.65@2.90
Black for seed .... 2.80@3.00
Recleaned Red or Black for seed 3.35@3.50

CORN.

There are no changes in the corn situation and the quotations given below are regarded as nominal.
Egyptian, choice .... $2.75@3.00
Milo .... 2.70@2.75

HAY.

Receipts of hay for the past week were 561 tons, compared with 841 the previous week. Shortage of cars, of which there has been considerable complaint during the week, is doubtless the main cause for the decrease in shipments. At some stations, however, there were plenty of cars, but shipments were refused as weather conditions threatened to damage the hay while en route. Most of the arrivals have been alfalfa, some in fair condition and some in very bad condition.
Wheat, No. 1 .... $25.00@27.00
do, No. 2 .... 19.00@23.00
Choice tame oat .... 24.00@26.50
Wild oat .... 19.00@21.00
Barley .... 19.00@21.00
Alfalfa .... 17.00@21.00
Stock .... 17.00@20.00
Barley straw .... .50@ .80

FEEDSTUFFS.

There is no change in quotations of feedstuffs this week. While the market is quiet, there is an underlying strength which indicates that not much lower prices may be expected. The expected speedy reopening of the markets of the world makes the dealers feel that prices will go no lower.
New alfalfa meal, per ton .... $35.00@36.00
Coconut cake or meal .... Nominal
Cracked corn .... $86.00@88.00
Oilcake .... 77.00@78.00
Rolled barley .... 45.00@47.00
Rolled oats .... 55.00@57.00
Fish meal, per 100 lbs .... 4.80@ 5.00

POTATOES, ONIONS, ETC.

Potatoes and onions are practically dead, and while quotations are not lowered scarcely any stock is moving at these figures. Eggplant is now selling exclusively by the pound. String beans are slightly lower than last week's highest price. Tomatoes continue to come in, but there is little demand for the quality now on the market.
String beans .... 12@15c
Lima beans .... 8@9c
Carrots, per sack .... 85c@$1.00
Rhubarb, San Jose, per box .... $1.00@1.25
Pumpkins .... 75@90c
Cucumbers, hothouse, box of 30 .. $2.50@3.00
Eggplant, per lb .... 6@7c
Livingston .... None
Lettuce, per crate .... $1.50@2.00
Celery, bunch .... 20@25c
do, crate $3.00
Tomatoes, per crate—
Bay .... 75c@$1.00
Potatoes—
Garnet, Chile, on street .... None
Fancy whites .... $1.75@2.00
Choice .... 1.40@1.65
Sweets, per sack .... 2.75@3.00
Onions—
River Reds .... None
Yellows .... 90c@$1.00
Australian Browns .... 90c@$1.00
Fancy .... $1.15@1.30
Garlic, new .... 20@25c
Green corn, Alameda, per sack .... Nominal
Okra, per box .... None

BEANS.

Nothing occurred this week to stir the bean market to activity. Quotations on cranberry and pinks were lowered slightly in an effort to move some of the stock, but the new prices found almost no demand. Other descriptions are unchanged.
Bayos, per ctl .... $7.25@7.50
Blackeyes, new crop .... 5.50@5.75
Cranberry beans .... 8.00@8.25
Limas (south, recleaned), new crop $10.50
Pinks .... $6.65@6.75
Mexican Reds .... $6.75@7.00
Tepary beans .... 5.00@5.50
Garbanzos .... 8.00@8.75
Large whites, new crop .... 8.20@8.30
Small whites, new crop .... 9.25@9.40

POULTRY.

The market is well supplied with Eastern stock and there is no prospect of any advance in hens and roosters, as excess shipments to arrive during the next week from the East will take care of the increased demand expected during Christmas week. Those having poultry and turkeys should ship the week previous to Christmas, as that is the time when retailers are most anxious to buy. It is anticipated that there will be a good shipment of dressed Southern turkeys at Christmas time and that this shipment will tend to equalize prices at that time. Christmas turkeys are expected to be a few cents lower than at Thanksgiving time.
Turkeys, live, young spring, lb .... 36@38c
do, old .... 35@36c
do, dressed 45c
Broilers, 1½ to 2 lbs .... 39@42c
do, 1¼ lbs 43c
do, ¾ to 1¼ lbs 45c
Fryers 35c
Hens, extra, per lb., colored 33c
do, Leghorn 33c
Smooth young roosters, per lb. (3 lbs. and over) 33c
Old roosters, colored, per lb 24c
Geese, young, per lb .... 32@35c
do, old, per lb .... 30@32c
Squabs, per lb .... 55@60c
Ducks .... 30@32c
do, old .... 27@30c
Belgian hares .... 23@24c
Jack rabbits .... $3.25@3.75

BUTTER.

The price, 63 cents, was not changed this week, notwithstanding the demand and the fact that the milk canners are still paying excess prices for milk, and thus diverting much cream which otherwise would go to the dairies.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	63	63	63	63	63	63
Prime first	59	59	59	Nom.	..	..
Firsts	58	58	58	Nom.	..	..

EGGS.

Eggs were steadier this week than for some time past, extras closing at the same price as last week, with extra firsts and pullets higher. The general opinion is that eggs have now about reached the end of their "skyrocketing." Although they may go a cent or two higher on some calls, and may not go much lower before the end of the year, the approach of the new laying season and the large number of eggs in storage, which must be consumed in little more than a month, are elements of weakness which are expected to show in quotations in the near future. The same conditions prevail in the Eastern markets and unless an unexpected demand arises in New York the storage eggs in Chicago are expected soon to become the dominating feature of the egg market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	82½	82½	81	82	82½	82
Extra 1sts	80	81	81	81	81	81
Firsts			Nominal			
Extra pullets	76½	77½	77½	77	78	78½

CHEESE.

The high cost of milk is the main reason given for an unusually small output of cheese, and this is naturally followed by higher prices. The makers of Cheddar have practically withdrawn that product from the market.
California Cheddar, flats, fancy .. Nominal
Fancy California flats, per lb 35½c
Oregon triplets, fancy 38c
Monterey cheese .... 25@28c

FRESH FRUITS.

Apples continue in good demand at unchanged quotations. Pears and persimmons have also had good sale this week, and the few grapes on the market found ready buyers.
California apples .... $1.00@2.00
Northwest apples .... 2.00@3.75
Winter pears .... $2.00@3.00
Persimmons .... 1.00@1.50

CITRUS FRUIT.

The best price for oranges this week was $5, and excellent navels are selling as low as $3. Lemons also are selling at a lower figure than last week, fancy lemons not bringing more than $5 as the top price. Grapefruit is unchanged.
Oranges, navels .... $3.00@5.00
Mandarins .... 1.75@2.00
Tangerines .... 2.50@3.00
Lemons, fancy .... 4.50@5.00
do, choice .... 4.00@4.50
do, standard .... 3.50@4.00
California limes 1.50
Grapefruit, new .... 2.25@3.00

HONEY.

Honey continues weak, with practically no demand. One lot of extra fancy clear water white honey was shipped by a grower to the city with a request that it be sold to the trade at 20c, less commission. If this honey can be jobbed so as to retail at 25c, its high quality will probably sell it. However, buyers at present are not anxious to handle on commission.

DRIED FRUITS.

There were no changes in the situation or prices of dried fruits this week.

RICE.

Paddy rice, 1918 crop $4.32
Clear No. 1, 1918 crop, at mill 7.00

LOS ANGELES

Los Angeles, December 10, 1918.

BUTTER.

Continued light receipts and the consumptive demand holding up caused buyers to bid prices up Monday. With light production here on the Coast, the home trade taking all that is being made and Eastern markets complaining of light receipts and light cold storage stocks, caused an advance there of ½c and this had a sympathetic influence upon the market here. Receipts here for the week were only 223,798 pounds, against 254,800 pounds the same week last year. This showing caused buyers to bid extras up 1c on Monday and there was more trading than for some time. The market situation is strong.

We quote:
California extra creamery 61c
do, prime first 59c
do, first 58c

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	60	60	60	60	60	61
1917—						
Extra	42	42	43	43	45	45

EGGS.

A firm market was had the past week. Receipts of fresh ranch eggs by rail for the week were 2080 cases; the same week last year 2780 cases. As the supply of fresh eggs coming in continues short of the demand, the cold storage stocks had to be drawn on pretty freely to help out. Eastern markets are the highest for many years and that had a sympathetic influence upon the market here. Fresh eggs in New York Monday sold at 95c. The Government report the first of the month made the cold storage stocks of the country 1,000,000 cases short of this time last year. Hence this unusual price. Bullish influences surround the market.

Daily quotations—

	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
1918—						
Extra	75	73	73	75	75	75
Case count	70	70	70	70	70	70
Pullets	67	65	65	69	69	70
1917—						
Extra	52	51	51	51	49	49
Case count	49	48	47	47	47	47
Pullets	46	45	45	45	45	43

VEGETABLES.

Peppers were steady and in fair demand. String beans are out of the market. Peas in fair demand and steady. Lima beans firm but selling slowly. Sweet potatoes dull and weak. White potatoes were steady to firm. Idaho were in light supply and sold a little higher. Stockton Burbanks were in good supply and sales slow, though prices unchanged. Onions firm and in fair demand. Offerings light. Fancy Brown brought a little more money. But few tomatoes in and fancy stock sharply higher. Cabbage dull but steady. Cauliflower in fair demand at old prices. Celery steady and firm.

We quote from growers:
Peas, per lb .... 9@12c
Bell peppers, per lb .... 6@6½c
Chile peppers, per lb .... 4@5c
Lima beans .... 6@7c
Potatoes northern, per cwt .... $2.00@2.25
do, Idaho Russets, per cwt .... 2.10@2.15
Sweet potatoes, per cwt .... 1.75@2.25
Garlic, per lb 20c
Onions
Australian Brown, per cwt .... $1.65@1.75
White Globe, per cwt .... 3.25@3.50
Cabbage, per 100 lbs .... .75@ .85
Celery, crate .... 4.00@4.50
Tomatoes, No. 1, lug .... 1.20@1.30
do, No. 2, lug .... .30@ .40
Cauliflower, standard crate .... 1.50@1.75
Hubbard squash, per cwt $1.00
Banana squash, per cwt 1.00
Pumpkins, per cwt .... .75

POULTRY.

Not much coming in the past week and not much wanted. What arrived met with a fair demand at old prices. Turkeys were in most request and may be called firm. The following prices were agreed upon last Friday, December 7, and hold good until the coming Friday:
Broilers, 1@1¼ lbs 37c
Broilers, 1½@1¾ lbs 41c
Fryers, 2@3 lbs 33c
Roasters (soft bone), 3 lbs. and up 30c
Stags and old roosters, per lb 20c
Hens .... 28@32c
Tom turkeys .... 31@34c
Ducks .... 22@28c
Geese 28c

FRUITS.

Apples continue to attract most attention and are meeting with a good demand. Prices are firm. Fancy stock brought a little more money. Guavas and Japanese persimmons in light supply and market for them showed a little more strength. Not many coming in.

We quote from growers:
Apples—
King Davids, 4-tier .... $2.75@3.00
Black Twigs, 4-tier 3.00
Baldwins, 4-tier 2.25
Red Pearmains, 4-tier 1.75
White Pearmains, 4-tier 2.00
Yellow Newtown Pippins, 4-tier .... $1.75@2.00
Bellefleur, 4½-tier .... 1.60@1.75
do, 3½-tier .... 1.75@1.90
Bellefleur, 4½-tier .... 1.60@1.85
Jonathans, Northwestern pack 3.00@3.25
Winesap, loose, per lb .... 5½@6c
Japanese persimmons, per lb .... 4@6c
Guavas, per crate of 30 baskets .. $1.75@1.85

BEANS.

There was no life to this market the past week. There was little demand for any kind and dealers don't look for any improvement in the market until after the Christmas holidays.

We quote from growers—
Limas, per cwt $10.00
Large white, per cwt .... $8.00@9.00
Small white, per cwt 8.00
Pink, per cwt 6.50
Tepary, per cwt 4.50
Blackeyes, per cwt 4.00

WALNUTS.

The season is fast drawing to a close. Few are to be had from first hands and those from independent growers are mostly culls. Prices remain unchanged. The association is still sending out a few on contract, about one car a day.

We quote f. o. b. California points:

	1918	1917
Fancy budded	33c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

HAY.

There were fair receipts the past week, but mostly low grades, which were hard to move. Choice was scarce and in good demand at steady prices. The dairy people were the best buyers, mainly of alfalfa. Horse hay still much neglected.

Barley hay, per ton	$24.00@25.00
Oat hay, per ton	26.00@28.00
Alfalfa, northern, per ton	21.00@22.00
Alfalfa, local, per ton	22.00@24.00
Straw, per ton	9.00@10.00

COTTON.

A bullish ginning report caused shorts to cover outstanding short contracts and there was more disposition to support the market than for several weeks. The current week opened Monday in New York with a firmer feeling, caused by the announcement that the Committee on Cotton Distribution had prohibited short selling. But the early advance caused many to realize, and by the close the early advance had been about all lost and the close was much the same as on Saturday. In New York December closed at 27.75c and January at 26.55c. In New Orleans December closed at 27.30c and January at 26.20c.

Is This Your Experience, Too?

"I hope you will never make a reduction in price which would cause a lowering of your standard," writes Mr. Harry E. Watson of Modesto, in renewing his subscription. "I would rather pay you $3 for one year and keep the present high standard than to have it forced to the level of many of the so-called farm papers.

"The value of a farm paper to us is the extent to which we can depend on its reports. The daily press is of little value, but the effort you are putting forth is appreciated even in places you never heard of.

"The widespread effort of farmers to organize for their common good, with its wonderful effect in every direction, makes a paper like the Rural Press, that is willing to help without being subsidized, of inestimable value to those who are really trying to progress. Our Government found much difficulty in contending with German propaganda, even when unlimited authority was given to put it down. But we poor farmers have to fight the propaganda of the various combinations with only such help as comes our way from willing workers, and we are always sure of finding the Rural Press back of us."

Yes, good friend Watson, you can always depend upon the Rural Press to stand solidly back of the farmers, championing their interests, fighting their battles and helping them solve their problems. And you can rest assured that our standard will never be lowered. No matter what the subscription price may be, the Rural Press will always be a quality paper through and through.

HORTICULTURAL JOTTINGS.

(Continued from page 651.)

Count Francis Forzano expects to harvest a 250-ton crop of olives from 112 acres this year, which only produced fifty tons last year. This place is five miles east of Roseville.

Apple values are well maintained throughout the various marketing points, strong prices ruling. Quality creates demand and an equable clean pack creates confidence, provided it is standardized.

The large orange groves of the Whitney Estate at Rocklin and Penryn are now sending out about a carload of oranges a day and the groves in the vicinity of Lincoln are also shipping out fruit.

B. G. Rooke of Lindsay reports the sale of a carload of Navel oranges to the T. H. Peppers Company of Kansas city for $3,722. The car contained 860 boxes of oranges and were grown on the Phil Baer tract.

Orchard and vineyard men of Sutter county at a recent meeting decided to fix the labor scale to be paid during the coming season at 30 cents per hour. It is hoped that by mutual agreement the price can be maintained.

"C" grade raisins are turning out much better than was expected and the grower may expect something better than the 3¼ cent price formerly named, according to F. A. Seymour of the California Associated Raisin Company.

George A. Lamiman, who has been horticultural commissioner of Shasta county for the last eight years, has resigned. He will still be identified with active orchard work however, and promises his co-operation whenever called upon.

Mrs. E. A. Tremeureux, who has a show orchard of sixty acres of cherries, apricots, plums and peaches on Dry creek, six miles west of Roseville, is installing an irrigation plant to furnish water for the orchard from a 300-foot well.

A mass meeting of wine-grape growers is to be held in the assembly hall of the Phelan building in San Francisco, on Saturday afternoon, December 14, when a number of problems vital to the viticultural industry will be discussed.

Olives from the orchards in the neighborhood of Auburn are being bought up by an Eastern firm and shipped to Corning, Tehama county, for processing. The price paid is $150 per ton f. o. b. Auburn, in lugs furnished by the company.

Some damage has been suffered in the olives of Oroville, Butte county, from two frosty nights though a large proportion of the fruit has already been harvested. However, all the fruit can be used in the Greek olive and oil plants.

Horticultural Commissioner Kellogg of Santa Barbara county, says that 90 per cent of the walnuts grown in California are descended from the Santa Barbara soft shell type, which originated from an accidental cross between the hard shell and the paper-shell imported from France and introduced into this State by the Mission fathers 134 years ago.

Special Citrus Market Report

Los Angeles, December 9, 1918.

The orange market, for several reasons, has been draggy and fluctuating for the past few weeks, and one of the factors contributing to this untoward situation has been the overeagerness of some growers to crowd the market with fruit either immature or immature in appearance. The bad effect of these undesirable shipments has been to lower the general average of prices obtained. However, on the whole, the market is on a firm basis and there is no cause for discouragement. Central California still leads in the shipments, with 1327 cars to date. Southern California is still backward, with a record of only 208 cars, as against 1856 for the corresponding term last year. On Central California shipments there is a wide spread of prices, owing to the preponderance for undesirably large sizes, the prices ranging from $2 to $5.50 f. o. b.; Southern California, $4.50 to $5. Florida oranges appear not to be entirely satisfying to the Eastern trade and are quoted at $3 to $4.45 for the best down to $1.70 for wasty stock.

Lemons are in good supply and of good quality, but are lower in sympathy with oranges. They range from $2 to $4.50 a box in the East and from $2.50 to $5 on the Coast.

Special Livestock Market Report

San Francisco, December 11, 1918.

CATTLE—There is little change in the local cattle market from last week, except that it has recovered from the customary stagnancy of Thanksgiving season. There is spirited rivalry for the few lots of fat steers of about 950 pounds up that are offered. Thirteen dollars per cwt., however, is about the top figure in this market.

Grass Steers—	
No. 1, weighing 1000@1200 lbs.	12¾@13c
do, weighing 1200@1400 lbs.	12@12¼c
do, second quality	11@11½c
do, thin	9½@10c
Cows and heifers—	
No. 1	9@9½c
do, second quality	8@8½c
do, common to thin	6@6½c
Bulls and stags—	
Good	6@6½c
Fair	5½@6¼c
Thin	4½@5½c
Calves—	
Lightweight	11½c
Medium	10½@10¾c

SHEEP—The sheep market is easy, as the equation between the light demand and the light supply is easily maintained. Good prices rule, and there is no indication of a decline.

Lambs—	
Yearling	12@12½c
Milk	14@14½c
Sheep—	
Wethers	11½@12c
Ewes	9@9¼c

HOGS—Hogs continue to arrive in plentiful supply and in good average condition. The Western Meat Co. was out of the market for a few days, but is buying as usual again, the labor situation having much improved. Indeed, Tuesday of this week scored a record kill, 1226 head going under the block. Prices unchanged.

Hard, grain-fed, 100@150	16c
do, do, 150@300	16½c
do, do, 300@400	15¾c

Los Angeles, December 10, 1918.

CATTLE—The tone of the market the past week was a little firmer, though prices show no quotable change. There continues a scarcity of choice fed steers. Owners of thin cattle are a little more independent since the rains and the market for them may be said to be firmer.

Per cwt. f. o. b. Los Angeles—	
Beef steers, 1000 to 1100 lbs.	$9.00@12.00
Prime cows and heifers	8.00@ 9.00
Good cows and heifers	7.00@ 7.50
Canners, per cwt.	5.50@ 6.00
Calves, per cwt.	8.50@10.00

HOGS—A steady and rather firm market was had the past week. The offerings were only fair; quality good. This, with firm markets East, encouraged buying and the market was fairly active at last week's prices.

Heavy, averaging 275@350 lbs—	$14.00@15.00
Mixed, 225@275 lbs.	15.00@16.00
Light, 175@225 lbs.	16.00@16.50

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—The market the past week was much the same as the week before. Not many really fat sheep and lambs are to be had. What were offered found ready sale at last week's prices.

Per cwt. f. o. b. Los Angeles—	
Prime wethers	$9.00@10.00
Prime ewes	8.50@ 9.50
Yearlings	9.50@10.50
Lambs	15.00@16.00

Portland, December 10, 1918.

CATTLE—Strong; receipts, 148. Steers, prime, $11.50@12.00; good to choice, $10.50 11.50; medium to good, $9.50@10.50; fair to medium, $8.00@9.00; common to fair, $5.50@7.50; cows and heifers, choice, $7.75 @8.00; medium to good, $6.00@7.00; fair to medium, $5.00@6.00; canners, $3.00@4.00; bulls, $5.00@7.00; calves, $9.00@12.00; stockers and feeders, $6.00@9.00.

Classified Advertisements

Rate in this directory 3c. per word each issue.

MISCELLANEOUS.

FOR SALE—Five-gang Moline orchard disk plow, suitable for tractor. Bargain. J. C. Miller, Moraga, Cal.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

FOR SALE—300 gal. Simplex churn, Hercules gas engine, 100 gal. twin vat, 300 gal. Wizard pasteurizer, 150 gal. Jensen pasteurizer, 300 gal. vat, and 4 H.-P. boiler, all in good condition. F. H. Daniels, 1420 Park St., Alameda.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

FOR SALE—No. 18 Holt tractor, Moline 4-disk plow, 8-ft. double-disk harrow, 10-ft. orchard drag. Terms reasonable. Mrs. C. H. Euans, Gilroy, Cal.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

FOR SALE—2-3 bottom 12-inch Little Genius P. & O. Tractor plow; plowed 150 acres. Good as new; $150 cash. W. E. Barker, Fortuna, Cal.

FOR SALE—No. 15 De Laval Cream Separator, first-class condition, run short time. Fifty dollars crated f. o. b. F. W. Ellerby, B Box 97, Modesto, Cal.

COUNTRY LANDS.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dept., Chico, California.

FOR SALE IN PLACER CO.—20 acres, part in young bearing fruit, peach, pear, apple, plum, and grapes. House, 4 rooms and cellar. Barn, outhouses. Plenty water for irrigating. Price $2000, part down, rest on easy terms. Box 1310, Pacific Rural Press.

WANT TO LEASE, small improved ranch near San Francisco, with option to buy. State terms. Soil and water first consideration, building second. Box 1300, Pacific Rural Press.

FOR SALE IN SUTTER COUNTY—20 acres Thompson's Seedless grape vineyard, 9 years old, 4 miles from Yuba City. Electric railroad station, school and store, 1 mile. Jap camp and well on property. Price $5000. Address Box 586, Marysville.

FOR SALE OR EXCHANGE—40 or 80 acres Would trade for registered Shorthorn cattle. Address: J. S. Fry, Chowchilla, Cal.

WANTED—To hear from owner of good farm for sale; state cash price, full description. D. F. Bush, Minneapolis, Minn.

FOR SALE—Five-gang Moline orchard disk plow, suitable for tractor. Bargain. J. C. Miller, Moraga, Cal.

SEEDS AND PLANTS.

ATTENTION—In order to introduce our Sweet Spanish Onions, we will sell a few pounds of seed in small packages. The onion from this seed is mild and sweet and has no equal. Packages 30c. Seed guaranteed. Orders filled as they come in. Plant December, January, and February. Kirkpatrick-Thompson, Sweet Spanish Onion Industry of California, 667 [illegible], Riverside, Cal.

BUDDED AVOCADOS—Fuerte, Sharpless, Lyon, Dickinson, Blakeman, Puebla, Spinks, Taft, Linda, Rey, Queen, Knight, and others. A fine stock of field-grown trees, $2.50 for one; $2.00 each by the 100; 25c per tree for packing. [illegible] Sherlock, [illegible] East Colorado St., Pasadena.

SUDAN GRASS SEED WANTED—We are in the market for Sudan Grass seed that is free of Johnson Grass, Morning Glory, and other noxious weeds. Send samples and state quantities of seed you have to sell. Bomberger Seed Co., Desk B, Modesto, Cal.

TO THE TRADE—Buy almond trees from an almond specialist. 100,000 almond trees on bitter almond roots, standard varieties. Car load lots solicited. Write for prices. W. T. Hohenshell, Le Grand Nurseries, Le Grand, Cal.

BERRY PLANTS—Burbank Phenomenal berry, Blackberry, Loganberry, Raspberry, Strawberry, Currants, and Gooseberry. Ready now. M. J. Monitz, Berry Specialist, Sebastopol, Cal.

TREES—Bartlett Pears on Japan root. Fine trees with excellent root system. Write for prices. White Ranch Nurseries, H. J. Carse, Mgr., Peardale, Nevada Co., Cal.

A FEW SACKS Honey Sorghum seed. Greatest quantity, best quality silage ever grown—20 cents. Imperial Seed House, El Centro, Cal.

TREES, TREES, TREES.
No war prices.
Cash Nurseries, Sebastopol, Cal.

BEET SEED—Golden Tankard for sale—35c in small lots; 10 lbs. or more, 30c. C. E. Leek, Hopland, Cal.

BARGAINS in Bartlett pear. Address L. J. Eachus, Lakeport, Lake county, Cal., Oak Mound Nursery.

PAYNE WALNUT GRAFTING WOOD—Order now. W. H. Ward, Morgan Hill, Cal.

WANTED.

WANTED—Position as dairy foreman; familiar with efficient and modern methods, productive feeding, testing milk and sanitation. Box 1290, Pacific Rural Press.

25,000 Head Dressed Turkeys

To Supply Our Christmas Trade

In San Francisco and surrounding towns there are fully one million people that we have to help to supply with

TURKEYS for CHRISTMAS

We sold dressed turkeys during Thanksgiving week as high as 48 cents per pound and we hope to sell all the fancy stock we receive for Christmas at the same price.

Ship your turkeys and chickens by express to us if you want immediate cash returns and full weights and the highest possible market prices.

Take Wells Fargo & Co.'s tags and write our name upon them. Don't fail to mark and consign your shipments direct to the old reliable firm of the

Poultrymen's Union

General Commission Merchants

Established 1890 — 209-211 Clay St., San Francisco, Cal.

Our motto is: "We strive to please our shippers."

Still Better Tillage Tools

Deering — McCormick

HAVE you seen the **New Third Lever** on a **Deering** or **McCormick** Three-Lever Disk Harrow? It is a depth regulator. With it you raise and lower the inner ends of the disk gangs to meet *all* field conditions. You do this quickly and easily without in any degree destroying the rigidity of the gangs, for which International Harvester disks have always been famous.

Have you seen the **New and Exclusive Attachment of the Tandem?** This is another feature we are proud of. The connecting braces tie to both leading gangs, extending from the tandem in such a way that the gangs *must* cut the ridges left by the leading gangs. In turning corners, the sliding connecting braces allow natural flexibility and following of the tandem without crowding sidewise.

International Harvester disk harrows have done top-notch good work for many years. They have built-in weight boxes, adjustable forecarriage, 4-wear wood bushings, tall hard oilers, etc., etc. This year they are simply unbeatable.

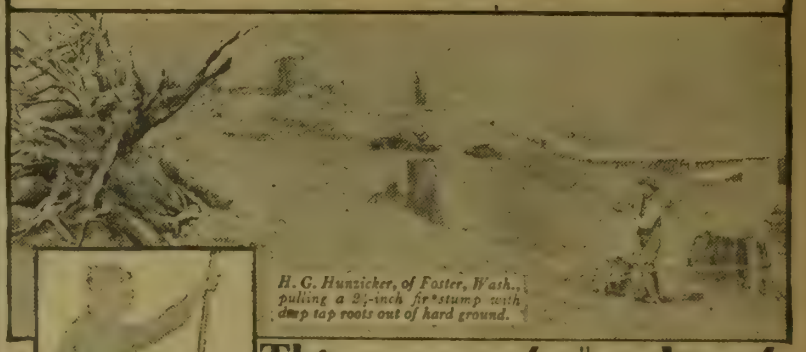
When you want seed beds that are right, be sure your tools —disk harrows, peg and spring-tooth harrows, cultivators, etc. —are **Deering** or **McCormick**. Write us.

International Harvester Company of America

(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

Big Money In Stump Land



H. G. Hunzicker, of Foster, Wash., pulling a 2½-inch fir stump with deep tap roots out of hard ground.

This man made $35 Land Worth $200 an acre Pulling Big stumps *by* hand

CLEAR your stump land cheaply—no digging, no expense for teams or powder. Your own right arm on the lever of the "K" Stump Puller can rip out any stump that can be pulled with the best inch steel cable. I guarantee it. I refer you to U. S. Government officials. I give highest banking references.

HAND POWER

K Stump Puller

Showing easy lever operation

Weight, without cable, 171 pounds

One man with a "K" can outpull 16 horses. Works by leverage—same principle as a jack. 100 lbs. pull on the lever gives a 48-ton pull on the stump. Made of best steel—guaranteed against breakage. Has two speeds—60 ft per minute for hauling in cable or for small stumps—slow speed for heavy pulls. Works equally well on hillsides or marshes where horses cannot go.

Write me today for special offer and free booklet on Land Clearing.

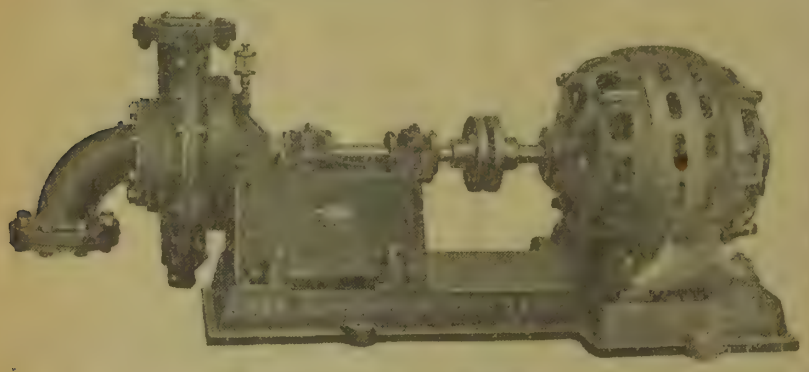
Walter J. Fitzpatrick
Box 12
182 Fifth St.
San Francisco,
Calif.

No Stump Too Big For The K

UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



Write us your conditions.
New Catalog No. 60-A for the asking.

BYRON JACKSON IRON WORKS, Inc.

LOS ANGELES SAN FRANCISCO VISALIA

"A dip in time saved mine"

Harness rots because the natural oils of the leather fiber dry out, and dust, sweat and moisture get in and cause rot. Eureka Harness Oil takes the place of the natural oils and keeps rot out—keeps harness strong, flexible and jet black. No animal oils in "Eureka"; rats, mice and other rodents dislike it and won't gnaw harness dressed with

EUREKA HARNESS OIL

MADE BY STANDARD OIL COMPANY (CALIFORNIA)

CATERPILLAR

Reg. U.S. Pat. Off.

DISC PLOWS

As famous for service and durability as the "Caterpillar" Tractor—both products of the same factory—both the result of long experience and a knowledge of the needs of Pacific Coast farmers.

Built originally for use behind the "Caterpillar" Tractor to make a complete plowing outfit without an equal, these plows can be depended upon to give superior service in any kind or condition of soil, with minimum draft and maximum ease of operation.

Besides being built heavier and stronger than most plows offered for tractor work, "Caterpillar" Disc Plows possess other exclusive points of advantage that are worthy of your investigation. It will pay you to send, today, for the "Caterpillar" Disc Plow catalog.

THE HOLT MANUFACTURING CO.

Stockton, California Peoria, Illinois
Spokane, Washington
Los Angeles, California

Vol. XCVI—No. 25 THE PACIFIC RURAL PRESS Forty-eighth Year

SAN FRANCISCO DECEMBER 21, 19 LOS ANGELES

7-1-20 Stacks Library

Raise the Calves and Prevent a Crisis

Written for Pacific Rural Press by R. H. Whitten

THE OLD ENGLISH PROVERB, "If you would enjoy the fruit, pluck not the blossom," applies to dairying as well as to horticultural pursuits. Changed to a more fitting expression, it would read, "If you would enjoy the fruits of dairying, kill not the heifer calf."

For some time we have been giving facts and figures to show that production in the dairy industry is not keeping pace with consumption, but the really alarming feature of the situation is the way heifer calves have been slaughtered. Government records show that in 1917 the number slaughtered was 26½ per cent greater than in 1916, and fewer calves were saved this year than last. These figures are for the entire United States, but it is safe to say that up to the time the rains came in September the percentage of calves slaughtered in California was fully as great as, or perhaps even greater than, that for the country at large.

Furthermore, probably 40,000 dairy cows have been sent to the butcher on account of high prices of feed, labor and beef, and these will have to be replaced in order to meet the normally increasing demand for dairy products. But how can it be done if the heifer calves are not saved? The dairy industry is one that cannot be suddenly increased, because it requires two years to raise a heifer to producing age and five years to bring her to a maximum production. There is nothing on earth that will make cows in 1920 and 1921 out of the calves that are killed this year. If the calves are not raised now, there will not be enough cows later on, and as we have fewer foundation cows in the State now than normally, it will take us all the longer to rebuild the dairy industry.

There can be no question that in the next few years we are not going to be able to raise dairy cattle fast enough to supply the demand, and to prevent a big shortage we should save every promising heifer calf. As one authority puts it, "No dairyman who kills a heifer calf has looked very far into the future. His best income is going to be derived from growing heifers that he can either use in two years from now or turn off for cash."

From now on a dairyman will be able to breed better cows than he can buy. Before the September rains came good producers were being sold, but since then the farmers have been holding onto all profitable cows and nearly all now being offered for sale are boarders or culls.

Be Particular About the Sire.

The common advice is to keep the heifers from heavy producing cows only, but evidently the ones giving such advice are not "up" on the principles of transmission in breeding. It has been proved that a heifer calf inherits the qualities of her sire's dam more than those of any other ancestor, and the qualities of all the ancestors on the sire's side more than of those on the dam's side. Consequently, the surest way to get high producing heifers is not to merely keep the calves from the best cows, but to have a purebred bull backed by a long line of heavy producing ancestry, and then keep all of his heifer calves that have strong constitutional vigor and good dairy type. I would greatly prefer a heifer calf out of just a fairly good cow, but by a well-bred bull, than one out of a top-notch cow but sired by only an ordinary bull. This statement may bring forth a lot of opposition, but in a later article I shall give you the results of extensive experiments to prove that while a bull calf should have a great mother, it is better for a heifer calf to have a great sire.

But there are a great many factors besides breeding that have an influence upon the value of a heifer as a producer. Looks, form, type and dairy quality are bred into her. Size, capacity and ability to produce large quantities of milk are also determined partly by breeding, but they may be influenced and augmented by proper care and judicious feeding.

With the present prices for grain, and the high prices paid for milk and dairy products, the tendency is to slight the calves, but this is not wise, and if it is necessary to cut down on feed bills it is better to do it by keeping fewer calves and feeding each one well. One heifer well grown will make more profit for her owner than two ordinary ones.

Any calf worth raising at all is worth raising well. Capacity — the ability to consume large quantities of feed and convert them into milk—is one of the essentials of a good dairy cow, and in order to develop this characteristic the calf must be kept growing from the very beginning. Careful attention during the first few months often means the difference between a sickly, undersized animal and a large, well-developed one when it enters the herd as a milking cow. A stunted calf will never recover from the handicap. If it has been improperly reared it will not make a profitable cow. "As the twig is bent, so the tree inclines."

Care of the New-Born Calf.

As soon as the calf is dropped its mother will, under normal conditions, lick it dry. If she is unable to do this, the calf should be rubbed with burlap or straw. This not only dries the coat but also tends to stimulate the circulation, which is often weak. The calf should not be left wet for any length of time if the weather is cold, as this often results in pneumonia and death. Be sure to pro-

(Continued on page 691.)

Healthy, well-bred calves like those in the upper pictures soon develop into high-producing, profitable cows like those in the lower picture. Prevent a cow shortage by saving every promising heifer calf.

PACIFIC RURAL PRESS

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W. H. SCHRADER - - Advertising Manager

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JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

OUR GREATEST CHRISTMAS GIFT.

AMERICA will sing her Christmas carols this year amid the ruins of effete European monarchies. Ever since the Revolution our historians, poets and orators have heralded the crumblings of thrones and the uprising of governments by and for the people unstratified by castes and classes and the world-spread of civilization unfolding equal opportunity for all to pursue life, liberty and happiness, according to their several endowments of speed, capacity and energy, to whatever achievements they might attain without encroachments upon the opportunities of their fellowmen. For nearly a century and a half our declaration of such principles has sounded in the ears of the world, and for five generations mankind has been watching to see if these principles could really be the foundation upon which a great and enduring nation could be builded. Long ago the world credited Americans with wonderful attainments, but they conceded to us no higher attribute than sagacity in seeing and seizing great natural resources and acuteness and enterprise in trading upon their development. The world doubted if we had a national soul. The European imperialists scorned us as possessing no soul for kultur, which aimed at world-dominion. The European proletariat believed that, in spite of our professions, we had no soul for the rights of common men—that our only thought of a poor man was to get his last dollar. Both potentate and proletariat found confirmation of their judgments of us in our national policy dictated by inappreciation of the menace to our boasted principles which the outrage of 1914 really involved. They were hardly more blind to the existence of the American soul than we ourselves were deaf to its outcry that the time had come to discharge its duty for mankind! It becomes the American to thank God most earnestly and penitently at the coming Christmas that the United States saw clearly in the year 1917 the lesson of the year and sprang to its stroke for world-salvation and thus brought victory to those who had fought almost to hopelessness to shield us from perdition while we slumbered and slept. It is a matter for profound thanksgiving that we were not permitted to awaken too late. It is surely not for us to boast of what we have done: let us rather give thanks that we did not fail to do anything. This is our greatest Christmas gift!

THE PRESIDENT'S CHRISTMAS DINNER.

ALL THE wirelesses and the cables have been busy for several days with accounts of the welcome accorded to President Wilson by the people of France and representatives of other nations assembled in Paris to express their satisfaction over his coming in his own person as representative of the American people who have given him the highest honors they have to bestow and who rejoice in the quality and devotion of his leadership. The spirit and methods of the allies' greetings to America have been most profoundly satisfactory and President Wilson has accepted them with proper national pride and individual humility. His presence in Europe at the peace-making gives American participation a dramatic concreteness, definitude and significance which could hardly have been attained in any other way, for humanity's deepest feelings are still reached by seeing and shouting, and we find our own emotions stirred by the fact that Europe sees and shouts for our representative. The effect will be wholesome in many ways.

But the greatest thing thus far about President Wilson's presence in Europe is that which is rumored as possible as we write on Tuesday. It is that our chief magistrate will turn away from princes and premiers, marshals and generals, on Christmas Day, and will dine with the rank and file of American soldiery, unattended and informally. We hope this will be found practicable, for it will be the most significant American thing that can be demonstrated in the eyes of those who are trying to learn democracy. For the relation of Americans to those whom we choose to serve us in the highest stations which we ourselves create is not betokened by genuflection nor by other act of formal worship, but by outspoken cordiality manifested on the plane of equality between man and man in the giving and receiving of honor and good will. Therefore, we hope that President Wilson will partake of Christmas cheer in as large a company of the citizen soldiery of the United States as can be conveniently assembled. And we wish that not alone that he and they can enjoy their cheer together in good American cordiality

To
Every Subscriber
and
Every Advertiser
A
Merry Christmas
and
Happy New Year
from the
Pacific Rural Press

and equality, for they are sure to do that if they get together at all, but because such an event transpiring in their midst will give European people a more concrete and realizable idea of the American equality of conduct and converse than they could possibly get in any other way and will demonstrate to them that the true American way is not by "divine right" of overlordship nor by the devil's right of Bolshevism, but by mutual honor and cordial support to those of themselves whom they themselves select to maintain good order and personal liberty for those who respect the laws which they themselves constitutionally enact and to which they require obedience.

WILL IT BE AT COBLENZ?

IT IS thought that the President may have to go to the Rhine to dine with the American soldiery actually at their appointed tasks and that at Coblenz such a notable event may transpire. Here, then, at Coblenz it may most appropriately be, for here the Rhine ceases its tortuous journey through mountains crowned with castles of ancient Teutonic regime and, taking the waters of the Moselle, speeds across the flat country toward the borders of Holland far away. It is at Coblenz that there arises a colossal equestrian statue of the first emperor of united Germany, whom Bismarck by cruel design of treachery and war installed as ruler over an unwilling people, of whose conquest the statue is a monument and a menace against possible insubordination. It is a foolish thing to erect monuments to commemorate acts of injustice, for they cannot stand. In due time righteousness prevails and such monuments are dishonored if not cast down. Thus it must be with the great bronze horseman of Coblenz. He was a better man perhaps than his tricky ministers made him and better than his offspring, but the world hates the treacherous diplomacy by which the German empire was thrown together and the German states are themselves repudiating the unholy birth of their alliance. There are other monuments of autocracy in the Rhine region which are now sadly anachronistic: German eagles screaming defiance at the French whose land had been sequestered but fortunately not conquered, and a lot more junk set up by autocratic artificers to commemorate victories of cruelty and aggression—things which made us shudder as we beheld them, even before their full significance was revealed by the abomination of 1914. In such an environment perhaps President Wilson will eat his Christmas dinner with the American doughboys, who have already earned the world's homage as heroic veterans. In no place perhaps could the President and the common soldiers of the United States so well measure their equal height and depth against each other as they sing and shout together their joy to remember the new birth of God in man which can make all men free.

CALIFORNIA'S OUTLOOK GOOD.

CALIFORNIA approaches the Christmas season with much joy in the things which make all Americans ready for a Merry Christmas and a Happy New Year. None will forget those who have given their lives that such joy may endure in the world. To them most profound honor and gratitude flow unbidden from all patriotic hearts. None will forget those who have been called humanly to mourn. To them most profound sympathy and all the satisfaction which can come from consciousness of sacrifice for the good of mankind. But it is right for the State to rejoice in the public good which has been saved and perpetuated for coming generations. It is right, also, for us who still linger and have strength to put forth honorable effort to rejoice that our beloved commonwealth is vouchsafed the outlook of a good year in 1919. The rainy season seems to be taking its course toward fullness of production. Restrictions upon industry born of war needs are melting away. Problems involving doubts and difficulties remain, but they always meet productive effort and must be faced with resolution to take reasonable risks, which farming people have been born and bred to do ever since Adam lifted his mattock valiantly against a thistle. All authorities agree that there is no danger of too much good food and that the value of it will as a rule be good also. That is about all the assurance the farmer ever had or can have in his undertakings. It is up to each farmer to arrive at the best judgment he can of what his land can best do and what the market will pay best for, of things within his conditions and adaptations. It is time now that such judgment should be earnestly sought and freely exercised. Framing programs of production may have been a war need, but there is no excuse for further governmental indulgence in it. What farming needs is more facts and less advice. The American farmer, left to the exercise of his own judgment of facts, can see farther around a crop than any of the patriotic people who seem to feel called upon to minister to farming without knowledge of it. If California farmers are thrown back now upon their own judgment and freed from schedules the outcome will be safer and saner. Fortunately California is a land of wide diversity of products and of wide adaptations, and if these are used in accordance with the diversity of facts and foresights of individual producers there will be a better fit to current needs than a whole bureau-full of programs can ordain. No man nor set of men should undertake to program products without being equipped to contract for them. As the latter is impossible, the former should be abandoned. As we believe this will be done, we feel much satisfaction in the concensus of the prophets that produce values will be good because we also believe that producers, left to themselves to calculate what they can profitably undertake in view of excessive cost of labor and supplies required, will come nearer to having something left for themselves at the end of a crop than they can have by following hortatory programs. Our confidence in the outlook lies

not only in the prospect of a year of good natural conditions but in the fact that farmers will follow their own judgments in turning such conditions to economic account.

* * *

CALIFORNIA COMMUNITY COUNCILS?

WE HAVE received the following communication, to which we desire to give careful attention and courteous treatment:

Peace has brought both problems and opportunities. To meet fully the situation the State Council of Defense, acting on the suggestion of President Wilson and the Council of National Defense and through the County Divisions, is preparing to organize in every section of the State a community council. These councils will be formed not only with the idea of service during the readjustment period, but also with the intention that they will live and function to the betterment of their respective communities during the time of prosperity now apparently assured.

These community councils will be thoroughly democratic; their membership will be extended to every man, woman and child, and they will be organized along the broadest possible lines. They will include all the advantages of community centers and farm bureaus, giving the fullest opportunity for community expression and initiative.

Among the immediate problems that will fall to these community councils will be local assistance in bringing about normal demobolization of soldiers, sailors and war workers to the end that they may most wisely be reabsorbed into peacetime pursuits.

If the foregoing appeal was simply to secure community co-operation in finding jobs for returning soldiers and sailors, we would be enthusiastically in favor of it and would exhort all local churches, women's clubs, farm bureaus, and all other farmers' organizations to co-operate in such an effort and to show gratitude to all returning heroes by assuring them a comfortable livelihood through work acceptable to them. This is a thing which all patriotic people should try to do, and they can surely do it better by community co-operation. As to "normal demobilization" and the rest of it, it looks to us too much like a recrudescence of the old trouble we had with those who were advocating "infiltration" of the veterans and keeping them marking time in the mud at Government expense so that wages of those who valiantly staid at home should not be endangered or reduced by competition. The whole idea is so abhorrent to us that we cannot speak respectfully of it. As we have said before, there may be danger of unemployment in cities and those who function in cities in various ways should be alert to avert it. That is a thing which we do not understand and of which we have nothing to say. But we do know and do not hesitate to say that to undertake to keep rural youth away from their homes and the work which is suffering through their absence is an impertinent and outrageously wrong interference with the rights of our veterans and of their parents and their waiting employers on farms and in village industries. We are solemnly and fixedly against organization for any such purpose.

As for the whole whip of which this "reabsorbing" purpose is the "cracker," we dislike and fear it. Why should we have an inspired "community council" in every neighborhood to infiltrate certain notions about "reconstruction" or to inculcate particular doctrines "during the time of prosperity"? If the Government is really encouraging such a thing, it should stop immediately. As a group of individuals with ideas of the value of which it is confident, it is perfectly proper and commendable, for all opposing groups can do the same, but to do such a thing as a Government is un-American. We have admired the way in which the Councils of Defense have kept the people right in their attitude toward the war and we are ready to admire what they think it wise to do to safeguard the results of the war against passivist propaganda by educating the people in the essentials of patriotism and the best interests of all mankind, but to attempt to create by inspiration community councils to displace existing voluntary associations and to be connected up with state and national fountains of political or economic ideas and theories, does not look good to us.

Permanent Paying Positions

Do you want to settle down in a permanent position that will assure you a steady income during the "reconstruction" period that is following the war?

If so, we have something good to offer you in our subscription department. Pleasant work, attending to our renewals and securing new subscribers.

Straight salary, with advancement. No experience necessary, but you must have an automobile. Write for particulars and tell us a little about yourself. Don't let this opportunity pass by.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Has It in for "Grain Farmers"!

To the Editor: In your issue of November 30 "P. B." of Merced wants to know if there is any demand for milo and feterita, and then howls about the middleman. I am running a small dairy and raising hogs. I want to say that the grain farmers as a rule encourage the middleman. I buy nearly all the grain I use and this summer I went to a barley grower and offered him 10c a hundred more than the market price for what barley I wanted, and I would haul it from the ranch. He said: "I will not sell a few tons; it has all got to go together." Another barley grower said: "Yes, you can have it at $2.50." The middleman was selling for $2.20. I would like to buy your correspondent's grain if he will deal reasonably.—P. E. M., Atwater.

We have had other letters from Merced county neighbors who would like to bid for P. B.'s grain. The lesson clearly is that there is a local trade possible between those who have produce to sell and those who are now buying it from local merchants. The lack of such direct trade encourages the local middlemen, as our correspondent claims. But a grower of produce has unquestionable right to say whether he will sell all he has or none of it except at a set price, and a buyer has also the same kind of a right to buy from a local dealer instead of a grower, if he can do better that way and all have the right to cuss each other in a parliamentary way, of course. Still there is undoubtedly a chance for direct trade which should not be overlooked. We have frequently described the advantage of signboards at the farm gates, stating what the farm has for sale. In this way saleable surpluses can often be profitably disposed of. The Farm Bureaus also make announcements which promote local sales. Such sales are often disliked because of indefinite collections. The local dealer gets an advantage by cash payments usually. Still the direct trading is worth encouraging.

Woolly Aphis Treatments.

To the Editor: Can you give the treatment of woolly aphis on the roots of apple trees? I have a young orchard of Gravensteins, not yet bearing, and I find a beginning of infestation of woolly aphis on some of the trees at the crown of the roots. I am informed that a farmer in the vicinity is pulling up his Gravensteins on account of infestation of the roots of the trees by woolly aphis.—W. T., Healdsburg.

Unless the trees are rendered unthrifty by some other cause or condition, they can carry woolly aphis without destroying their profitability and we would never pull up good trees because of this pest. It is exceedingly rare to find an apple orchard free from them. On the roots they can be held in check by drawing away the loose soil and applying wood ashes (from one to five gallons, according to the size of the tree) around the root crown, or by covering in tobacco stems, or by pouring in tobacco extract (1 pound of 40 per cent to 200 gallons of water) so that it will reach the aphis on the larger roots. The ashes or tobacco stems should be used at the beginning of the rainy season to leach out their contents during the winter. The liquid treatment can be applied at any time.

But in ordinary cases of infestation, if the aphis is faithfully killed as it appears on the branches, the root treatment seems negligible. In the spring, when the insects are most active, all colonies of them should be touched with a brush wet with gasoline—not drenched with gasoline, for that might kill the bark in spots: a wet touch is all that a colony needs. If they are too abundant for the colony-touch method, the trees should be thoroughly sprayed with: Nicotine sulphate, 40 per cent, 1 pound; Cresol soap, 1 gallon; water, 200 gallons. It is quite necessary to clean the tree in this way, not only to increase the thrift of it but to be sure of clean fruit. When spraying for codlin month, add one pound of tobacco extract to each 200 gallons of arsenical spray to get the aphis also.

Prune on Peach.

To the Editor: I have six-year-old Muir peach trees which I wish to change to prunes. Would it work well to bud prunes onto the peaches? What time of the year should it be done?—T. H., Healdsburg.

Peaches can be grafted over this winter by putting side-grafts into the main limbs above the forks. This is better than to split the stock, for the peach bark shrinks back and does not heal readily. It is necessary to wax well and watch to keep well waxed. As a safety device, allow the best placed suckers some distance below the grafts to grow out this pring so that you can bud into them later if the grafts do not take. Better than grafting is budding over, which you inquire about. Cut back the branches to a foot or so above the forks when the bloom buds are beginning to swell and when dry dope over the cuts. Allow suckers to grow, select those which are strongest and best placed and put a bud in near the base of each one which you select to use. Do this as soon as you can get plump buds by pinching the tips of new shoots on the prune (probably in June) and when the buds are seen to have taken shorten the shoot above at first and later cut it back to the prune bud when it starts out a few inches.

An Abnormal Orange.

To the Editor: I have an orange tree that bears oranges that have the appearance of a navel and have seeds in it, with red stripes through the meat. What is the name of this orange tree? What causes the stripes?—L. U. H., Biggs.

It is no particular kind of an orange and it has no name and is not worth any, for it has no value except as a curiosity. In old times we used to talk of such freaks as crosses of the navel and the Malta Blood, but more recently the cross pollenation idea has been abandoned because it has been demonstrated that the navel orange has endowment of variability of its own which enables it to put up any number of freaks or abnormalities without the excitement of hybridization. Particular causes for them have not been demonstrated. The thing to do with such a tree, when it ceases to be interesting as a curiosity, is to bud it over with the best type of navel or other good orange of which buds can be obtained.

Topping Olive Trees.

To the Editor: I have several old olive trees that are so tall that it's next to impossible to get the olives from the tops of them, and I don't know whether it would injure the trees if I cut out the tops.—W. M., Oakdale.

You can lower your olive trees by removing the top branches without injury to the trees. It is desirable to cut to a side branch and not leave a stub up in the air to make a lot of brush. If your top-gallants have a crop on now, cut them when the fruit is right and pick from the fallen branches. Heavy pruning can perhaps be best done after the fruit ripens and later, until the time of starting the new growth in the spring. When growth starts after heavy pruning, thin out the shoots so as not to get too much brush. You can do this thinning whenever you have time, for the olive will take the knife almost any time without resentment.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 17, 1918:

Stations—	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	.26	10.60	13.52	62	36
Red Bluff	.01	14.07	7.92	62	34
Sacramento	...	7.17	5.30	52	34
San Francisco	.15	10.64	5.98	62	43
San Jose	.04	9.65	4.46	58	30
Fresno	...	3.75	2.74	56	34
San Luis Obispo	.10	7.15	4.59	68	38
Los Angeles	...	3.96	3.50	74	46
San Diego	.01	3.52	2.11	68	48

THE SNOWFALL.

Emigrant Gap—Five inches of snow on the ground. Nine inches preceding week.
Sierraville—Four inches.
McCloud—Snow in patches.
Huntington Lake—Fifteen inches on the ground. Five inches the preceding week.
Cascada—None. None the preceding week.
Yosemite—Trace. One inch the preceding week.
Summit—Fifteen inches on the ground. Thirty-four inches last week.

Fruit Trees Killed by Oak-Root Decay

Written for Pacific Rural Press by John J. Fox

"The fairies are with us again," said the Tiny Tot walking with her father in the peach orchard last week. "See their little cluster of houses all newly shingled," pointing at some tan-colored toad-stools at the foot of a peach tree with tiny brown scales on top of them. "And they have white-washed the ceilings too," she continued, stooping down to look under the edge of the tallest and bending it over.

"Bless their little hearts, so they have," responded her father, rejoicing in the wonderful romance of infancy, yet groaning inwardly as he recognized in the cluster of toad-stools a manifestation of the Oak-root fungus—one of the most widespread and injurious fungi found in the Pacific Coast region—at once a delight to the exuberant imagination of the child; a fascination to the student and

A THING OF DREAD TO THE ORCHARDIST

This fungus which infects various kinds of roots and wood lying in the soil, attacks the roots of living trees and shrubs causing their death. Professor William T. Horne, assistant plant pathologist at the University of California, told the writer several years ago that probably more orchard trees were destroyed each year from the ravages of oak-root fungus than from any other one cause. The professor, who has been studying and investigating this subject for years, and who has already written largely on this subject, came to Napa some years ago at the writer's invitation to demonstrate what was then the latest experiment for its control, which experiment will be described later on. I shall quote largely from a recent circular of his in this article.

SYMPTOMS AS SHOWN ON TREES.

"Affected trees and shrubs usually show a certain amount of distress before they suddenly collapse and die during dry weather. Sometimes a tree dies suddenly, without previous symptoms, sometimes it lingers along—but finally succumbs. From the behavior of such trees it would not be possible to distinguish between this trouble and certain others, such as gopher injury, root sour sap, etc."

"In orchards the fungus usually develops from a center, spreading outward from tree to tree, year after year, so that in time extensive areas become killed out. Trees replanted within the affected area ordinarily die within a few years. Affected trees, when examined at the root show characteristic symptoms." Cut into the bark of the root and inside is a white fan shaped substance lying flat where the inner bark overlays the sap wood, though the outside bark looks perfectly sound. These white thread masses are called "mycelium" in all kinds of fungus. Well, in addition to this white matter on the inner bark (and it is this white matter that is the sinner that eats up the inner bark) Professor Horne says, "in many of the affected trees the margin of the invaded bark gums copiously. The odor of this decayed bark is not sour but has a sharp, rather agreeable mushroom smell. This white mycelium (on the inside bark) is an invariable sign of the disease." Where a tree is killed by some other agent white mycelium may be found on the outside of the roots of some different kind of fungus, harmless to living trees.

BEWARE THE RHIZOMORPH.

Generally on the outside of the affected trees are found "purplish-brown, cord like bodies growing out from the rotted wood. They resemble rootlets but are smooth and shiny and branch in a different manner." These are called rhizomorphs. A rhizomorph is really a bundle of fungus threads, the outer layer of which has become hardened into a shell. When the tip of one of these comes in contact with a live root of any but immune trees, the threads penetrate the bark and spread out underneath in a fan-shape and quickly cause death. The toad-stools that grow up from the fungus-infested wood are not found in California except in the period from October to February, but apparently there is no danger from the spores attacking living plants.

SUSCEPTIBLE TREES AND RESISTANT.

"Nearly all trees and shrubs may be attacked, though annual or short-lived crops are not usually seriously injured. Also plants with fine, slender roots are not much affected owing to the habit of the fungus developing in roots of some thickness. A few trees have seemed to be highly resistant and some practically immune. French pear is apparently immune while the trees are growing healthily. Black walnut and figs are considered highly resistant. Apples are certainly more resistant than stone fruits."

CONTROL.

Sometimes a tree will go off yellow with small undersized leaves on one side of the tree only, to be followed by death generally the following year. With regard to a tree just attacked Professor Horne says:

"Affected plants may be saved if the soil is removed from the roots and the diseased parts removed—treating the wounds as in other cases of tree surgery with some disinfectant such as creosote, Bordeaux paste or corrosive sublimate (1-1000) followed with asphalt. Usually the disease is not discovered till it is too late to save the tree."

The trained eye of the orchardist is always arrested—especially in a highly productive and well-kept orchard—by any peculiarity of the foliage or growth. He sees a tree looking off-color and of meager growth and says: "Hello, I've got a sick tree here—let's see what is the matter with it." So he takes his shovel and goes to see what is the matter. First he looks for mites perhaps and soon sees that the condition is not due to them or to scales, or any disease of the bark or leaves. Therefore it is due to prianition because the roots are not performing their function. Short of moisture? Can't be—look at the rest of the trees. Gophers? He digs well down and perceives no injury. He chops through the bark of a root with his spade—good, smooth, healthy-looking, innocent bark, perhaps, and there (like a thief under the bed) is the robber—the white mycelium of the oak-root fungus whose Latin name is Armillaria mellea, and generally speaking the damage has by this time gone too far to be stopped.

PREVENTING THE SPREAD OF FUNGUS.

May be accomplished by various means. To dig out two rows of trees surrounding the infected area, though reported successful in a number of cases, is too great a sacrifice as Prof. Horne points out. By digging a ditch 4 feet deep is probably practicable he says, especially where shallow-rooted trees like citrus are involved and in any case may be well worth trying. All the diseased roots within the infected area must be surrounded by the ditch which would have to be re-opened probably every two years or it would settle back sufficiently for the roots to cross and come in contact with diseased material. Various other barrier experiments are still under observation and no recommendation can yet be made positively concerning the use of barriers.

EXPERIMENTS WITH CARBON BISULPHIDE.

The use of carbon bisulphide has been recommended for killing the fungus in the soil, though the precise method of procedure has not been definitely established. Several years ago Professor Horne carried out an experiment of isolating an infected area in the prune orchard of E. C. Spear of St. Helena, putting down a row of holes in damp (but not wet) soil with a crowbar, 18 inches deep and 18 inches apart, and pouring about two ounces of bisulphide of carbon in the hole, which was afterwards sealed by being tramped in with the heel. Two more trees, of which we were doubtful and were left outside the barrier, afterwards went. The same thing happened in the R. S. Pearse orchard. Two trees that looked healthy but were on the line were left outside the barrier and afterward became infected and died—one of them—though not till this year.

RESISTANT TREES BEST IN INFECTED SPOTS.

Professor Horne considers planting of immune or resistant trees to be the best course of procedure on infected spots, unless it can be used for alfalfa or surface crops and vegetables. He will be busy in a further study of this malignant and insidious fungus this season. It is a matter that it is highly important every orchardist should make himself familiar with and take active steps to keep from spreading. Farmers in doubt can get definite diagnosis from those whose business it is to know.

The many vacant patches in prune, apricot and peach orchards testify to the gravity of the subject—perhaps most of them due to this disease. So many men have said: "Oh, yes; an old oak tree used to grow there and my prunes died out so I use it for vegetables—it grows dandy truck."

How Many Trays for Drying Prunes?

The past season, even before the rains, had been so poor for curing prunes that most growers found themselves getting short of trays. In talking to a prominent prune grower lately he volunteered the following opinion: "I used to think that one thousand trays to one hundred tons of green fruit were sufficient. From now on I mean to be prepared with fifteen hundred trays to every one hundred tons of green prunes."

We were glad to hear this voluntary expression of opinion and hope it is shared by others. Plenty of trays obviates the necessity of overcrowding your fruit if a dry year, takes away the necessity of doubling up your trays before the prunes are ready, and, last but not least, it permits of the trays being stacked during a heat wave—an operation that is especially necessary to produce Imperials of quality.

CALIFORNIA FIG CULTURE.

The best publication on the science and practices involved in fig growing in this State has just been published by the U. S. Department of Agriculture as its bulletin 732, entitled, "Smyrna Fig Culture." The author is G. P. Rixford of this city, whose name is familiar to our readers.

Mr. Rixford has the right to produce the best monograph on this subject because it was he (as the manager of the bulletin of forty years ago), who made the first large importations of fig cuttings from Smyrna, in 1880 and 1881. Ever since that date he has been in a general way, a prophet of figs, and during the last decade he has made himself master of the intricacies of it, as a fig specialist, under direction of Dr. W. T. Swingle, who has done a few big things with figs himself.

Mr. Rixford elucidates the science and practice of caprification most clearly and he treats also the handling of figs from the planting of the tree to the finished product of world-commerce. Every planter of Smyrna figs should get the well-illustrated pamphlet of 40 pages by sending ten cents to the Supt. of Documents, Government Printing Office, Washington, D. C., citing the number and title as given above.

The War Is Won

But the consumer of Food
Must Still Economize

and the producer of Food
Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.
While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.
Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

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are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

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GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

The Walnut Worm and Its Control

[Written for Pacific Rural Press.]

Some three years ago, C. W. Beers, Horticultural Commissioner of Santa Barbara, spoke of the depredations of what appeared to be an attack on walnuts by codling moth and arrangements were suggested for an investigation by qualified entomologists for the ensuing spring which was apparently never carried out. This year enough damage to nuts took place in certain areas to make those interested sit up and take notice, and growers in these sections have enlisted the aid of State and Federal officers to keep watch of the life history of the insect in order to effect its control as it has been spreading. Quarantine measures have been instituted against infested districts for this purpose. Growers in non-infested districts have been warned not to allow into their sections any trays, boxes, sacks, nuts or any containers from infested districts.

22 PER CENT OF NUTS AFFECTED.

We went round with Eugene Kellogg, Horticultural Commissioner of Santa Barbara county, who said that some orchards had as high as 22 per cent of nuts affected.

The moth, which is responsible for these little worms, is exactly like the little codling moth and the larvae are similar in appearance. We gathered some from beneath a piece of sacking that Mr. Kellogg had tied around one tree as a trap. They get into rough cracks in the bark and even seem to cut a little hollow for themselves and then spin themselves in.

The control measures in Santa Barbara are, trapping under sacks and destroying the worm, steaming or fumigation of all sacks before grower gets them, scrubbing of trays and boxes with kerosene or other oils. Spraying to take place here will be experimental and will consist of kaolin and dry lead arsenate dusted on the trees about the first of June at the rate of five to ten pounds to the tree, according to size.

The Walnut Growers Association of Santa Barbara owns nine Niagara dusting machines, each of which can dust-spray ten acres a day at a cost of $1.50 an acre. In addition six other machines are owned in the county. Mr. Kellogg is taking every step possible to attain results and will follow his experiments closely. His quarantine measures are very complete.

CONTROL MEASURES BEING STUDIED.

We also called on Earl Morris, Horticultural Commissioner of Orange county, who is working with Professor Ralph E Smith, of the University of California. Control measures here are similar to those set forth above (except the dusting). Spraying next year will be experimental and the life history of the insect will follow through. Mr. Morris is of the opinion that the codling moth worm of the apple and the walnut worm do not infest both trees. He has known of the walnut worm in Orange county for nine years but says it must now be controlled. It is certainly being attacked in a business-like manner. Boards of supervisors of various counties have appropriated sums of money to aid in the fight and are giving their horticultural commissioners all the support possible. For which they are to be commended.

Testimony on Standarization of Apples

The following letter was received in October by the chief apple inspector of the State Commission of Horticulture, and it was gratuitous:

"We enclose herewith a check for $4.23 for inspection charge on last week's shipments from our packing house. We are pleased to say that this is one of our bills which we take pleasure in paying, inasmuch as we consider that we get more than value received, even though the price were to be doubled.

"As the season goes on we are able to realize more and more the advantages and benefits resulting directly from the state apple inspection service as being carried out under the provisions of the California Standard Apple Act of 1917.

"Last year was the first year that a compulsory law of this kind has ever been in effect in this state as far as apples are concerned and we noted that the pack of apples in general sent out of the Watsonville District was the best pack of apples ever put up here. This information we get not only from our own observation but from remarks made to us in conversation with and by letter from various members from the fruit and produce trade scattered through out the country. This year being the second year under the standardization law should clinch these ideas in the minds of the buyers and put the California apple pack in general on the map, comparing favorably to packs put up in other states where rigid inspection is in effect.

"The benefits of this law as we see them are for every one concerned who in any way handles an inspected shipment of apples. The packer is protected against his competitor in that both of us put up the same grade and quality of fruit and in this way preventing a great deal of unfair competition which used to occur where every packer was the judge of his own pack, and unscrupulous packers would put up poor quality of goods and sell at a lower figure thereby than the packer who endeavored to place on the market an honest pack and to build up his brands.

"The standard apple act is also a protection to the buyer and the broker because each is assured by the inspection service that any shipment bought by him properly marked and branded must conform to the grades established. The community as a whole benefits by this act for the reason that the repuation for California apples is again gaining its former place in the larger markets of the country and it was not so very long ago that many of the buyers in these markets would not consider purchase of California apples.

"In conclusion we wish to say that we hope this inspection work will continue with as good results as we have been getting to date from its application and will say further that we would not care to see apples put up in the hit or miss way which they formerly were, even if the cost of inspection service to us were more than double.

ROPGERS BROS.

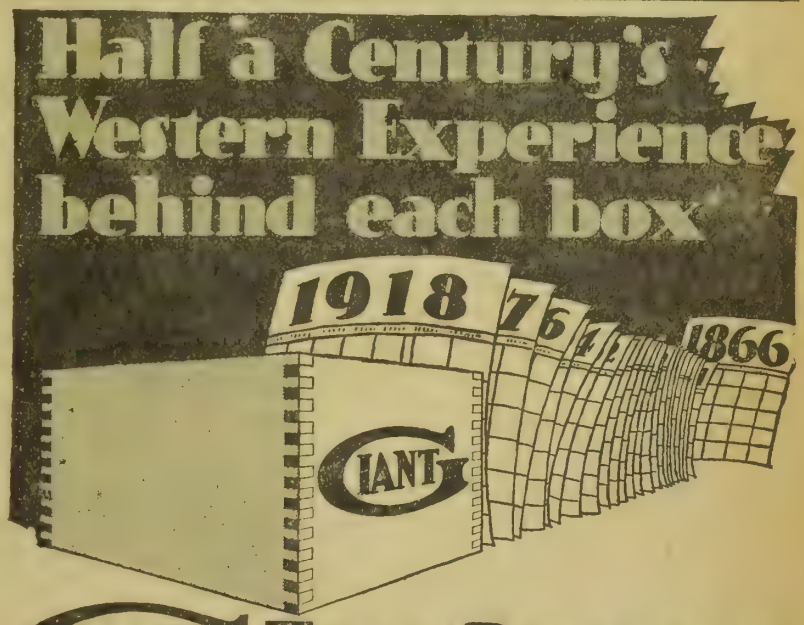
(Signed) "Carrol J. Rogers."

Another prominent packer says the Act is not sufficiently comprehensive.

DOES CYANIDE DAMAGE FRUIT TREES?

Killing scale insects by placing cyanide of potassium under the bark of fruit trees has been stated to cause the death of the tree. Accordingly Metcalf (Science XLVII, No. 1214, 1918) conducted experiments along these lines on scale infested apple and pear trees. In each of six trees, half-inch holes were bored, filled with chemically-pure potassium cyanide, and then plugged. Four of the trees apparently were followed by a dying condition, but during the summer began to recover. All of the six trees became free of scale and have continued healthy and vigorous for the past three years. The effectiveness of the cyanid treatment utilized as an insecticide in this manner, however, remains doubtful, as during the season the scale disappeared from adjoining trees which, while infested, were untreated.

Co-operation of small gardeners in Gila county, Arizona, enabled them to operate a community canning kitchen and a co-operative sales depot which are reported to have saved several thousand dollars' worth of their surplus.



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To Guard Against the Unripe Orange

[Written for Pacific Rural Press.]

Thanks to the courtesy of Fred C. Brosius, Horticultural Commissioner of Sacramento county, we recently visited some of the orange packing establishments there in company with his deputy, C. A. Wilkin, on December 3d. We found growers generally trying to co-operate in sending in fruit fit to pack immediately. We appreciate this the more, realizing their desire to participate in the holiday trade. Also the difficulty in the field is that an orange may appear perfectly colored on the side facing the picker and yet be green on the hidden side.

At the receiving sheds of the Fairoaks Fruit Company we noticed a shipment of oranges that had just been brought in from the orchards that appeared almost perfect. Only a small stack in one corner had been culled out of the whole day's run. W. W. Hinsey, manager of this company, pronounced himself as strongly in favor of strict adherence to the color test as interpreted by the State Horticultural Commission. He explained that not many cars had been shipped because of the company's attitude in this matter and was upheld by Professor Elmore Chase, who was present. If there is any question of this interpretation by reason of closeness to standard, the grower is granted the benefit of the doubt. We took back some oranges from here that tested 9-1.

At the Folsom packing sheds we noticed again a careful grading of the pack under the supervision of the Horticultural Inspector and consider the law as it stands is well administered. Yet the feeling is widespread that the present tests will have to be revised and it will be interesting to see how all districts can be satisfied.

WHY IS FRUIT STANDARDIZED?

Fruit is standardized in order that the highest degree of commercial excellence may be attained. Horticulture is the paramount industry of California. It leads the world in the production, diversity, quality and handling of all classes of fruit, we believe. When our standard is once determined, every grower, packer and inspector is expected to co-operate to hew to the line "for the good of the order." Evaders of the law are ubiquitous. They are in every land and in every class of humanity. When a law renders injustice and hardship on the majority of those engaged in a business important to mankind, it should be modified in due form and not in contempt. The standardization of oranges was for the purpose of placing that fruit on the consuming market in its most attractive, toothsome and digestible form. The 8-1 sugar test seems to be satisfactory (except at Fairoaks and Orangeville), where the color test is satisfactory, so far as the color is concerned. But the method of producing that color is not universally satisfactory to the industry.

A GREEN ORANGE IS NOT RIPE.

No matter if it does test 8, 10, or 12-1, a green orange is not ripe. But it can be made to appear ripe by the gas method of coloring, and it thus passes both tests at the expense of its delicacy of flavor—a wineman might say its "bouquet."

What is the reason of this great desire to rush things along so? The answer is: the great difference in various orange sections in the periods of ripening, even in the earlier ripening sections in Tulare and the upper Sacramento counties. Yet they all want to get the holiday markets here. And the desire is a perfectly natural one. No grower wants a brother grower to have an advantage over him by privilege, yet such a thing is possible unless artificial means are "taboo" and inspection is uniform—which it is not at present.

PROPER TEST FOR MATURITY NOT YET DETERMINED.

The consequence is that the proper test for maturity has not yet arrived and will have to come up again for discussion and determination, and to that end information is now being gathered by the State Commission of Horticulture in all the different orange sections of the State. Also what the growers think about it. The rigid enforcement of the 8-1 test would about put Fairoaks out of commission, according to Dr. Buffum and Mr. Hinsey, while the fact that the sale of immature oranges on the Eastern markets cut the sale price on such fruit from $2 and upwards a box shows what ill-judged shipments may do to the citrus industry. There would be a repetition of what early shipments of green, unripe fruit did to the table-grape industry. As one man said, "They were reg'lar bellyachers and put the market on the bum." In mid-November we saw oranges half green in color that were said to test 10-1 and 12-1 and others in the North, mature, well-colored and flavored, that were fit for market, which would not test over 7-1 we were told. As an example of what properly matured fruit is capable of, we would like to cite the first carload of oranges shipped this season by Sam Mack of Fairoaks from his 20-acre orchard. They sold at $8 a box, were naturally and evenly colored on the tree and tested 9-1. This item was given us by Mr. Hinsey. Fruit that will bring such a price when green fruit was reported sold at $3 looks to the writer like a distinct boost to the industry from the consumer's end—the only place a permanent boost can come from. The writer is also glad he will have no voice in deciding the above grave question.

Orchard Conditions in Napa County

[By W. D. Butler, Horticultural Commissioner, Napa County.]

To the Editor: I would answer your questions as follows: The pruning of young trees is progressing fine and in a few weeks will be completed. The educational work carried on in the past and the present is showing results and the growers are becoming keen on the shaping of the tree in the first year. Also some of this interest is due to the fact that our oldest orchards have reached that age when the wood rotting fungus is showing its effect in the trees that have had large limbs removed in the years of their maturity. Such evidence plainly proves that one of the most limiting factors of the tree's life is the rot fungus. We have trees in this valley that are a half century old and still healthy because they have escaped wounds. The three and four limb tree, established in the first two years of growth has become standard with us.

Spraying has not been progressing as we would like to see it. If the present favorable weather continues the growers will be soon getting busy with dormant clean-up. As you know the Brown Apricot and San Jose scales and moss are our worst pests requiring this type of treatment. However, this year we expect to clean up a lot of Red Spider eggs.

The cover crop business has dropped off in this county in the last few seasons as the results were poor. If irrigation water were available the situation would be changed in that respect. To conserve the moisture the crop must be plowed under just as it is beginning to grow good. If we could find a leguminous plant that would make a large growth through the winter months it would be a blessing to the growers who have old orchards, as the continuous clean culture methods have allowed the soil to be burnt out of humus and consequently even a scant growth of wild stuff is hard to get. Our newly planted orchards in what was grain land needs no cover-crop as the wild growth is now two feet high and if we have a warm winter no one knows what it will be by spring.

SPRAY FOR BROWN APRICOT SCALE.

To the Editor: Will you kindly tell me the best spray for Brown Apricot scale, and the best time to use it? I am a novice in the fruit business and a recent subscriber to the Rural Press.—U. S. G., Mountain View.

Use crude oil emulsion or a miscible oil, winter strength. Right now is the best time to spray for this scale to get maximum results.—Editor.

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In The Fruit Business

Rain and Raisins.

Instead of 200,000 tons of raisins as was estimated, the actual crop harvested will not amount to more than 160,000 tons, according to Wylie M. Giffen, president of the Associated Raisin Company, which shows the rain damage to have been about twenty per cent in all, the largest raisin crop ever produced. When the rain came two years ago and reduced the crop 25 per cent only about 20 per cent of the crop had been sold and the price was raised on the unsold raisins one cent a pound. This year about 70 per cent of the crop had been sold when the rains came and when the association applied to the U. S. Food Administration to raise the price on the unsold portion, the request was denied on the ground that the price had been agreed on and it would be unfair to the other fruit industries to allow the increase.

Stained Almonds Corrected.

Most of the almonds damaged in the early September rains have had the stains removed by means of a new process discovered by the California Almond Exchange. This will result in there being comparatively little loss in stained fruit sent in by members. After weeks of experiment, chemists found the process which bleached the almonds and satisfied the State that no harmful ingredients were used. The Exchange has already advanced 14 to 15 cents on the best varieties of rain-stained nuts. The advances range 75 per cent of what was allowed on perfect nuts.

Fig Institute Impending.

Professor J. I. Condit, of the University of California, will conduct an Institute at the Chamber of Commerce, Hanford (Kings county) on December 19. At 10 a. m. he will lecture on the subject of Fig Culture and at 2 p. m. an automobile trip to various fig orchards will be made where Professor Condit will demonstrate pruning, disease control, etc. The meetings will be held under the auspices of the Farm Bureau.

Pruning for Large Prunes.

To the Editor: Much has been said about pruning the prune tree. My observation is that pruning to thin out the trees so they will not be very brushy and to cut back all along fruit laterals one-half, thus growing the fruit closer to the main limbs, will insure larger and better prunes than any other method; and it is the large fruit that brings the high prices. I have seen this tried out.—W. S. K., Acampo.

Fresh Olive Shipment.

Peter Bayer of Oakdale is shipping green olives (untreated) to New York by express. They will be pickled there. New York buyers claim that olives hold their flavor better if shipped green, so this experiment will be watched with interest. Mr. Bayer received $1,200 for the olives from three acres.

Fair Salvage.

Sheridan W. Baker of Santa Rosa would have had 65 tons of prunes (40-50) on his Healdsburg ranch if it had not been for the rain. His fruit was stacked and he saved altogether 31 tons of No. 1 fruit and about four tons of No. 2. The rain took the rest.

Spray for Peach Blight Now.

Deciduous trees have been holding their foliage much later than usual this year and November spraying has been delayed. Spraying for peach blight and shothole fungus should be put off no longer. Do it now.

Lectures on Fig Production.

Lectures on fig production have been planned by Farm Adviser N. P. Searles at his farm center meetings. Prof. J. J. Condit of the University of California, who is an authority on fig production, will deliver the addresses and will discuss methods of pruning, cultivation, pollenization and other matters of importance.

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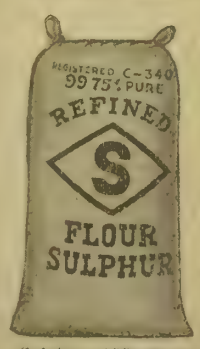

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Hopeful Signs for the Barley Market

Written for Pacific Rural Press by R. E. Hodges

To the Editor: Can you dig up and publish the barley situation of the United States and the possible world market? What is the approximate total yield of California and of the other barley States?—A. T. G., Chico.

Much barley is being held in the warehouses all over California with no one offering what is considered the cost of production, plus a reasonable profit. But while the possibilities were dark during the war, some encouragement has followed signing of the armistice. This is chiefly because transportation is being released and new barley-using countries are being opened up as possible markets where there was no hope of selling while the war continued.

WORLD BARLEY CROPS.

The world's average crop of barley for the ten years ending 1915-1916 was 31,204,270,000 pounds, according to statistics of the "International Institute of Agriculture." During that period, the Northern hemisphere produced over 99 per cent of the world's barley crop. The average annual production for Germany, Austria, Hungary, Belgium, Bulgaria, Roumania, and Russia for five years preceding the war was 18,535,500,000 pounds or about 57 per cent of the world production in the same period. Russia alone averaged 10,986,200,000 pounds, while Germany and Austria-Hungary together averaged 6,625,400,000 pounds per year. We have a statement from a leading barley exporter of San Francisco that before the European war, Germany furnished malt not only to the countries of Europe surrounding her, but also, since the Spanish-American war, to South American and Oriental countries. She has not done this in any large way since the war started, and we leave the reader to judge whether the other countries, mentioned have kept up to their average production since the war started.

Since it is well known that barley represented gold nuggets a year ago, and since the impression is that nearly all of the countries which produce most barley outside of America, are destitute for food, we can assume that there is but little carry-over in the world from the 1917 crop, and that the war-stricken countries have not raised much in 1918.

WORLD BARLEY CROP SMALL IN 1918.

The estimated 1918 crop of the other important barley countries of the world, by the more or less accurate estimates of the Institute, totals 14,648,593,600 pounds, a seven per cent increase over their average for five years, but far from enough to counter-balance the reduced crops of the conquered nations. The world's 1918 barley production, so far as it can be learned, is only 45 or 50 per cent of the ten year average, and U. S. produced about 36 per cent of this, by the Institute figures, as published in their June, 1918, crop report. As a matter of fact, our own U. S. Secretary of Agriculture in his report for November, 1918, gives this country credit for 11,352,240,000 pounds, twice as much as the Institute figured.

WHAT OF BARLEY CONSUMPTION?

At any rate, if the consuming capacity and desire in Europe should equal what it was before the war, there is a tremendous world shortage of barley. Probably the normal consumption for the years ahead will show a decrease below that of the years before the war, though the wets assure us that Europeans still want their booze.

A considerable amount of barley is normally used in Europe, especially in the Scandinavian countries for human food and for stock feed. We may count on this demand to continue if barley can be sold there much cheaper than wheat, which may be doubtful in view of the great stocks of wheat carried over in wheat countries from the present and previous years, and in view of the world's short crop of barley.

AMERICAN BARLEY CROPS.

Our California barley may be stored and it may be shipped to world markets. What proportion is actually shipped out of the State in normal times is discussed below, along with the markets which are just beginning to open up. Just now we will consider the American crop. Reduced to bushels, in order to compare California figures with those of eastern States, we have the table given below for the principal producing states as given by the U. S. Department of Agriculture.

BARLEY CROP IN BUSHELS AS ESTIMATED OCTOBER 1.

State—	1918	1917	Condition— 1918	Ten-year Aver
Wis.	24,780,000	19,200,000	95	86
Minn.	45,136,000	37,800,000	91	83
Ia.	11,340,000	10,500,000	92	88
N. Dak.	36,486,000	22,512,000	87	80
S. Dak.	33,000,000	26,520,000	92	83
Cal.	34,060,000	39,150,000	88	92
U. S.	236,505,000	208,975,000	89.8	87.2

It will be noticed that while the growing conditions in eastern States were fine, the biggest acreage California ever planted produced a crop considerably less than that of 1917. The crop of this state is 14.4 of the total in U. S.; owing to poor growing conditions, the bushels which should weigh 48 pounds will not average much above 42 pounds.

The recent government buying started with the standard of 48 pounds, but it was soon found that the orders could not be filled even with 45-pound barley without a great deal of screening which was done. Forty-five-pound barley can be used for brewing, but forty-pound barley will not be accepted for this purpose if any better is available. But brewing is stopped in U. S.; although some malting for export is permitted by recent regulations.

MARKETS FOR CALIFORNIA CROP.

Now, considering available markets for California barley, we have indicated in previous issues that we believe the demand for brewing in U. S. will continue to decrease annually. The demand for horse and mule feed also seems likely to decrease annually. The demand for hog and cattle feed has a good chance to increase. The demand for human food is not likely to amount to anything. The demand for malt to be shipped abroad may increase for a time as indicated in our paneled paragraph.

IMPORTANCE OF EXPORTS.

Our barley exports have not included a large percentage of the crops in past years until 1917; but they included the best part. From tables prepared by the E. Clemens Horst Company of San Francisco, June 20, 1917, we find that for a period of seventeen years, 1900-1916, California produced an average of 505,000 tons of commercial barley. Of this, we consumed in the State, an average of 320,000 tons or over 63 per cent of the total. Our average exports from San Francisco to Europe were 125,000 tons or less than twenty-five per cent of the crop.

THE BARLEY market in California and the Eastern States has been picking up since the armistice was signed. Though brewing in the United States has been stopped, and though all exports of barley are still going through the Food Administration Grain Corporation, the embargo has been lifted on our exports of malt to North and South American countries and islands and to the Orient. The United States had this trade previous to the Spanish American war, but at that time Germany captured it from us. Since then, both China and Japan have become great beer drinkers, particularly Japan. A great number of breweries were erected and operated by Japanese under the direction invariably of German brewmasters with Japanese understudies. When Japan entered the war the Germans were fired and Japanese conducted their own breweries. Though the Japanese barley crop for the five years 1912 to 1916 has averaged 2,166,296,500 pounds according to the International Institute of Agriculture, she has still imported large quantities of malt from Germany. Since the European war started, this trade has been captured by Americans who intend to keep it. Germany before the war also supplied all Europe with malt, according to a leading exporter of San Francisco, and this market will now look to United States. Already maltsters are said to have resumed operations in readiness for removal of export restrictions. While this will probably help the market for 1918 barley, it cannot help that for the crops to be sold after the national prohibition amendment goes into effect.

California Cauliflower Review

[Written for Pacific Rural Press.]

Early cauliflower shipments have been moving for over a month from southern California to Eastern markets and heavy shipments of the main crop are commencing. The crop is, estimated nearly the same as last year, though the acreage of cauliflower and brocolli in Los Angeles and San Mateo counties has decreased from the record of 6400 last year to 4600 this year, as estimated by Assistant Truck Crop Specialist R. G. Risser of the United States Bureau of Crop Estimates. Our fall rains have improved the quality greatly over last year. Early stock usually matures in weather too warm and sunny to make the large white solid heads desired, and it comes onto Eastern markets just as the New York crop is being finished. Heaviest shipments from Southern California go in December and January normally. The heaviest from central California go in February and March. Straight carloads of cauliflower are shipped through the winter, but a considerable portion goes in mixed cars with other vegetables throughout the season, which normally ends in May, when warm weather opens and discolors too many heads before they are ready to ship.

Decreased acreage this year is due to unfortunate results with the last crop. The largest acreage ever planted yielded only an estimated average of 173 crates per acre in Los Angeles county, as against 210 crates for the previous season. In San Mateo county last season's yield was estimated at 150 crates per acre, as against 230 the year before. In Los Angeles county less than an inch of rain had fallen up to February 1, as against the normal of about 11 inches. Drying winds added to the damage and aphis heaped insult on injury. When rains did come, they waterlogged some poorly drained districts. Size of heads was smaller than the year before, as indicated by the average of 15 required to fill a crate, as against 13 in 1916-17. Crops intended to mature early came ready for shipment along with the later crops and added to the freight congestion. The Government recommended 520 crates per car, as against 500 normally carried, and the extra amount interfered with ventilation. Delays en route added to the trouble and much of this foodstuff was wasted, while a great deal more brought low prices.

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Farms for Veterans of Land and Sea

[Written for Pacific Rural Press.]

They are veterans because they have nobly done all their country required of them, no matter what their ages may be! It is one of the tokens of this rapid phase of world-development that all citizens of reasonable toll of years may have veterans for sons and grandsons—and may have daughters also veterans for even they may be enrolled in the naval yeomanry of their country. It is a grand new endowment of America to have veterans just stepping out strongly into manhood and womanhood and not only veterans who are tottering on the brink of the grave. Who can estimate the value to the country to start them right?

The proposition to offer returning veterans, who desire to go to farming for themselves, ready made farms, has been several times endorsed by the Pacific Rural Press. The question is can it be worked out to the advantage of the veterans and of the country, and that question cannot be definitely answered off hand. Congress will deal with it this winter and it should be discussed by all farmers and farmers' organizations. The latest phases of the scheme are those presented by the Secretaries of the Interior and of Labor in their annual reports, of which we are receiving advanced outlines. They will serve as a basis for the farmers' discussions which we have suggested.

SECRETARY LANE'S VIEWS.

"As an immediate programme," said the Secretary, "we should first offer an opportunity upon our present irrigation projects for all who wish work at clearing and leveling the land not now cultivated but for which water is available, or to which water can be brought under the present irrigation system, and that such tracts shall be developed under an appropriate land-settlement plan. This we can do at once and meet whatever labor problem may be immediate.

"As a second step I would urge an appropriation for one or more of the largest irrigation schemes for which surveys are in an advanced state. Concurrently it would seem to me wise to undertake the draining of the most promising projects—Government-owned land preferred, but, if privately owned, the land to be bought at an appraisement made by the Farm Loan Board.

"There is an alternative method of dealing with private lands which already has the approval of Congress, being incorporated in the reclamation act. Under this a private owner agrees to sell his land to whoever gets the water right at an appraised price as a condition precedent to our undertaking the construction of irrigation work. Under such a plan there would be no difficulty whatever in securing control of any-sized bodies of cut-over or swamp lands that might be desired; the Government would not buy the land, but the owner would look to the new settler for the price, and take it on such terms as the Government itself would exact for its own expenditure upon the land."

THREE PROJECTS AT FIRST.

Let us assume three projects, he suggests—one an irrigation scheme, another a drainage project, a third the development of a body of cut-over lands. The one would need to have great dams constructed to impound and divert waters, a hydro-electric plant, miles of canal and tunnel, perhaps, thousands of acres to be cleared and leveled, fenced and broken. This would mean years of work at good wages, work in the open under housing conditions that would seem palatial to the soldier of the trench, and at the end a piece of land on which would be erected a house and barn, a farm home in a group of farm homes. For this he must pay. But already he had received wages out of which he can have saved the necessary first installment on his place of 10 to 15 per cent. The balance with interest he can pay in forty yearly installments, or earlier if he can.

Mr. Lane estimates that more than one-third, probably nearer one-half, of the American troops in Europe came from farms, and probably would wish to return to the agricultural work.

SECRETARY WILSON'S VIEWS.

Colonization by returned soldiers and sailors of large tracts of land under the direction and with the aid of the Federal Government is recommended, as a solution of many of the labor problems arising from demobilization, by Secretary of Labor Wilson in his annual report, made public today. The Government should, in the opinion of Mr. Wilson, establish and equip individual farms, which would be linked into community groups.

Agricultural areas should be purchased by the Federal Government and added to the public domain to provide land for the carrying out of the proposed colonization program for returned members of the military forces, the report asserts. It is proposed that administration of the program be directed by a board consisting of the heads of the Agriculture, Interior and Labor Departments.

Legislation needed to carry out the plan, Secretary Wilson believes, should include these provisions:

The possibility of commercialized speculation must be eliminated.

Colonists must be given access, not only to land, but to farms; not to the bare soil, but to fully equipped agricultural plants ready to operate.

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Growers Want Experiment Stations

[Written for Pacific Rural Press by Margaret Honeywell.]

A meeting was held of representative fruit growers of Northern California with the Regents of the University of California last Tuesday afternoon in San Francisco to submit the outlined plan for deciduous experiment stations under University supervision. Among those present were Benjamin Ide Wheeler, A. W. Foster, and Robert Sproul of the Regents, and Dean Hunt, William T. Horn and H. C. Howard of the College of Agriculture, State Horticultural Commissioner Hecke, Frank T. Swett of Martinez, G. W. Pierce of Davis, Henry Wheatley of Napa, H. C. Dunlap, James T. Brooks, Horace G. Keesling of San Jose, H. A. Clark of Saratoga, L. Woodward of Campbell, Elwyn D. Seaton and Sheridan Baker of Santa Rosa, and Mrs. H. C. De Nyse of Riverside.

H. C. Dunlap asked Mr. Woodward to present the new plan as drawn up under changed war conditions. The scheme as submitted is to have various sub-stations under varying soils and conditions, to have special committees of practical fruit growers familiar with local conditions around these stations as advisors, and to use the Farm Bureaus as a means of disseminating the information. Small areas would be purchased by the State, thus assuring the permanence of the experiments. For this work the fruit men asked for $150,000. The old plan as submitted in June called for a central experiment station, which Frank T. Swett, who spoke for the pear and grape associations, pointed out would not have the practical advantage of trying out the actual experiment where the fruit later would be grown. He endorsed the plan heartily, as he said that the pear blight was the pear man's greatest difficulty, and by such a series of experiments with resistant stock the actual location of pear land could be found. Of benefit to the grape men the advantages of the laboratory would be felt, because the big problem now was marketing; and, as no cheap satisfactory means of making grape syrup had been found this experimental work would prove invaluable. Mrs. H. E. De Nyse of Riverside enthusiastically approved the plan, and spoke of the advantages of standardization which stations over the State could help establish.

Sheridan Baker told of the value of the late pruning demonstrations in Sonoma county and the interest aroused in the farmers to better their conditions. He approved the plan in behalf of the prune and apricot growers of that county.

G. W. Pierce of the Almond Growers' Association spoke of the need of increased production and better quality of fruit and nuts to meet the competition that would result with the Mediterranean areas competing again. He cited an interesting illustration of high cost of labor in Spain—a correspondent of the Almond Association wrote that wages were high this year, 70c a day for men and 40c for women. This sort of labor competition, he argued, had to be met in California by intelligently supervised experimental work.

Mr. Wheatley also spoke in favor of the new plan. Horace G. Keesling laid emphasis on the importance of the fruit industry in California and the necessity of money for these sub-stations.

H. A. Clark said that the question of the 25-year-old prune tree was the urgent one in Santa Clara county and that something had to be done about it. He said that there had been "guessing enough" and "time enough lost" for actual experimentation to be necessary. James T. Brooks of the San Jose Chamber of Commerce urged that "the University be taken to the people, just as the banks were."

State Horticultural Commissioner Hecke gave the figures of the value of the various deciduous crops, and stated that any industry bringing as much money into the State deserved State recognition and aid. He pointed out that the County Horticultural Commissioners now acted as policemen, as they had not the time for research or teaching, but that this work would be done by these sub-stations with increased efficiency under the College of Agriculture.

President Wheeler stated that the Regents felt the necessity of the work and assured the passing of a $50,000 request. The fruit men talked for the necessity of more money for separate stations, but Dean Hunt explained that the College of Agriculture was asking for $40,000 only for citrus work, and this $50,000 for deciduous use in excess of the last budget, despite the necessity for increased expenses in other lines. The citrus experiment station will have a total of $184,000, if this $40,000 increase is allowed, but it was pointed out that the citrus industry had organized earlier.

A. W. Foster backed the $50,000 plan, as he felt that the Legislature would be one of retrenchment, and he favored asking for what he was sure could be secured.

The meeting closed with the recommendation of Dean Hunt that a committee of three fruit growers be appointed to confer with Dr. Whitten, head of the pomological department of the Agricultural College.

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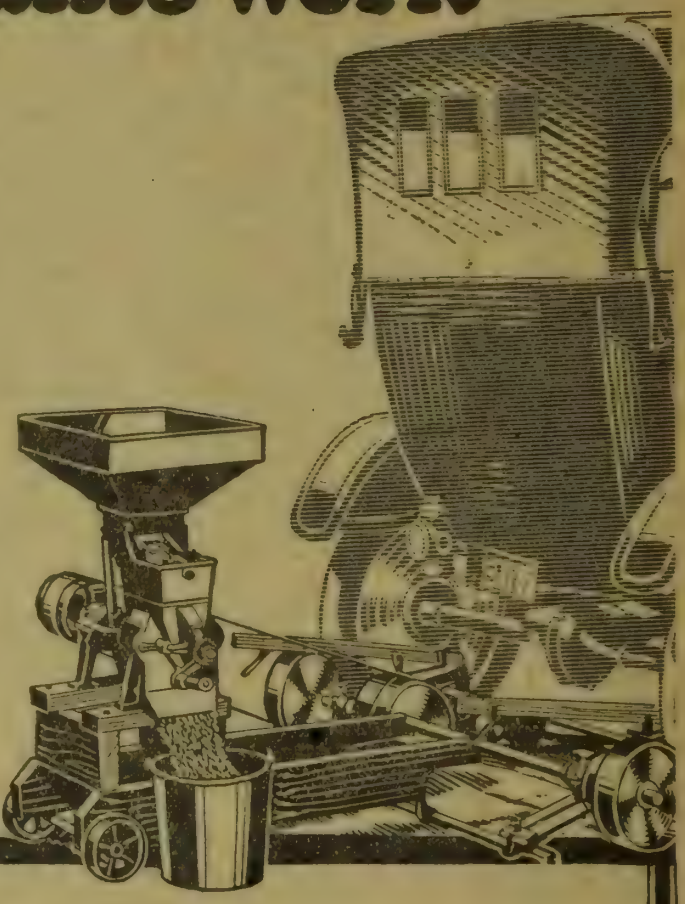

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Honey Sorghum Results.

Several yields of thirty tons of honey sorghum per acre are reported by Farm Advisor A. A. Jungerman of Stanislaus county, where enough seed was introduced last year to plant 500 acres in various localities. Sorghum was made in six farm bureau centers and more than six made silage. As much as 200 gallons of sorghum per acre were made, and it proved a fine substitute for sugar, even in cake making. A custom mill is expected to be put up at Hughson and the acreage will be increased. Honey sorghum requires 135 days to mature, and therefore cannot be advocated as a second crop. For silage it cannot be advocated in place of corn except where smut has been so bad that corn will probably not fill many ears. It does best, according to Mr. Jungerman, on heavier soils, with plenty of moisture. The heaviest yield was on sub-irrigated land planted in May and matured in October. Lack of irrigation on some fields held back the growth, but it shot up after the September rains.

Winter-Forcing Asparagus.

Winter-forcing of asparagus is possible where temperatures can be kept between 55 and 80 degrees according to the U. S. Department of Agriculture. Bed the crowns in soft earth about an inch under the surface, and keep it moist but well drained. A temperature of 55 to 60 degrees makes the best shoots; higher temperatures make them grow faster and softer. For the first ten days after bedding, keep the temperature between 45 and 50 degrees if possible. Cutting begins six weeks after bedding, and continues until the roots are exhausted. Keep a supply of roots dormant to bed for succession. White shoots are obtained by excluding light.

Scaling Profits on Beet Sugar.

California beet sugar manufacturers expect less profit this year than last on their output, notwithstanding that the Food Administration has fixed a higher price for sugar. The price has been advanced to 9c a pound, seaport refinery basis. This is higher by 1.55c than last year, but the higher prices paid for beets, labor and materials are expected to more than offset the advance in gross price. However, it is believed there is still a liberal margin left for fair profits to operators.

New Corn Worm.

About 300 square miles in Massachusetts have become infested by the "European cornstalk borer," a new pest in this country. It is a worm that works in the growing stalks of corn, grain sorghums, etc. Anybody who has observed such a pest should at once notify the State Horticultural Commissioner at Sacramento, as the most practicable control seems to be the winter burning of infested stalks, stubble, and dry vegetation. Prompt reports may avoid spreading the pest to all parts of the State.

State Law Against Vagrancy.

A State law that "will compel any idle and physically able man in the State to accept employment tendered him at a reasonable wage with reasonable living and working conditions, with a penalty of hard labor to be furnished by city and county governing boards without compensation other than subsistence" was favored by resolution of the Farm Labor Conference recently held at the State Council of Defense offices; and the executive committee is now drafting such a bill to be presented to the legislature.

Nevada Hay.

Alfalfa hay was selling at Fernley, Nevada for $20 in the stack before the rains, according to J. C. Loomis of the Bomberger Seed Co. Crops in Mason Valley had been contracted at $16 to $18. Since the rains, prices sagged on account of green feed. About the same conditions prevailed in the northeastern counties of California. The crops in these districts are mostly fed to cattle and sheep without baling.

Weather-Proofing for Out-buildings.

A mixture of equal parts kerosene and crude oil to spray onto fences and walls or to brush onto roofs and flat surfaces fills pores in the wood, excludes moisture and decay, and gives a soft brown color. The kerosene is used for greater penetration than crude oil alone would have.

Agricultural Notes

The Wheatland rice industry is growing rapidly in importance.

C. R. Graff of Orange county has recently sold 177 sacks of blackeye beans at 6½c.

The first rainfall in thirteen months was recorded December 7 in Imperial Valley, when about 0.2 inch fell.

A general meeting of central California cotton growers will be held about the middle of January in Fresno.

Livingston (Merced county) farmers are discussing the feasibility of building and operating a bean cannery there.

Plans for increased sugar beet acreage in Orange county are reported due to increased contract prices offered.

An 800-acre ranch for the raising of vegetables to can has been leased in Yolo county by the California Packing Corporation.

Kern county's new cotton gin at Bakersfield has begun operations. It is expected that 1000 bales of cotton will be harvested this season.

With a total value of $12,272,412,000 the nation's principal farm crops were more than in any year in the history of American agriculture.

Cotton experiment fields at Planada and Dos Palos, Merced county, are being picked. Too much fall rain seems to have prevented the bolls from opening satisfactorily.

Some Fresno cotton growers came near plowing good cotton under. The fairly mature bolls will yet open, even though the leaves have fallen, if dry weather comes.

Acreage of winter wheat up to December 16 was estimated at 49,027,000 by the Department of Agriculture. This is 15.9 per cent greater than was sown in the fall of 1917.

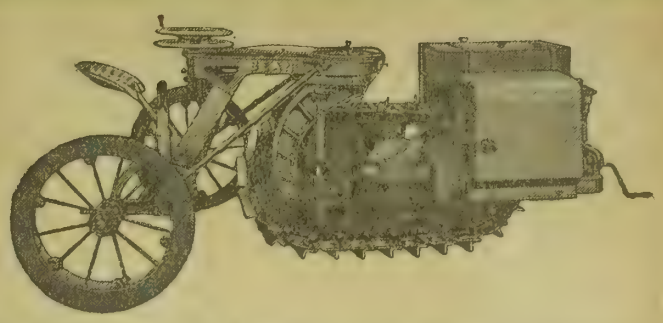
A large area of the famous Sutter Basin, between Marcuse and Vernon, along the Feather river, will be under cultivation soon. The work of clearing the land brush is under way.

It is claimed that there were about 5000 acres devoted to broom corn in California this year, most of the acreage being in Southern California and in Kings and Tulare counties.

The secretary of the American Forestry Association has sailed for Paris, where he will confer with French Government officials with a view to proffering aid in reforesting devastated areas of France.

California has 16,000,000 acres of public land outside the 18,000,000 acres in forest reserves, according to the U. S. Land Office. Much of this public land is fertile but dry and distant from transportation.

Fairbanks, Alaska, is not always below zero. Production in this region the past season is reported by Chairman W. C. Edes of the Alaska Engineering Commission as: Oat and wheat hay, 350 tons; seed oats, 10 tons; seed wheat, 30 tons; potatoes, 450 tons; cabbage, 35 tons; carrots, turnips and rutabagas, 80 tons; tomatoes, cucumbers and other hothouse vegetables, 25 tons.



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L. A. 84

Robbing Peter to Give Water to Paul

[Written for Pacific Rural Press by Mrs. Sarah C. Ames.]

As one of your readers whose earliest remembrance of printed matter is of the Rural Press, and who weekly looks to your editorials for the best all-round view of the agriculturalists problems, I am going to ask you to print the following and get the perspective of one in my position:

WATER IS THE KEY TO CALIFORNIA PRODUCTION.

If America is to supply the necessities of life, to not only her own people, but to the war devastated countries of Europe, it is necessary to know and then to change some conditions not now generally known. While nearly every food, clothing, medicine, building, heating lighting and power product, needed by the human family can be produced from the lands of California and the waters thereof we have not been producing many of these things for ourselves. Land and climate we have in great variety. Water we have in this State in abundance if it were only made available.

Is this subject of production, and the things necessary for increased production of any concern to the people of the cities? If war prices and war pestilence teach us anything they teach us that all must be fed and cared for, for the epidemic growing in hunger, poverty and exhaustion is no respector of persons. It has taken the strong, powerful, influential and delicately nurtured as well as the less fortunate.

WHY DISTRIBUTION IS NOT EQUITABLE.

The people who shape legislation and rule, live in the cities, and the producers of land products from their isolated position, can do little but choose between the men and measures put up by those who by more convenient opportunities can get together to do so.

Production has for ages been left to the people out on the land and up to this world war no one ever went hungry for lack of enough being produced, but many often did for lack of a system of distribution. Conditions, brought about through ignorance and indifference of those in control of public affairs have gradually forced more and more producers away from the land, till at the commencement of the war we were producing just a "pattern" and we were told that we must save to send food to Europe.

CAMOUFLAGING THE REAL CONDITIONS.

Again we are told to save food since the need is greater than during the war. This advice to save food seems not only "penny wise and pound foolish," but pernicious when compared to the lack of attention paid to means for increased production, and the ignorance and injustice that is lessening the production and destroying the stocks necessary for dairy, poultry and meat products.

The writer was present when Mr. Ralph P. Merritt figuratively lulled an audience to sleep over an active volcano, with much the same statement as used by Prof. Frank Adams in a communication in Saturday's Pacific Rural Press of December 7, entitled "Officials Did Not Take Rice Water."

Mr. Adams shows that officials did not take water away from growing rice, but, their activities increased the allotment to the rice by withdrawing water from other crops. His last sentence reads: "This withdrawal was acquiesced in very patriotically by nearly every user and in the long run very little substantial damage was done to anybody."

A LOCAL VIEW OF SUCH WITHDRAWAL.

In view of this practice of "withdrawing" the use of water from crops needing it and entitled to its use, being a common practice for the last twenty years, in one locality mentioned by Mr. Adams, the facts as given in the home town paper, in a three and one-half column article entitled "Alfalfa Men Come Last," and the State officials' comments, should be called to public attention, the true state of affairs be made known and the remedy applied.

The local paper said: "It was a regular 'Monkey and Parrot' exhibition which Professor Veihmeyer was regaled with, but the Food Administration man declared that 'it was a typical irrigation district row,' and seemed to enjoy the encounter as much as anyone."

That looks like adding an "insult to injury," when you know that the discrimination was against old alfalfa fields and old trees; nearly all these old alfalfa fields and orchards involve, or did involve a family home; also a small dairy herd. Nearly all of these old alfalfa fields and orchards involve many year's work and double the cost of new lands for one year crops. Many of the owners, pioneers in irrigation, paid the first cost as water rights and then a water rental yearly, whether their water was "withdrawn" or not. The Federal Government still requires the water user to put up, or sign up to pay the full cost of making the water available before going onto any of its projects, as at Fallon, Nevada, on May 2, this year. The ruling for farm sites in Truckee-Carson irrigation project drawing at Fallon, Nevada, May 2, 1918, was that water right applications must be in the hands of the project manager of the U. S. Reclamation Service between April 27 and May 2, 1918.

TWO THINGS ESSENTIAL.

California lands, for many crops, are like a dead body. Water makes life and increase for such lands. Many who had encumbered their lands to develop water and continuously used it for twenty years or more are told that their water rights are not worth the paper they are written on, "mere scraps of paper."

The people of California, as citizens of a democracy, have asked for two things, first for the federal government's credit to aid in developing its water resources for the benefit of all its citizens; second, to adjudicate or quiet title to water now in use.

HOME-MADE ALMOND HULLER.

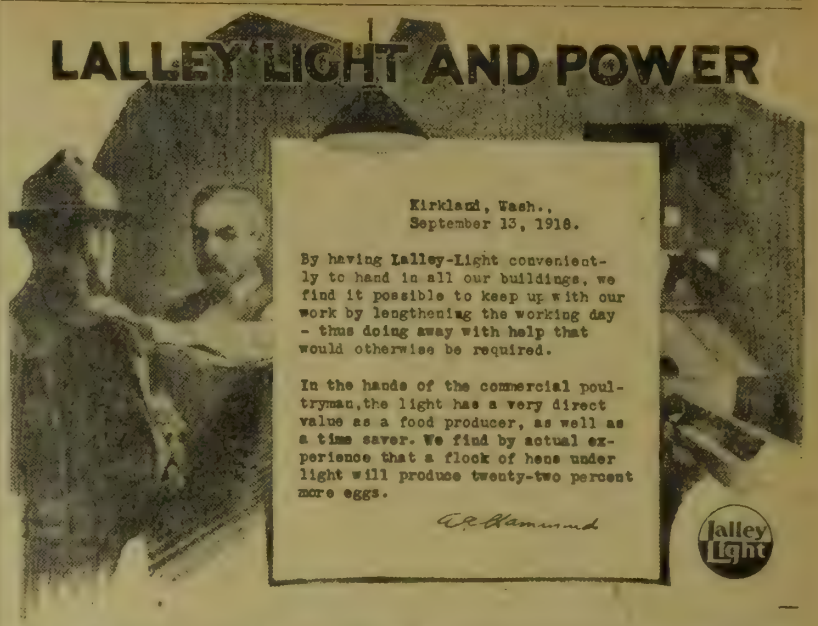
To the Editor: I find the arrangement I will describe very helpful in hulling and shelling a few almonds which are known as stick-tights.

The almond huller consists of a rough board table about 3x2 feet, made out of 1x12 redwood or pine. For hulling I make a small square rubber 8 or 10 inches square with a button 1x1½ nailed on one side as a handhold. By using a combined rotary, back and forth motion bearing down on the huller I can separate the hulls much faster than by hand. The hulls must be separated occasionally or the board will ride on them too much. To shell the almonds I use the same device only bear down more lightly. Where one has only fifteen or twenty trees it does not pay to invest in a machine to do this work. Of course shelling them is only necessary when the almonds are badly discolored as they were this year. Then it pays big to shell them, as the shelled almonds are worth 48 cents per pound to the candy-makers.—Samuel Haigh, San Jose.

MECHANICAL COTTON PICKER.

Vacuum suction through three to five long rubber tubes, each operated by a man, has been doing fast cotton picking on the Dodge Rice and Land Company's ranch in Butte county. It is claimed that five men can pick as much this way as 60 could by hand. Dirt and sticks are separated from the cotton in the machine. If it proves a commercial success, a tremendous step has been taken in cotton growing. T. R. Gabel of Los Angeles is the inventor.

The rice mill at Gridley seems unable to handle all rice offered, though its capacity was increased this season.



Helping To Make Up The Farm's Man-Power

War has taught thousands of farmers that Lalley-Light is a labor-saving necessity of utmost value; and that after the war the need for it will be even greater.

The world looked to American farmers to feed it while it battled; and must look to us for food for a long time to come.

Inexhaustible Lalley electric light and power are taking the place of those who have not yet returned — saving the work of farm hands — saving women's work—lengthening days that are all too short, and helping men do more.

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Right now is the best time to see the nearest Lalley-Light dealer; or write us today for literature.

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THE ELECTRIC LIGHT AND POWER FOR EVERY FARM

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

of the "Giant" Type

WILL WORK WONDERS ON YOUR FARM

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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Motor and Engine do Not Work Together

To the Editor: I use a two-horsepower motor to run a milking machine, but the power is frequently off in winter, so I intend to get a gas engine. I also intend to get a feed cutter and a circular saw. These would require five horsepower. Can I hitch a three-horsepower engine onto the line shaft with the motor and work both together on the saw, or will I have to get a five-horsepower engine?—C. F., Soledad.

A gas engine will not work on a line shaft together with a motor, chiefly because the speed of the engine varies from moment to moment while the motor speed is practically constant. You would have the engine pulling back on the motor periodically, not only reducing your available total power but also endangering the motor by the overload when the engine slacks up and by the repeated shocks due to the periodically varying load. A five-horsepower engine will operate the milking machine with no practical waste of power for the short periods when electricity is off and your only extra expense will be interest on the extra investment in a five-horsepower engine over what a three-horsepower would cost. Probably a less preferable way would be to turn your motor in for a five-horsepower motor and buy a two-horsepower gas engine to use on the milking machine when power is off. This would use a trifle more electricity on the milker and would involve greater investment, but might pay if you should need enough electricity every month to make your bills over four dollars per month. We have asked L. S. Ready of the State Railroad Commission whether the interruptions to your electric service could be remedied. Your line runs from Santa Clara county up to King city and, being so far from the source of electricity, is likely to be down occasionally through bad winter weather. The company will have a hearing before the Railroad Commission in January with reference to an increase in rates, installation of better service, and greater speed in repairing the lines, but Mr. Ready believes that for a milking machine interruptions are too likely to occur to depend absolutely on electricity in your section.

CANADA'S POTATO SURPLUS REACHES RECORD FIGURES.

Canada's 1918 potato crop, according to press reports, is as follows: A revised estimate of the Canadian potato crop from figures in possession of the Canada Food Board shows an exportable surplus in six provinces of 28,433,000 bushels over all requirements for domestic use and seeding. Alberta, Saskatchewan, and Ontario have no surplus. Early frosts and prolonged drought reduced the yield below normal in those provinces. On the contrary, Quebec, New Brunswick, and Manitoba show a remarkable surplus of 24,500,000 bushels. The balance of 3,933,000 bushels is in Prince Edward Island, Nova Scotia, and British Columbia.

The estimated total production for the Dominion in 1918 is put at 105,579,700 bushels, as compared with 79,892,000 for last year.

Roots also proved a record crop, with turnips leading at 120,767,900 bushels.

WHEAT AND FLOUR EXPORTS.

Exports of wheat for the nine months ending September, 1918, were 48,687,256 bushels as compared with 91,412,812 bushels in the corresponding period of 1917, and 113,312,453 in 1916 upto October. Of the 1918 shipments more than half were exported in September. Now while wheat exports have been dropping heavily, wheat flour exports have increased from 11,470,472 barrels in the first nine months of 1916 and 8,891,721 barrels in the same period of 1917 to 17,802,438 barrels up to October 1 in 1918. In September, 1918, however, only 333,148 barrels of flour were shipped as against 1,015,293 in September, 1917. The Food Administration is aiming since the 1918 crop movement started, to send as much of it as possible to Europe in the form of wheat in order to add to European mill feed supplies and encourage rebuilding up their livestock industry.

MOTOR TRUCKS IN FORESTS.

Army motor trucks are likely to be assigned to the Forest Service for transportation of men and supplies to forest fires, according to Acting District Forester R. Headley of San Francisco. Much loss of property, forest trees, and Federal funds could have been avoided heretofore by use of motor vehicles. A complete estimate of the number that can be used to advantage has recently been made by the Forest Service to the U. S. Motor Transport Corps.

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ORIGINAL KEROSENE TRACTOR

Dependable Power that does not fail when your farm work has been delayed and you must take advantage of favorable weather and ground conditions.

Simple Power which the inexperienced hired man can utilize to full day capacity, at any drawbar or belt job on the farm.

Reserve Power that's available in emergencies—for variable soil conditions or upgrade work.

Economical Power that insures low operating cost—works all day under full load on 18 gallons or less of cheap kerosene.

Built to Standard Quality

Waterloo Boy fully sustains the quality-fame attained by Waterloo Boy power machines in 25 years' manufacturing success. Backed by a plain guarantee from a responsible manufacturer. Two-speed motor supplies ample reserve power for tillage operations, and belt power for all farm needs, including threshing. All working parts of the Waterloo Boy are easily accessible.

Our illustrated catalog contains convincing proof of Waterloo Boy success. Sent free—write for it today.

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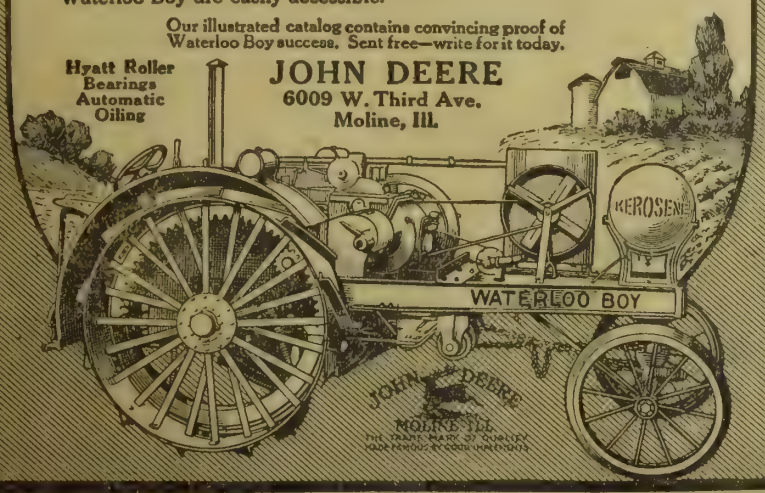

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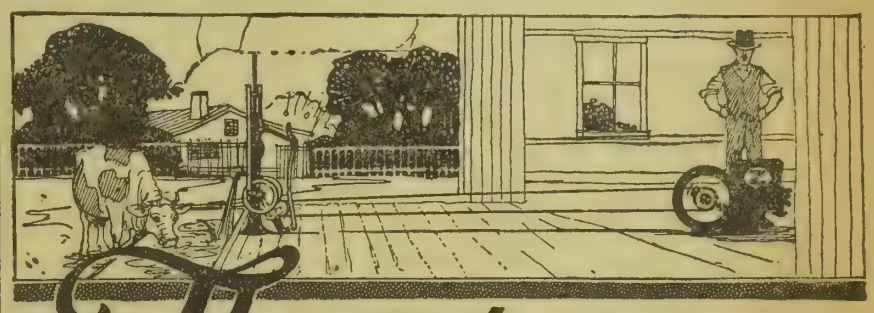

The Engine Selected by over 150,000 Farmers

RECORDS made by over 150,000 practical farmers buying over $10,000,000 worth of Fairbanks-Morse "Z" Farm Engines have never been equaled in Engine history.

Demand, as they did:

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3. Simplicity and Staunch Durability.
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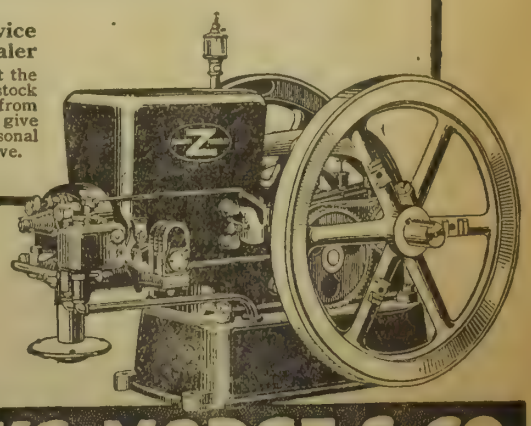
You Also Get Service from your Local Dealer

Your local dealer has just the type "Z" for your needs in stock—waiting for you. Buy from him. He is prepared to give prompt delivery and personal service right where you live.



The 3 and 6 H. P. sizes are built to use kerosene, distillate, stove oil, tops or gasoline. The 1½ H.P. size uses gasoline only.

FAIRBANKS, MORSE & CO.
Chicago — Manufacturers

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors and other mechanical farm power are invited to make this department an exchange of their experiences and troubles

TRACTORS WILL LEVEL BATTLE-FIELDS.

We have read of the giant tanks that crashed their irresistible way across the battlefields, destroying all that came in their way. We have learned, too, that these fighting tanks were suggested by the great American "Caterpillar" farm tractors used by the allies for hauling their big guns. Those guns contributed their share to the destruction, hurling high explosive shells without number, destroying cities, towns and villages, blotting out bridges and roads and tearing up fields. In many places you can go for miles and scarce find a spot large enough to stand upon that has not been churned up by an explosive.

Those who have visited French farm lands report that the fields that once yielded abundant crops seem blasted beyond all hope of recovery. The pock-marks of the small shells are everywhere, and at frequent intervals are huge craters, yards across and many feet deep, where the larger shells have exploded. At some points entire farms have disappeared, for here the troops sank their mines, which, when fired, engulfed whole companies and entirely changed the contour of the land. The fertile top soil is gone, buried beneath the upturned sterile clay and sand. Back and forth across all this devastation run endless mazes of trenches, man deep, with earthen ramparts before them, cutting up the fields until plowing or cultivating seems an utter impossibility.

Such is the condition in which returning French and Belgian farmers will find their once fertile acres. It will be a disheartening sight, for with the old horse and scraper method of leveling it would mean years of work before the land would again be fit for cultivation.

Here is where the "Caterpillar" farm tractor will drop its war charge, the heavy gun, and go to work for those simple peasant folk. Hitched to a big land leveler, it will cut off the earthen ramparts, fill the trenches, craters and shell-holes, nad leave the surface level.

The whole affair is similar to the land-leveling operations pursued by the United States Reclamation Service, where great stretches of virgin country have had to be leveled accurately so that irrigation would be feasible. On the Truckee-Carson project United States engineers decided to attack the task with tractors. They used two Holt "Caterpillar" tractors, pulling two Holt land levelers. The outfits worked 16 hours per day and results were so satisfactory and costs so low that three more outfits were ordered. Plowing and leveling cost $32.75 per acre, including overhead.

The land leveler is a machine operating in fashion similar to the road scraper. When drawn by a 75-horsepower "Caterpillar" tractor, the Holt leveler is fitted with an eight-foot blade, which can carry seven cubic yards of dirt. The operator lays the dirt wherever he wishes. He is also able to make instant variations in the blade's bite.

Tractor land leveler filling shell holes and trenches.

FRESNO WANTS BIG TRACTOR DEMONSTRATION.

To the Editor: The Central California Tractor and Implement Association of Fresno has extended an invitation to the California Tractor and Implement Association to hold its big spring tractor and implement demonstration near the city of Fresno.

Fresno is the geographical center of California, the third largest center of population and the center of California's largest agricultural district. The association feels, therefore, that the interests of your organization could best be served and the largest possible number of farmers reached by selecting Fresno county for the coming meet.

The following brief facts will substantiate this claim: Within easy access of Fresno by rail or highway lives a population of 19,498 farmers, distributed throughout the following counties, as shown by the 1910 Government census, plus a conservative estimated increase of 25 per cent. However, the 1910 figures have been taken as a basis for comparison:

Fresno county	6,245 farmers
Kings county	1,837 farmers
Tulare county	4,021 farmers
Kern county	1,047 farmers
Madera county	573 farmers
Merced county	1,856 farmers
Total	15,599 plus 25% or 19,498

The following named agricultural organizations are interested in this demonstration and will use their best influence to encourage large attendance of their members: California Associated Raisin Company, 8700 members; California Peach Growers, Inc., 5000 members; Valley Fruit Growers' Association, 3300 members. Unorganized farmers in the grain growing, orange, table grape, fig and other industries may be relied upon and can be reached through various local Chambers of Commerce.

A suitable piece of ground of 500 acres or more can be secured adjacent to the city of Fresno, with good plowing conditions, during the latter part of April or the first of May, and accessible by highway or interurban.

The fullest co-operation from the Central California Tractor and Im-

What Keeps the Tractor on the Job?

You can't get full service from your tractor, unless all the fuel is ignited instantaneously. The one sure way to get the full power that comes from this complete ignition is to have

BOSCH Magneto Ignition

WITH BOSCH IMPULSE STARTER

The rip-roaring Bosch sparks drive into the firing chamber with such penetrating power that all the fuel is completely ignited.

Besides this powerful spark, Bosch has the rugged, sturdy stanchness that stands up under the hardest use. It will see you through any job, however tough, and do it year in and year out.

With the big, strong, simple Bosch Impulse Starter, now in general use, you also will be sure of quick, easy starting.

Bosch costs more than ordinary ignition systems. Yet it is standard equipment on many fine tractors, because the manufacturers know it is the best. They want to be sure of giving real service, even at higher cost to themselves.

Whatever the make of your tractor, it can have a Bosch Magneto. The maker will install Bosch if you ask for it when you order, and the tractor you already have can have a Bosch fitted by any Bosch Service Station.

Be sure to specify: "Bosch Magneto Ignition" on your order.

Correspondence Invited—Write for Catalog.

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AMERICA'S SUPREME IGNITION SYSTEM

MOTOR TRUCKS - TRACTORS - AIRPLANES - MOTOR CARS - MOTOR BOATS - MOTORCYCLES - GAS ENGINES - ETC.

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plement Association, the Fresno County Chamber of Commerce, and smaller city chambers may be depended upon in the way of publicity, as these organizations have already expressed their interest in the coming spring demonstration.

Respectfully yours,

J. C. PHELAN,
W. L. MATTOCK,
C. H. COBB,
Committee.

POWER FOR PUMPING.

To the Editor: I have three wells close together which I intend to connect at the pump in a pit about 20 feet down. The water can be pumped down to about 18 feet below the bottom of the pit. I will discharge about 5 feet above ground. How much power will be required for a 4-inch centrifugal pump? How much for a 5-inch pump? Are the figures you quote supplied by engine dealers or pump dealers? The one wants us to use extra power, the other tells us to use less.—H. F. B., Santa Margarita.

Figure about 0.22 h. p per foot of lift for the four-inch pump lifting 400 gallons per minute 45 feet, or about 0.34 h. p. per foot lift for the five-inch pump throwing 700 gallons per minute. For the smaller pump get a 10 h. p. engine or motor. For the larger one, get a 16-h. p engine. It won't cost so much to run an engine with a trifle over-capacity as one so small it would have to be overloaded and strained. You may also encounter a dry year, or neighbors may pump your water away from you. If your lift should become much greater, you would hate to buy a new engine as you would if skimping on power in one you buy now.

Engineers have worked out tables of power required for various volumes and lifts of centrifugal pumps. Both engine and pump dealers use the same tables; but in making the recommendations, the one may add a margin of reserve power while the other may try to minimize the cost of power.

TRACTOR DISPLAY AND AD. CLUB LUNCHEON.

Two notable forces combined on Wednesday of this week to give San Franciscans a better idea of how current agricultural progress is being attained. The California Tractor and Implement Association conducted a street parade which attracted wide attention and the San Francisco Advertising Club gave a luncheon to several hundred wide-awake business men, manufacturers and men prominent in public affairs. The lesson of the twin event is that modern agricultural progress is mainly due to tractors and their trailing implements and to advertising which makes the public aware of what can be done with up-to-date farming appliances. This lesson was well enforced both by tractors and luncheon orators in full operation, and all participating were interested and edified. In the tractor parade we noticed the following tractors: Avery, Samson Sieve-Grip, International Harvester Co., Fageol, Yuba, Wallis, Holt's Caterpillars, J. I. Case Machine Co., Lauson, and Moline. It is a good thing to bring city and country interests together, as the affair surely did.

OVERHAULING COST OF TRACTOR.

Good service has been given by the Yuba 18-30 tractor which has done the work three years on a 300-acre ranch in Los Angeles county for W. R. Hudson. It has just been overhauled at a cost of $400, the machinist work having been done by himself. As this tractor is now priced at $2,900 f. o. b., factory, the overhauling after three years is very reasonable. The entire life of a tractor decently used in California is averaged at not more than five or six years, so Mr. Hudson is getting service much better than the average.

HAY TOOLS
STEEL STALLS
STALL FITTINGS
SPRING BALANCE MANGERS
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WATER BOWLS
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The dairyman's big problem today is the problem of labor. Good hands are scarce and wages high. Louden Barn Equipment solves the problem. It means

LESS MONEY FOR LABOR

One man on a Louden-equipped dairy ranch can do the work of two or three on a ranch with old-style equipment. Besides, the cows are healthier, more contented, and MORE PRODUCTIVE.

FREE BOOK OF BARN PLANS—112 pages of practical plans. Crowded with valuable information. Complete catalog of Louden Barn Equipment also free.

California Hydraulic Engineering & Supply Co.
68 Fremont Street, San Francisco, Cal.
424 E. Third St., Los Angeles, Cal.

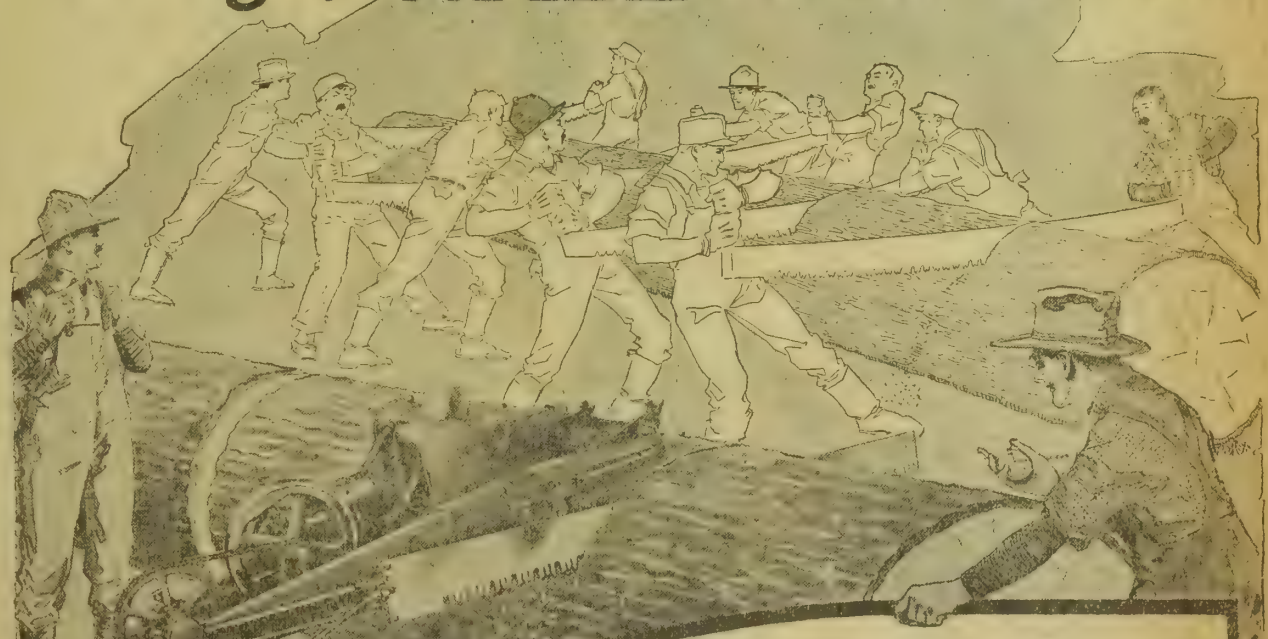
WITTE IRRIGATING ENGINES

Kerosene-Distillate 2 to 30 H.P.

Pump your water with a WITTE. All you need is a centrifugal and my Special Model Kerosene-Distillate Engine. I can lay your engine down at least cost. Save the middleman's profit—Get your engine NOW, while prices are favorable. Have reliable power for all your work. Made in standard sizes—2, 3, 4, 6, 8, 12, 16, 22, and 30 H. P. Battery or magneto equipment. I am in a position to offer you the best prices and make Quick Shipment. 90-Day Trial — 5-Year Signed Guarantee. Largest exclusive engine factory in the world selling direct to user. Terms: Cash or payments as arranged for. Don't make a deal until you have investigated my offer.—Ed. H. Witte, Pres.

WITTE ENGINE WORKS
2861 Oakland Ave., Kansas City, Mo.
2861 Empire Bldg., Pittsburg, Pa.

The Mighty WADE Outsaws 10 Men!



A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the United States—in the woods of the Pacific Northwest, California, Minnesota, Arkansas, New York. When not in use for wood cutting the 4-H.-P. motor will run feed mills, feed cutters, pumps, etc.

Read What These Owners of WADE DRAG SAWS Say:

"One afternoon my brother-in-law and I took my WADE into the woods and sawed three hard maple trees into 16-inch blocks, the trees averaging about two and one-half feet at the stump. He expected it would take me from eight to ten hours to do the job, but it was all done in three hours.—F. W. Hiller, Vernon, N. Y.

I cut thirteen and one-half ricks of cottonwood in six hours.—J. W. Stratton, Atkins, Ark.

One gallon of gasoline will cut six to ten cords of wood; it depends on the kind of timber you cut.—W. D. Thomas, Bull Run, Or.

My WADE saw paid for itself six times over.—F. W. Taylor, Swisshome, Or.

I am making $250 a month with my WADE.—F. A. Storts, Orville, Cal.

Thirty-six inches in diameter, yellow birch, is the largest I have cut and I cut down to six inches.—P. L. Cole, West Duluth, Minn.

I cut down to eight inches in diameter.—F. T. Swank, Park Falls, Wis.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free book, "How Dan Ross Cuts 40 Cords a Day." Full details and special price.

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Without obligation, send me Booklets, full details and special price on Wade Drag Saw.

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A 53 YEAR REPUTATION BACKS THE WADE

Horticultural Jottings

It is reported that olives around Oroville are running heavily to large sizes.

Cold nights and warm days have helped color up oranges in the Fairoaks section.

The Hemet-San Jacinto Olive Growers' Association has packed 12 carloads of olives.

Yakima Valley, Washington, reports this year's crop of Winesap apples the best ever produced.

It has been estimated recently that the raisins saved this year will bring the crop up to 170,000 tons.

Horticultural Commissioner Earle Mills of Butte county says the pear blight infection around Paradise is well under control.

H. J. Ryan has been appointed horticultural commissioner of Los Angeles county to fill the vacancy caused by the death of William Wood.

Fred G. Stokes of Lake county reports that there will be heavy plantings of pears and prunes in that section this year. Several thousand A1 Bartlett pear trees on Japanese roots are being shipped out.

Many California fruit trees are to be used in replanting the ruined orchards of France, according to plans being formed by the Los Angeles branch of the committee for devastated France.

A 200-acre mulberry plantation has been started in Butte county with a view to the establishment there of a silk manufacturing industry. The Seriterre Company of Oroville is the promoter.

The annual fig institute for Fresno county will be held January 3 and 4. Present fig prices are very good. The growers seem generally disposed to let the market take care of itself until war conditions pass.

Apple growers of the Northwest are expecting that the embargo against shipping apples to Europe will soon be removed. England expects to import apples and control the price at which they will be sold.

The biggest order for trees ever known to be given from Yuba county was given by Howard Reed, well-known orchardist, who bought 50,000 pear striplings for 500 acres of land which he will plant this year.

Members of the California Grape Protection Association, at a meeting in this city last Saturday, representative of the grape-growing counties of the State, subscribed $1,500 to meet the initial expense of the coming campaign.

The Sunlit Fruit Co. cannery at Atwater closed its packing department after a most successful season's pack, which totaled for the season 60,000 cases of peaches and 30,000 cases of sweet potatoes. This is an increase of 15,000 cases over last year's pack.

George A. Lamiman, for years Horticultural Commissioner of Shasta county, has been engaged by Silva-Bergtholdt Co. of Newcastle as their expert horticulturist. This company operates 1100 acres of orchard properties, which will give Mr. Lamiman plenty of congenial work to do.

The Legislature is to be asked to make an appropriation of $48,000 for the establishment of a nursery for the propagation of the stock for the planting of shade trees along California's State highways, to protect the concrete roads from the extremes of summer heat and to afford comfort and eye relief to travelers.

The Fresno orange crop is turning out very satisfactorily, according to Horticultural Commissioner F. P. Roullard. The shipments will be larger than last year. Where growers had expected a 30 per cent crop, the oranges are generally turning out about 45 per cent. The quality of the fruit is excellent, both in color and ripening.

Fred Feuelberger, Horticultural Commissioner of Alameda county, was elected president of the County Horticultural Commissioners of the

When Our Trees Are Planted Righ

Plant Fruit T

IF you have not already ob
Fruit Tree Catalogue, sen
your orchard more intelli
possession than you could o

Our explanation of varieties, our practical inf
and vineyards, compiled by men fully experienc

Here is a sample of the concise way our catalogue deals with various fruits:

Peaches

California leads all other States in the production of peaches, in fact it is the leading horticultural product of the State.

Both the Clingstone and Freestone peaches have been bringing handsome returns to the growers and the heavy demand for foreign shipments as well as for home consumption makes peach growing one of the most profitable industries.

The California Peach Growers' Association represents 6000 growers. It is incorporated for $1,000,000, and now controls 85 per cent or more of the tonnage sold on the market. Since this Association has been formed, grades have been standardized and prices have been obtained which have been remunerative to the grower and gives an impetus to the planting of new acreage.

The trees do best on well-drained, sandy loam and white ash soils. If planted on heavy soils, care must be taken to have it well drained. The so-called "hard-pan lands," if properly blasted, allowing the roots to extend into the deep, free soil below, produces fruit of the finest quality and the trees are very prolific. Such land is usually rough and requires leveling before planting.

When the trees are set, cut them back to 18 inches from the top of the ground and shorten in all branches, if any, to two buds.

The first winter after planting cut away all branches up to 12 inches from the ground and leave from three to five branches to form the head of the tree and prune these back to 12 inches. These branches should be distributed on the trunk of the tree to prevent crowding and development of forks. Forked trees, when loaded with fruit, are liable to slip down and ruin or entirely kill them.

The second winter thin out the small lateral branches, leaving not more than two or three on each of the framework branches, and cut these back about one-half. This system can be followed each year, but thinning of lateral branches must be resorted to in order to prevent smothering the inside of the tree.

As a rule, peaches are set from 20 to 24 feet apart. On light soils set the trees 20 feet apart, but on heavier soils 22 to 24 feet is preferable.

Peaches are divided into two classes, viz.: Freestones and Clingstones. Some of the very early varieties of the freestones cling slightly to the pit, which, however, is not an objectionable feature. The freestone varieties are used for canning, drying and shipping, while the clingstones are principally used for canning and shipping. The freestones best suited for canning are Foster, Elberta, Lovell and Salway; those for drying are Elberta, Muir and Lovell.

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The MUIR PEACH

Is Unexcelled for Peeling and Drying Purposes

MUIR—The Muir is the King or Queen, as it might be called, of all the freestone peaches for drying purposes in California. It was originated on the place of John Muir, near Silverville, California, but was first propagated by Mr. G. W. Thissell of Winters, California. It is very large in size and a perfect freestone, having a clear yellow flesh, which certainly presents a most beautiful appearance when properly dried.

In addition to its attractive appearance, it contains more sugar qualities than any other peach, which allows it to dry exceedingly heavy, making it a very profitable variety to the producer. We feel that this peach is so widely known and favored among California planters that it is needless for us to mention all of its good qualities.

We believe that everyone who contemplates planting a peach orchard for drying purposes should certainly not overlook the Muir. The California Peach Growers' Association have demonstrated that this variety is the only one that can be "Process Peeled" successfully. Time of ripening, latter part of July.

Drying of Peaches

In drying peaches great care should be exercised so as to obtain a clean, well-colored and desirable product, which always tends to make it more saleable.

Fruit should never be picked, for drying, until well ripened, at which time it contains its largest quantity of sugar, dries very rapidly, weighs heavy, and makes a large percentage of fancy fruit. In picking up fruit which has dropped voluntarily, sunburnt and green, shriveled fruit should never be taken, as it only tends to lessen the value of the good product and reduces the profits.

In cutting fruit one should be careful to see that a complete circle of the fruit, with the knife, is made, otherwise it is partly torn and when dried presents a very poor appearance.

In placing the fruit on trays, which are used for sulphuring and drying, it should all be placed face up; the tray having cleats of sufficient height to admit the largest peaches without touching other trays when stacked. These trays should not be allowed to stand longer than is absolutely necessary before entering the sulphur house. When this is allowed a crust forms on the fruit and proper sulphuring is very difficult. * * *

For complete chapter on Drying see our New Catalogue

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ons of right varieties. Commercial e found our suggestions very help- as well avail yourself of our tree you a penny and should make your

State at a meeting in Sacramento last week. Fred P. Roullard of Fresno was elected vice-president and Fred C. Brosius of Sacramento was elected secretary.

The packing of the Lindsay orange crop is over. The total crop from Lindsay will be about 1000 cars, about half the normal. It is about 50 per cent more than the summer estimate after the June crop. The total shipment from Tulare county is approximately 2300 cars, about double the shipment of last year. The returns will not be near anticipation and will net about $3 per box.

As a result of fruit market investigations conducted in New Zealand by the U. S. Bureau of Markets, cooperating with the American Consul-General at Auckland, grapes from the United States will now be received into that country, which previously allowed imports from Australia only. This affords a new market for our Malagas, Emperors and other table varieties.

Nurserymen state that the demand for apricot trees is not up to normal, caused probably by slow market this year for the dried fruit. As the Government will soon take its hands off the dried fruit industries, the apricot situation will soon come gack to normal, so that it would seem that now was a good time to plant apricots while good stock is obtainable.

C. H. Barker, Grass Valley pear grower and shipper, reports having received as high as $3.50 per box for late pears shipped to the Eastern markets. The close of the Bartlett season was also very satisfactory, the prices ranging as high as $4 per box. Despite unfavorable conditions existing in mid-summer, the season was better than the average for fruit growers here, in the opinion of Barker.

A new non-profit co-operative project has been launched in the Liberty Groves Operating Corporation, San Bernardino, which proposes to do the farming for growers on the same principle that the exchanges and associations market the fruit. The grower will have his orange-orchard cultivated, irrigated, fumigated, pruned and the fruit harvested and packed. Grower (loquitur). This is the life!

A local paper says the fruit season of 1918, so far as it affected Nevada county, was one of many difficulties, and comparatively few of the growers realized the profits of former years. Some showed a balance on the wrong side of the ledger when the final returns were in. Particularly was this true of some of the smaller and less experienced shippers, whose principal shipments reached the Eastern auction markets at a time when prices were so low that there was nothing left above the shipping expense.

Word from the Fresno district says that the fogs have been seriously delaying the drying of the raisins. About 15,000 to 20,000 tons of raisins are still on the trays and in half boxes. Some of these may be lost, but a cold, frosty spell would soon cure thousands of tons. The damp weather has held the growers back. The raisins are practically all in the stack. Wylie M. Giffen, president of the California Associated Raisin Company, is using the dryer on practically his entire crop, and is drying some of his neighbors' crops.

J. N. French of the rodent division of the State Commission of Horticulture gave his first demonstration in killing gophers and squirrels in the Watsonville district last week. By the use of French's probe a man with a couple of hours' experience can locate and drop poison into from three hundred to five hundred runways a day. A feature of French's work is the poison used. Sweet potatoes are cut in cubes big enough to prevent the gopher from putting them in his pouches. He is therefore forced to eat the bait on the spot or else abandon it, and most gophers will take a few nibbles before abandoning a piece of sweet potato, no matter how full they are.

For Butter or For Worse

Startling Facts Regarding the Increasing Use of Butter Substitutes. An Association Being Revived to Fight the Oleomargarine Interests.

Dairymen of California, do you realize the alarming extent to which oleomargarine and other substitutes for butter are being used? You were happy when the price of butterfat went up, but do you know that there is just as much danger when it goes exceptionally high as there is when it is not high enough? If the price goes beyond what the consumers have been led to believe represents the worth of butter they will discontinue its use and buy substitutes.

That's just what they have been doing. The annual report of the State Dairy Bureau, just issued, gives alarming figures regarding the increasing use of oleomargarine as indicated by the number of licenses issued. The record is given in the accompanying table:

OLEOMARGARINE LICENSES ISSUED

	Retail	Bakery and Restaurant	Wholesale.
July 1, 1916, to June 30, 1917.....	836	371	8
July 1, 1917, to June 30, 1918.....2,758		575	20
July 1, 1918, to Dec. 1, 1918.....2,738		434	25

Notice that the last row of figures in the table is for only five months. When the complete records for this year are available it will be found that more permits were issued during the last six months than during the entire preceding twelve months. Also notice that during those twelve months nearly three times as many licenses were issued as during the previous twelve months.

THE PUBLIC MUST BE EDUCATED.

To be sure, the situation is disappointing; it is even serious. But it does not mean that dairying is doomed. It simply means that the public must be familiarized with the difference between butter and its substitutes—must be educated to the real food value of butter and its absolute necessity in human diet.

Dr. McCollum, of Johns Hopkins University, has discovered that dairy products alone contain a vitamine which is absolutely necessary to the proper maintainance of human life, and that persons when deprived of it become weak, torpid and prone to disease. Consequently, not only does the dairy cow produce a cheap, palatable food, but she supplies one for which there is no substitute—a food which constitutes an indispensable part of our diet, and without which we cannot develop properly.

But how many people know these facts and hundreds of others that ought to be put before them? The reason why so many people are using oleomargarine in the place of butter is that the manufacturers are constantly on the job advertising their products and keeping their brands before the public, while the dairymen, unorganized, sit back and bemoan their fate.

DAIRYMEN MUST USE THEIR OWN GOODS.

Worse than this, the dairymen are not using their own goods. An investigation carried on just a few months ago among general stores selling to dairy farmers revealed the astounding fact that these farmers themselves are as liberal users of butter substitutes as city folks. In their effort to reduce the high cost of living they are striking a killing blow right at the heart of their own industry. False economy, of course, but they are doing it just the same.

Education should begin at home, and first of all the farmers need to be informed of the real food value of their product and its necessity in their diet.

ORGANIZED EFFORT NECESSARY.

To do this, and to educate the public at large; also to have suitable laws enacted to protect the interests of the dairymen, organized effort is necessary, and we are glad to notice a movement along this line.

In 1893 the California Dairy Association was incorporated "for educational and legislative purposes," but it ceased its activities about 1902. It was recently suggested by W. B. Hopkins, manager of the Petaluma Co-operative Creamery, that a strong association of dairymen be organized, primarily for oleo legislation, and later for a campaign of advertising dairy products, in co-operation with national organizations.

OLD ASSOCIATIONS REVIVED.

Following this suggestion, the creamery directors of Marin, Sonoma and Napa counties became interested in reviving the old association and building up a large state membership in time to take action at the coming session of the state legislature.

The work was undertaken by the former secretary, Mr. Samuel E. Watson, state dairy inspector, who secured a leave of absence from the State Dairy Bureau in order to devote all of his time to the new work.

Within a few days over 300 members were secured and over $1000 raised to open up a campaign for quick action. One thousand members are assured in the three counties, and it is hoped to secure at least 5000 throughout the entire state. Early in January a meeting will be called to elect a new board of directors to conduct the affairs of the association.

It is proposed to issue a monthly bulletin in January, February and March, to give oleo and dairy statistics and keep the members informed of legislative progress on oleo and other measures of interest to dairymen.

Quarterly meetings are planned, in which dairymen of the most important districts will meet for consultation and mutual benefit. At these meetings university instructors, practical dairymen from other sections, and experts in dairy work will speak, and great good should result.

The association will be conducted for educational and legislative purposes only, and will not go into any commercial undertakings; nor should it be confused with any work of that nature now under way. It will, however, work in harmony with creamery operators, butter makers and other associations along the line of education and legislation.

The necessity for such an organization is self-evident, and it seems to us that this association is starting out along the right lines. If interested, write for fuller particulars to the secretary, Samuel E. Watson, 1254 Regent street, Alameda.

CREAMERY OPERATORS MEET AT VISALIA.

[Written for Pacific Rural Press by W. H. Schrader.]

The California Creamery Operators' Convention, postponed from last October, opened in Visalia last Thursday. An instructive program had been arranged by Secretary F. H. Daniels. A hearty welcome, including a key to the town, was extended to the visiting creamery men by various city dignitaries. President Nels Beck, in his report, emphasized the need of more revenue for the organization and Ed H. Webster later reported the plan devised to secure this, to wit: Assessing every creamery member one-tenth of a mill for every pound of butter produced. C. M. Conner, Farm Advisor for Tulare county, outlined some of the things being done in the county to further the dairy industry, especially emphasizing the importance of silo and corn ensilage both in the improvement of the dairy ration and the greater production secured by alfalfa, barley and corn rotation.

At the evening session Ed H. Webster pointed out the good effects secured by cow testing associations in the Imperial Valley. C. W. Rubel (taking the place of Prof. G. H. True on the program) outlined the advantages of co-operative bull associations, especially in communities of small dairies. Even the large dairymen could, through such co-operation, oftentimes more conveniently get the breeding desired. Geo. R. McCloud of the Sperry Flour Co. spoke in favor of a proprietary feed law for California. Prof. F. W. Woll of the University Farm agreed with most of Mr. McCloud's ideas, but thought that the various grains, etc., used in such feeds (rather than merely the percentages of carbohydrates, fats, proteins, etc.) should be indicated in the formula.

On Friday morning the operators were treated to an auto sightseeing trip, which included a visit to an orange packing house where was prepared for market another golden product for which Tulare county is nearly as famous as for butter. In the afternoon Dr. C. L. Roadhouse of the University Farm gave an interesting talk on "Business Phases of Dairy Manufactures" and I. L. Deming, also of the Farm, pointed out the necessities of standardization of creamery butter. C. F. Doane of Eureka gave an interesting talk on the cheese situation in California. He described the advantages of the equable climate in the coast counties for cheese manufacture.

In the evening S. H. Greene of the Food Commission prophesied great prosperity for the dairy industry after the war for many years. J. M. Henderson, president of the Associated Dairymen, told what that organization is doing to standardize production and stabilize prices. J. P. Murphy of Tulare questioned whether the Alfalfa Growers' Association would help the dairymen. He feared that a price of $20 per ton for alfalfa hay would tempt the dairy farmers to sell their cows and go into the business of selling hay. W. H. Roussel of San Francisco gave an interesting talk on marketing dairy products.

On Saturday N. Knudson spoke on "Neutralizers, Their Use and Effect," and N. Nyberg of Modesto gave some "New Ideas in Butter Making."

S. H. Greene outlined the benefits to be derived from a State Dairy Council and the members by unanimous vote authorized the executive committee to appropriate reasonable funds to finance the movement.

The following officers were chosen for the coming year: President, Dr. C. L. Roadhouse of University Farm; vice-president, C. E. Gray of San Francisco; executive committee, S. H. Greene of San Francisco, Ed H. Webster of El Centro, and J. R. Murphy of Fresno.

The University Farm at Davis was chosen as the place for holding the convention in 1919.

The leaders in the butter scoring contest were: Petaluma Co-operative Creamery, 95½ per cent; Danish Creamery, Visalia, 95¼ per cent; Modesto Creamery, 94¾ per cent; and Valley Creamery of Stockton, 94½ per cent.

THE MAN BEHIND THE LIBERTY FAIR.

The Liberty Fair is now past history, but we cannot lay down our pen without giving credit to C. R. Thomas for the success of the affair. The livestock feature was the drawing card, and this veteran showman is the one who made it draw.

Mr. Thomas seems to feel that the Rural Press gave him valuable backing, as is evidenced by the following, just received from him: "Your paper was one of the main factors in carrying the show to a successful termination. I thank you and your representatives most heartily, and appreciate everything you have done more than you will ever know."

FOR TWO THOUSAND YEARS the people of Holland have been developing the Holstein Friesian breed of dairy cattle. They have developed a breed that most economically turns large amounts of coarse fodder into valuable dairy products, and is valuable for beef purposes. Holstein Friesian cows excel all others in milk and butter production and return a greater profit upon the cost of their feed.

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Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

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Register of **MERIT JERSEYS** A limited number of bulls for sale

Raise the Calves and Prevent a Crisis

(Continued from first page.)

tect the calf from draughts and dampness. Clean the stall and bed it with dry straw soon after the calf is born. Many progressive dairymen wash the mouth, udder and hind quarters of the cow with a disinfectant, so that if it has any transmissible disease the risk of giving it to the calf will be reduced to the minimum.

We will assume that the cow is known to be free from tuberculosis and that the calf is to be allowed to nurse. In this case the next step is to see that the calf does nurse. A strong, healthy calf will do this of its own free will within a half hour or so after being dropped. If a weak calf does not nurse within an hour, assistance should be given, and the calf should nurse frequently during the first day.

Attention should be given to the navel cord so as to prevent infection, which leads to numerous calf ills. If the cord is long, cut it about three or four inches from the body, but don't tie it, as is often recommended. Instead, immerse the cord for about ten minutes in a cup or goblet containing a 1-1000 solution of corrosive sublimate or an equally reliable disinfectant. Then dust the cord with a desiccating or healing powder, such as equal parts of powdered alum and boric acid, repeating this occasionally until the stump dries and seals so that no filth or disease germs can enter.

WHEN TO SEPARATE CALF FROM COW.

Some authorities state that the calf should be removed from its mother at once, maintaining that it is easier to get it to drink if it has never nursed. Others claim that a calf can more easily be taught to drink after it has nursed for a few days, because it is stronger; also they say that it is more difficult to make the calf drink all the colostrum milk it needs than to let it get it from the cow.

Since the cow's milk is not used for domestic purposes for from three to five days, it seems best to leave the calf with her until her milk can be used, especially if her udder is caked or inflamed, as the frequent nursing of the calf will usually bring it to its normal condition. But the attendant should be sure to milk out the udder each day, and if the calf shows signs of scouring it should be separated from its mother at once and fed very lightly. A good dairy cow produces more milk than is necessary for her calf and, not knowing any better, the little fellow will drink more than is good for him. This overfeeding is apt to cause scours.

But whether a calf is allowed to nurse or not, it should receive the first milk from the cow—colostrum, it is called. This milk contains six times as much protein and twice the amount of ash in normal milk. It is a strong laxative, and as the stomach of a new-born calf contains a sticky yellow substance which is difficult to remove, this colostrum is necessary to loosen this material, cause it to pass off and start the digestive functions. It does more toward starting the calf on the road to a strong, healthy cow than any later feed.

The calf should continue to receive the milk from its own mother for four or five days, after which it may be given the mixed whole milk of the herd, if more convenient.

WEANING THE CALF.

The first feed from the pail is an important step in the calf's life. Keep it from the cow for about 12 hours, and then it will be quite hungry. Put about two quarts of its mother's milk, fresh and warm, into a clean pail and hold it in front of the calf. Occasionally a calf will just put its nose into the pail and drink without coaxing, but in most cases it will be necessary to wet two fingers in the milk, let the calf suck them, and by this means gradually draw its nose into the milk. Remove the fingers carefully after awhile and allow it to drink alone if it will. Often it will take its nose out and the operation will have to be repeated. The patience of Job is necessary, but usually after the second or third feeding the calf will drink alone.

The stomach of the young calf is so constructed that it requires frequent feedings in small amounts, and for the first week or two it should be fed three times a day, at regular intervals, and always with milk immediately after it is drawn, so that it will be as near the body temperature as possible. Theoretically, three or four feedings daily for some time are best, but in actual practice more than two feedings are a great inconvenience, and after the first week or two the calf will get along well enough on two feedings a day.

CHANGING TO SKIM MILK.

Fresh, whole milk should be fed until the calf is two or three weeks old, beginning with four to six quarts daily and ending with five to seven, depending upon the size of the calf. Then begin to change gradually to skim milk, having the change consume from a week to ten days, depending upon the richness of the milk. Start with six to eight quarts and increase so that when six weeks old the calf will be getting eight to ten quarts. Most dairymen wean their calves from skim milk when from four to six months old, cutting down gradually on the amount of milk, and increasing the other foods in the same proportion.

GRAIN NECESSARY TO REPLACE FAT.

When the change is made to skim milk something must be fed to take the place of the fat lost in skimming. Barley does not contain much fat, but the carbonaceous matter takes the place of it, and here in California, taking prices into consideration, probably the best mixture can be made up by using two parts of ground barley and one part coconut meal, by weight. I like to add a teaspoonful of blood meal in every feed. This is the best known bowel corrective, and when used regularly will prevent scours. Also it is fine for growth of bone and muscle.

It is desirable to induce the calf to eat hay and grain as early as possible, so that it will start the normal habit of the ruminant. It is possessed of a good set of back teeth at birth, and is able to begin grinding its food when two or three weeks old.

Do not feed grain in the milk, as the calf will gulp it down without masticating it, and this will lead to indigestion. Put a small handful of grain into the pail just as the milk disappears and the calf is busy trying to find more. It will quickly learn to eat the grain, and should receive about one-half pound daily until two months old. After that gradually increase the amount until one pound daily is being fed. It is hardly possible for a calf fed skim milk to eat too much grain, but with our rich pastures it will seldom be found profitable to feed more than the amounts indicated.

CALVES NEED ROUGHAGE.

Roughage develops capacity in the digestive organs, and a calf should be supplied with hay soon after it begins eating grain. It is best to start the calf on clean, dry hay, as green alfalfa has a laxative effect and may cause scours. When put on green alfalfa the calf should be fed other feeds first to prevent it from eating too much alfalfa.

After a few months a limited amount of silage may be added to the roughage, and beet pulp to the grain ration. Grain should be continued until the heifer is at least a year old—better to feed a small amount until it is two years old, if you want a large, well-developed heifer.

WATER AND SALT IMPORTANT.

Fresh water is an item that is often neglected, farmers reasoning that it is not necessary as long as calves are receiving milk. But this is a mistake, as from the time they are two weeks old they will drink several pounds of water daily if it is available. They should have access to clean, fresh water at all times.

Salt, another requisite often overlooked, will add to the health and vigor of calves, and is essential to their proper development. As soon as they begin to eat hay and grain, salt should be continually available.

CALF-RAISING PRECAUTIONS.

Properly fed on skim milk and suitable grains and roughage, a calf should gain from 1½ to 2 pounds per day until weaned at four or six months. But it will do this only when proper feeding is accompanied by proper care.

Absolute cleanliness is a most important factor. Clean feeding pails, troughs and stalls are safeguards against digestive troubles. Milk should be fed in pails scalded after each feeding. Discarded feed should be removed from feed boxes, and care should be taken to prevent meal from fermenting in the corners. Calves should be kept dry, and as bedding becomes wet quickly it should be changed frequently. Shade should be provided in summer, and protection from rain and raw winds in winter.

Yes, all of these things mean extra expense, but they don't mean extravagance. They pay.

COLD RAINS REDUCE MILK FLOW.

Cold, uncomfortable cows do not make economical use of feed. Their highly developed nervous systems are very susceptible to sudden changes of temperature, and more energy is consumed in maintaining the body heat of a cow exposed to cold rains than is utilized in the production of milk.

This should be borne in mind at this season of the year, and preparations should be made to shelter the cows. A little protection from cold rains and winds will prevent the reduction in milk flow which they always cause. Do not waste feed by letting your cows stand out in such weather.

A movement is on foot to organize a California Dairy Council to be affiliated with the National Dairy Council and represent our interests in the nation-wide movement which is being launched.

His Calves Are Now Coming

King Korndyke Pontiac 20th.

and they are certainly beauties. They not only inherit his type—extraordinary length, depth and splendid vigor—but also the wonderful production breeding that is behind him. Their dams also contribute great producing blood. Most of them are daughters of our senior herd sire, Prince Riverside Walker.

It is not too early to begin to figure with us on one of the young sons of King Korndyke Pontiac 20th for your herd.

Come and see them or write for description, pedigrees and prices.

OUR ENTIRE HERD IS TUBERCULIN TESTED.

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The largest Jack and Mule farm on the Coast. **The best selection.** Can show you the heaviest, biggest boned animals you ever saw.

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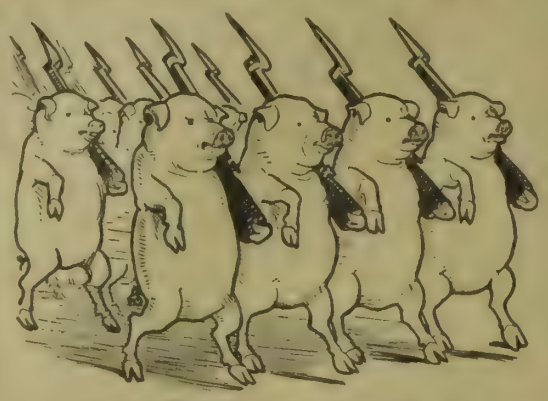
H. P. SLOCUM & SON

WILLOWS CAL.

War Declared on Hog Marketing Methods

Written for Pacific Rural Press by R. H. Whitten

GREAT melting beeswax! We certainly started something when we published those articles on the hog marketing situation in our issue of November 30. Farm advisors, association officers and individual hog raisers uncorked the vials of their wrath and commenced a drive on the present unsatisfactory marketing methods by storming us with letters in which they unmuzzled their feelings in a rapid fire of 6-inch adjectives. Some roasted the packers to a fare-thee-well; others gave them credit for being almost human and expressed satisfaction with the way they were being treated.



Even the hogs themselves are so disgusted with present marketing methods that they are up in arms.

One Farm Bureau official, whose letter we shall give later, said: "Prof. Wickson's editorial and Mr. Whitten's article suggest what the hog producers hope ultimately to attain. In the meantime we must find a better way of marketing until the 'best way' is attained." But what will prove a better way? Several methods have already been tried, and it is a safe bet that in each case the originator felt sure that he had the ideal plan; yet when it was put in operation certain faults were discovered.

Later on we may want to make a few suggestions, but before doing so we would like to give, without much comment, several letters which have been received. They cover both sides of the case, and while perhaps no ideal plan has yet been outlined we are in hopes that these letters will lead to a further discussion of the problem which will result in a satisfactory solution. A dozen heads are better than one, and a hundred are better than a dozen. So we invite you all to join in this discussion.

BIFF! THE NAPA COUNTY SALE GETS HOT SHOTS.

First of all, as the letter from Farm Advisor Baade of Napa county, which started this rumpus, was aimed at the packers, we feel that we should start off with the reply which F. L. Washburn of the Western Meat Company desires to make through our columns. Here it is:

"I read with interest the article written by Mr. H. J. Baade, Farm Advisor of Napa county, regarding sale of hogs which he conducted on November 14.

"The marketing of hogs seems to be the subject of a great deal of discussion at the present time, and, in my opinion, the conclusion reached by Mr. Whitten is the clearest statement that has so far been made on this subject, viz.: that the disposal of hogs at public stockyards located in the principal market centers, San Francisco and Los Angeles, is the only logical and practical way to solve the problem, where all sales are made through the commission man or one equally qualified to sell the stock at its market value.

"The fall season of 1918 is the first where there has evidently been an earnest effort to turn off finished hogs, and I am free to say that never has the percentage of really good hogs been so high, many of the lots showing the evidence of improved breeding, especially as a result of the Bassett stock.

"The quality of the Napa hogs was good, so I was informed by Mr. W. W. Everett, who attended the sale and was much interested in its success, and who telephoned me after the first lot sold that there were none but local buyers represented. I told Mr. Everett that to show an interest in the sale he could put in a bid of $14.85 to $15 for us on all the good hogs that were for sale, but while he was phoning the hogs were hurriedly sold.

"In my opinion these hogs were sold at a little lower basis than our market, which at that time was 16½c delivered at our yards, but if the prices bid were not satisfactory it would have been an easy matter to have held the hogs over and made other disposition of them. In other words, the Farm Advisor should have in mind the delivered price then prevailing at primary markets.

"On this date our hog buyer was at Minturn, where he attended a sale and made no purchase, as we had hogs enough on hand to last through all of the following week, our supplies coming from many parts of the State and not entirely from the auction sales, and my offer to Mr. Everett was made with the idea of helping the sale instead of discouraging it.

"Our packing plant was badly disorganized all through the month of November and we were helpless to handle more hogs than we did, our feed bills on hogs that we were holding over being enormous. On Monday of this week we had over 4000 hogs on hand, some of which we will be obliged to hold over a week in our yards.

"There had been heavy declines in the Eastern market during October, but no change has been made in our offering price since November 1st, and never yet have we taken advantage of an opportunity to drop the market on a shipper who sent us his hogs in good faith that he would receive market price the day his hogs left the shipping point.

"As for Saturday being the wrong day of the week, I fail to see where this makes any difference. One day is as good as another, but it should be arranged so that auctions should not be held on same day at different points.

"Further, the shrinkage on hogs bought at auction sales is frequently excessive, sometimes running as high as 19 pounds per head on the general average.

"As I understand it, the price of 13c mentioned as being paid at the Napa sale was paid for only one hog—a very large sow—the bulk selling at from 14c to 14½. If the auctions are to be conducted on a basis of supply and demand, there is bound to be a wide difference in the prices paid when really no change has taken place at the primary markets.

"From the results of our pork business for the past ten years, I want to go on record that our work has been along pioneer lines, to induce the raising of hogs of sufficient number and good quality so that our requirements could be properly met. If we had been obliged to depend on the hog business solely, we would have dropped out long ago, and it has only been on diversified lines that our business has succeeded.

"A continuous effort on the part of producer, breeder of registered stock and packer is necessary for a proper mutual understanding of the different problems, and you can rest assured that the Western Meat Company will at all times do its part."

TROUBLE ON A NEW BATTLEFIELD.

Here endeth skirmish No. 1. The next battle takes us to Madera, where a Farm Bureau auction sale was held Monday, November 18, that at Napa being on the previous Saturday. A few days before the sale Farm Advisor E. F. Smyth learned that some of the packers did not plan on having direct representatives, and that a local buyer, Mr. Buckholz of Chowchilla, would represent several companies. So he wrote letters urging the packers to send salaried men to represent them, his reasons being:

"The local buyers have been accustomed to making money by buying hogs at the lowest price they

HARTSOOK
BIG TYPE
POLAND-CHINA HOGS

During the past two years I have been engaged in laying the foundation for high-class herds of Holstein cattle, Poland-China hogs and Toggenburg milk goats. In making my selections I have held closely to the highest standards of breed excellence. I have at no time permitted mere pedigree to influence my choice.

All who have inspected my herds have remarked on the uniformity, size and constitution noted. As to the lines of breeding represented there can be no improvement. It is with a real sense of pride that I make this initial announcement and I trust that all who are interested will visit my ranch and inspect my herds. My prices will be found very reasonable and I guarantee satisfaction.

Look at This Record

CALIFORNIA STATE FAIR 50% of All Prizes
FRESNO COUNTY FAIR 90% of All Prizes
RIVERSIDE COUNTY FAIR 95% of All Prizes

Liberty Fair, Los Angeles

Grand and senior champion boar; first aged boar; fourth senior boar pig; first, second, third and fourth aged sow; second and third yearling sow; fourth junior sow pig; first aged herd; fourth young herd.

TOGGENBURG GOATS

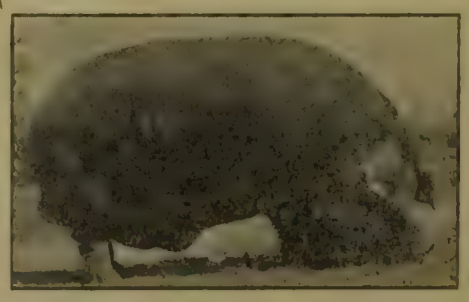
PRINCESS LOUISE No. 739, A. M. G. R. A., sired by Bismark, imported. The dam was Hildegard, imported. She was kidded four times. First year three kids, second year four, third year three, and fourth year four. She has reached a yield of six quarts and four ounces. Took first prize in mature purebred Toggenburg Does and grand champion of all Toggenburg Does where exhibited.

MELBALINE B No. 1975 won first championship at Riverside County Fair, where more goats were exhibited than at any other fair in America.

FRED HARTSOOK
LANKERSHIM CALIFORNIA

BASSETT'S
Advanced Type
Big and Smooth
With Quality
Poland-China

We Breed Our Show Hogs



We Show Our Breeding Hogs

Featuring Model Fellow 552604

At Liberty Fair we won second on aged boar, ORANGE KING 217227; on senior boar pig, first and third; on junior boar, first, second, third and fourth; on senior yearling sow, first and fourth; on junior yearling, first and third; on senior sow pig, first, third and fourth; reserve senior champion boar, junior champion boar and reserve junior champion boar, reserve grand champion boar, and reserve senior champion sow, junior champion sow, and reserve grand champion sow; boar and three sows over one year, second; boar and three sows under one year, first and second; boar and three sows bred by exhibitor, first and second; get of boar, first and second; produce of sow, first and second; four pigs under six months, one litter, first.

ALL OF ABOVE WINNINGS REPRESENTING THE GET OF MODEL FELLOW

MARK BASSETT Hanford, Cal. A. L. BASSETT

can get them for and selling them at the highest price obtainable. The same result obtains, to a certain extent, in working on a commission. This system is not productive of satisfaction to the farmer, because in the long run he gets less for his product, is jockeyed against his neighbors and if caught in financial need is forced to market his produce at a sacrifice.

"The farmer is better satisfied because he feels that he is dealing directly with the larger companies—is therefore more apt to get the market price and is also getting closer to the ultimate consumer of his products. He is more content because he knows that by the auction sale method he is eliminating a portion of the numerous middlemen for whose service he otherwise has to pay. Those satisfactions stimulate the production of more and better pork, which the packing companies no doubt desire."

THE ENEMY EXPLAINS HIS POSITION.

As we have already brought the Western Meat Company into this controversy, we will quote from Mr. Washburn's reply to Mr. Smythe's letter:

"We want you to feel that the Western Meat Company is behind these sales, but you can readily understand that under the present conditions we cannot be as active at all the sales as we are at some. For instance, on the day at which your sale was held we had a full week's supply on hand, and you can well understand that we would not want to be feeding a large number of hogs any longer than necessary. I write this so that you will understand that a packer, such as ourselves, cannot always be in the market for all or even part of the hogs that are offered at every point.

"As far as Mr. Buckholz is concerned, he has shipped us a great many hogs, and as we have gotten almost our entire supplies from the shippers we naturally feel friendly toward them, and from what I can learn of the hog sales and the amount of overhead that they carry I believe that the hog man has been just as well off by selling to the dealers. I think also that this situation can be materially improved, for there is no reason why it should cost any more than $20 overhead to handle a car of hogs, as it certainly does not need a high-priced auctioneer, and the reduction of the overhead at the Farm Bureau sales would, I think, be one of the best methods of interesting the farmer in this method of marketing.

"The local buyers who have been shipping to us have to take their chances, and if anyone thinks that they have been making an unusual profit on their operations I believe he is very badly mistaken. The average shipper is very fortunate if he makes from $30 to $40 on a car, and in doing so he is taking all the chances of excessive shrinkage due to present poor railroad service, death, loss, etc.

"We will always be ready to give you a delivered price on your hogs, which you can hold in reserve, in case the prices that are bid at the auction are not satisfactory. The auction sales so far have been very uneven; that is, hogs have sold one day at considerably more than they were worth and on others at less, but this is something that is bound to arise in connection with a new business. We believe you are on the right track, and you can depend on the Western Meat Company to give these sales their very best support at all times, except in such cases as mentioned."

RESERVES BROUGHT INTO BATTLE.

But this letter did not satisfy Mr. Smythe, and he fired a broadside back at Mr. Washburn, extracts from which we give:

"A hog auction sale ordinarily costs not more than $50, including the auctioneer's wages. Divide this by five, the number of cars that we had at our sale, and you will see that the overhead expenses are about $10 per car. If, as you say, the buyer seldom makes more than $40, the difference here is $30 per car. Fifty cars a year times thirty dollars is $1,500, which is no small item in the pockets of the farmers of any locality. Moreover, in my estimation, the difference is double the above figures.

"You write that, as you have gotten almost your entire supply from the local buyers, you naturally feel friendly toward them. Don't you think that the producer should be your first consideration? The favoring of the middleman is never going to help the farmer. By dealing more directly with the producer you not only have a chance of giving him the benefits of price that usually fall to the middleman, but you leave a much greater opportunity of inducing him to continually work for high quality in his product.

"Whenever you want one or several cars of hogs, suppose you try the practice of informing us of your need, with the price you wish to pay. Through the Farm Bureau organization it is now possible for us to ship you within a week after notice. The hogs so shipped will be graded and stocked as for an auction sale. We are even willing to go a step further and by ear-tagging or marking the hogs hold each grower responsible for the quality of his hogs, thus guaranteeing you against loss from tuberculosis, etc., providing the difference in price warrants this extra work and care. Such a practice should result in a considerable saving and more satisfaction all around. You could then make complaints or suggestions directly to the man raising the hogs."

NEW PLAN FOR GOING OVER THE TOP.

But Mr. Smythe didn't stop after he had finished lambasting the packers. He got busy and formulated a new plan, which he expects to try out in January. It is as follows:

"Each man having hogs to market will bring them to the assembling point, where they will be graded into carload lots as at the auction sales.

"Each man will sign a statement at the scales swearing that his hogs have been without food of any kind, but clear water, for 12 hours. This will prevent the hard hogs carrying the soft. (No real man wants to live off his neighbors, and no man will take chances on the lot that would be his, if he signed a false statement.) The hogs will then be weighed and fed. The food will be provided by the Farm Bureau and pro-rated on the weight of the hogs. The hogs will be loaded and shipped in charge of a local man to the market from which we can get the highest bid, by mail or telegraph. We will simply notify the twenty or so large meat packing concerns in the State that we will have so many hogs for sale on such a date, for them to offer us a price on or before that date. The hogs will also be fed and watered on the train. Our shrinkage should be comparatively small. The returns will be pro-rated on the weights.

"To bring the system down to a still finer point, each man's hogs will be ear-tagged as soon as they are brought in and weighed. Then, if there is any condemnation, the owner of the hogs will stand it. This will enable the packing concerns to give a much better price, as they will be guaranteed against any loss.

"This method will give every man a square deal and I believe that every hog raiser will receive 2c a pound more for his hogs, the year around, than he now gets."

BATTLE WON IN NORTHERN CALIFORNIA.

Once more the scene changes. This time we take you up into Mendocino county, where a plan very similar to the one suggested by Mr Smythe has been tried out. It has given excellent satisfaction, and has put the local buyers in the obituary columns. J. G. Newman of Potter Valley describes the plan as follows:

"Our directors realized that the farmers were not receiving the prices they should have for a well-finished hog, and that often the man with the poorly finished stuff was receiving just as much as the growers selling stock in good mar-

(Continued on page 696.)

HAMPSHIRE

Partial List of Our Winnings at the LIBERTY FAIR:

1st on Senior Boar, Champion and Grand Champion, LANGDON'S CHOICE.

1st on Senior Boar Pig, "LIBERTY," Champion and Reserve Champion. 1st on Aged Herd.

Head your herd with one of our Registered Boars and Sows. You can raise more Pork at greater profit with the Hampshire breed.

LLANO VISTA RANCH

PERRIS, (Riverside County) CALIFORNIA

RANCHO DEL SUR DUROCS

LIBERTY FAIR WINNINGS

ORION'S KING GANO

Orion's King Gano

won 1st in class, Junior Grand Championship and Reserve Grand Championship.

We also won the following: 1st on Car Lot, 1st on Pen, 3 Barrows.

And again: three 2nds, one 3rd, four 4ths, and two 5ths.

We will have ready for spring delivery some Gilts bred to ORION'S KING GANO. These will be offered for sale at attractive prices.

DONALD GRAHAM, Lancaster, Cal.

THE POPLARS RANCH

REGISTERED

HAMPSHIRE SWINE

At the Head of Our Herd
"THE HARVESTER AGAIN"
Brood sows include:

Wavelet, 1st prize senior yearling sow, L. A.
Mary Pickford, 1st prize aged sow, State Fair.
Leading Wave 3rd, 3rd prize aged sow, L. A.
Second Echo, high quality, and many others of equal merit.

Some 6-months-old boars by Grand Champion, Duke's Allen.

CORRESPONDENCE INVITED.

C. J. GILBERT - - Lancaster, California

DIRECTOR JUNIOR,
Grand Champion.

BOQUET CANYON HERD

HAMPSHIRES

Won Grand Champion on a six-months-old pig—something unusual. Also Reserve Senior Champion Sow, Junior Champion Boar and Reserve Junior Champion Sow.

7 FIRSTS, 6 SECONDS, 4 THIRDS.

We offer choice bred sows and open March gilts that we will breed to any boar in our herd. Also brothers and half-brothers to our Grand Champion boar, Director Junior.

EVERY HOG GUARANTEED TO PLEASE.

L. A. DENKER, - Saugus, Cal.

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

D. F. Conant of Rancho Santa Marguerita, Modesto, intends to sell all but 10 head of his well-known registered Jerseys.

While many Stanislaus dairymen sold their milking cows, it is noticed that they kept their best heifers, and soon they will be back in the game again.

The Food Administration has lifted its regulation on cream restricting the butterfat content to 20 per cent. So we can have nice, thick cream again.

A meeting of dairymen in Orange county has been called by the Farm Advisor to form a cow testing association and banish the boarders from the herds of that county.

Holsteins bought at the Tagus Ranch sale were widely scattered over the State. Many new herds will be started and many dairymen having grade stock will begin to change to purebreds.

J. J. Walters has purchased 50 acres of rich river bottom land near St. Helena, which he will seed to alfalfa. He has a few purebred Holsteins and is looking around for a few more good ones.

Four cars of California butter were recently shipped to New York. Three cars sold from 64c to 65½c—the limit allowed by the Food Administration for that class. One car scored 92 points and brought 68c and 68½c at wholesale.

A. A. Jenkins, the Tulare Jersey breeder, announces an official yearly record of 804 pounds butter made by his cow, Irene Cadora. Another cow made 603 pounds, and a heifer with first calf is expected to complete her year in January with over 600 pounds to her credit.

Tilly Alcartra, the greatest dairy cow in the world, owned by A. W. Morris & Sons, Woodland, will be one of the stellar attractions at the San Francisco Livestock Show, to be held February 8 to 16. She will complete her year on official test January 10 and is expected to make between 33,000 and 33,500 pounds.

W. J. Higdon of Tulare has recently sold registered Holstein bulls to A. E. Poston, Tulare; J. H. Harris, Tulare, and Hans Hansen, Tranquility. The latter bull was a son of Prince Riverside Walker. Mr. Poston bought at the recent Tulare sale several of the cows consigned by Mr. Higdon.

Swine and Swinemen.

R. C. Sturgeon of Tulare has sold a registered Duroc boar of Advancer breeding to McDowell & Kendall of Lemoore.

Fred Ross, the Poland-China breeder of Hanford, has sold a fine son of his noted herd boar, Rossmead Big Bob, to J. K. Macomber, Tipton.

H. C. Witherow of Live Oak made the following sales of registered Duroc-Jerseys last week: Service boar to F. E. Forderhase, Live Oak; bred gilts to R. C. Sexton, Live Oak, Manuel Foster, Live Oak, and Ed G. Skewes, Grass Valley.

The first prize carload of fat hogs, shown at the Liberty Fair by Donald Graham of Lancaster, was sold at auction to the Cudahy Packing Company for $20.50 per hundred—the highest price ever paid in California. But everybody who saw the hogs said they were worth it.

Llano Vista Ranch of Perris, breeders of the Hampshires that make "more pork at greater profit," had both the grand champion and the reserve champion boar at the Liberty Fair. They won three firsts and many other prizes.

Mark Bassett of Hanford made some great winnings at Los Angeles on the get of his great Poland-China herd boar, Model Fellow. Mr. Bassett's "advanced type" are big yet are smooth and have worlds of quality.

The swine exhibitors at the Liberty Fair were so well pleased with the treatment received from Walter T. Gatton, superintendent of the swine department, that they presented him with a sum of money as an expression of their appreciation.

Anchorage Farm, Orland, is doing a big business with come-back customers. For instance, E. H. Hale, Orland, bought a son of Star Leader last year, used him on his grade herd and got such fine results that he recently purchased eight fine registered Berkshire sows bred for spring farrow.

C. J. Gilbert of Lancaster has the great Hampshire boar, The Harvester, at the head of his herd and has added several prize winning sows, including Wavelet, first prize senior sow at Los Angeles; Mary Pickford, first prize aged sow at Sacramento, and Leading Wave 3rd, third prize aged sow at Los Angeles.

Donald Graham of Lancaster was offered $2,500 for his Liberty Fair junior and reserve grand champion boar, Orion's King Gano. It was the opinion of many that this wonderful boar should have been made grand champion. He is a typical Duroc of great stretch and good bone, has a strong back and a fine cherry red coat.

Fred Hartsook of Lankershim is justly proud of the fact that the Poland-Chinas in his herd won 50 per cent of all prizes at the State Fair, 90 per cent at Fresno, 95 per cent at Riverside, and it would require about a column to give all of his winnings at Los Angeles. His boar, I B A Wonder, was made grand champion.

W. D. Trewhitt of Hanford is determined to have the best Poland-China boars on the Coast and has purchased two new herd headers—Model Jones, by Big Jones, a son of the $6,600 Gerstdale Jones, from E. D. Frazier, Drexel, Mo., and Wonder Jones, out of a daughter of Gerstdale Jones, by the 1026-pound Big Long Wonder, from C. H. Porter, Eagle Grove, Ia.

Jack Borge of Los Banos reports heavy sales of registered Duroc-Jersey hogs. He has a large herd headed by Russell Orion Boy, a son of the Oregon champion of 1916, and mated to sows sired by the California champion of 1917. Mr. Borge will soon move to Dos Palos, where he has bought a farm and will have more room to take care of his rapidly growing business. He intends to show at the State Fair again next year.

The Farm Bureau Pig Clubs of Sutter county held their fall judging at Sutter City, Friday, December 13, at which 31 young Berkshire sows were shown. W. M. Carruthers judged the pigs from the standpoint of the breeder. Also prizes were given for the greatest gain in weight in a given time. A large crowd was in attendance and all were enthusiastic over the results. A young man by the name of Powell had the first prize pig.

Beef Cattle.

Al Knierr of Tipton is feeding 800 three- and four-year-old Durham and Hereford steers for marketing in May or earlier.

Thos. B. Dibblee Estate of Santa Barbara purchased two Shorthorn bulls at the Liberty Fair from Wm. Henn, Kansas City.

Carruthers Farms of Live Oak recently sold to Spencer Ranch Company of Cranmore, Sutter county, the year-old show Shorthorn bull, Live Oak Flash.

The Wyoming Hereford Corporation of Cheyenne, Wyo., made several sales at the Liberty Fair and booked several orders for future delivery.

We reported last week that Wm. Henn of Kansas City had sold five Hereford bulls from his show herd at the Liberty Fair to Diamond Bar Ranch, Spadra. Since then he has sold them two more bulls.

Paicines Ranch of Paicines has sold its entire herd of Shorthorns, except some young heifers, to Ed Cebrian of San Francisco. There were about 300 registered and 100 grade animals. Mr. Cebrian will put them on his coast ranch.

H. M. Barngrover of Santa Clara attended the Royal Livestock Show at Kansas City and bought at private treaty from Walter Yost, Kansas City, the yearling Hereford bull, Don Woodford, a grandson of Woodford, the noted bull owned by Col. Woodford of Kentucky. He will show this bull at San Francisco, together with an aged bull, several bull calves, three cows, two heifers and several heifer calves.

Sheep.

Many Nevada sheep herders were victims of the "flu" and many herds strayed over the hills and deserts and were lost or killed. It is estimated that the loss will reach $100,000.

Edward Bishop, prominent Shropshire breeder of San Francisco and San Ramon, died of the "flu" contracted while attending the International at Chicago. His death means a severe loss to the livestock industry of this State.

Ed Spear of St. Helena writes that on a recent trip over some of the big sheep ranges in the mountains between Anderson and Ukiah valleys he found the green feed looking exceptionally good for this time of the year.

The Imperial Valley Wool Growers' Association has petitioned the Supervisors to pass an ordinance taxing male dogs $5 and females $10. The sheep men claim that the losses from dogs are far greater than those from preying animals.

Livestock Miscellaneous.

The Voorman Company of Tyler Island, Sacramento county, received $5,000 from Miller & Lux for grazing privileges on 3000 acres of stubble field.

John Burrell of the Kings County Jack Ranch reports that the demand for jacks and jennets has been very heavy during the past year. He states that his sales on the Pacific Coast have amounted to over $50,000.

Murdo MacKenzie, former president of the American National Livestock Association, will become associated with Thomas E. Wilson, the packer, in a livestock advisory capacity to bring about a better understanding between producer and packer.

TO MAKE GOOD BUTTER.

Making good butter always pays. To tell a woman that she does not know how to make good butter is hazardous, yet it is true that a great many women do not, says W. B. Combs of the Missouri College of Agriculture. It is true that they churn their butter from cream, but in many cases the resulting product is far from desirable. They are satisfied with plain grease for the table. These same women protest when the market will not take their product at near the price of good butter. If they would take pains with their butter-making they would find a demand for their butter at full market price.

Here are a few suggestions such women probably overlook:

Use only slightly sour cream with a clean acid flavor, free from dirt and lumps of curd.

Pay strict attention to the temperature at which churning is done and use a temperature which will result in butter granules about the size of popcorn. If cream is too cold, the granules will be small and hard; if too warm, they will probably be large and soft. Take temperature with a thermometer.

Drain buttermilk well off of butter before washing, then pour in a dipper of water to rinse off the last of the buttermilk. Following this, add water for washing and give only enough washing to rid butter of buttermilk—six or eight revolutions, if a barrel churn.

Work salt into butter at the rate of three-fourths of an ounce to the pound. Work until water is expelled and butter appears waxy.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Reduces Strained, Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Boils, Swellings; Stops Lameness and allays pain. Heals Sores, Cuts, Bruises, Boot Chafes. It is a SAFE ANTISEPTIC AND GERMICIDE

Does not blister or remove the hair and horse can be worked. Pleasant to use. $2.50 a bottle, delivered. Describe your case for special instructions and Book 5 R free.

ABSORBINE, JR., antiseptic liniment for mankind, reduces Strains, Painful, Knotted, Swollen Veins. Concentrated—only a few drops required at an application. Price $1.25 per bottle at dealers or delivered.

W. F. YOUNG, P. D. F., 88 Temple St., Springfield, Mass.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

HOME OF THE CHAMPIONS

Ten splendid young Bulls for sale, also several heifers. We have on hand the best lot of young Berkshires we ever raised. Come and see them. Prices reasonable.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road
We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.
Three outstanding under-a-year bulls sired by Sir Type, a son of Cumberlands Type.
A few under-a-year heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY
Perkins, Sacramento Co., Cal.

Make Your Auction Pay!

GET ORD L. LEACHMAN TO CRY THE SALE

Sells Anything, Anywhere, Gets Big Results

1008 Eighth St., Main 431 Sacramento, Cal.

A MONSTER AUCTION SALE.

The present big demand for breeding stock of all kinds was conclusively shown at the monster auction sale at the Tagus Ranch last week. Dairy and beef cattle, swine and horses all were eagerly bid in at good prices.

On Tuesday 90 head of registered Holsteins were sold, bringing over $20,000. The herd sire, King Sadie Vale Rose, brought $500, and twin heifers, granddaughters of King Segis Pontiac, sold for $500 and $400 respectively. Practically all these purebred animals went into dairy herds of Tulare and neighboring counties, an indication that the dairymen of this section are building up their herds.

On Wednesday 200 purebred Duroc-Jerseys went through the auction ring like the proverbial greased pig, in less than five hours' actual selling time. They brought an average of over $50 per head for everything, including suckling pigs, runts and herd boars. Orion's Golden Colonel, the junior herd boar, brought the top price of the sale, $650, while California's Defender, junior champion at the P.-P. I. E., sold for $450. Both went to G. H. Emmons of San Francisco, who was the largest buyer. Crimson Beauty, a fine young sow, went to Harry Cope of Tulare for $500. T. J. Walker of San Fernando was a large buyer, securing some of the good ones. Several of the hog syndicates who are taking the investing public into partnership had representatives at the sale who bought lavishly.

The sale of the hogs was completed by 4 o'clock, and after that between 400 and 500 head of grade Angus and Shorthorn cows were sold in carload lots, bringing from $60 to $70 per head, although they were mostly very light and thin. A score of purebred Angus and Shorthorn bulls brought prices ranging from $100 to $360. On account of the demand manifested and the good prices received, Mr. Merritt decided to include in the sale the balance of the beef cattle on the ranch—some seven or eight hundred head—and it was arranged to extend the sale over Saturday and Sunday.

The sale of horses on Thursday was probably the most successful held on this Coast for many years. Seventeen registered stallions and seventeen registered mares, Percherons and Belgians, were sold. The top price was $2,100 for a Belgian stallion. One hundred head of graded mares, work horses and mules were also sold and brought satisfactory prices.

Friday was devoted to the sale of the ranch equipment, implements and machinery, of which there was such a quantity and variety that a good part of the 6000-acre ranch was used in its display.

The exact figures and total realized from the sale are not available at this writing, but it is estimated by C. L. Hughes, the sales manager, that receipts totaled approximately $150,000.

LIVESTOCK DIRECTORY.

Rate in this directory 3c. per word each issue.

SWINE.

Poland-Chinas.

MAMMOTH SOWS AND GIANT BOARS are found at our ranch. We are one of the oldest breeders of Big Type Poland-Chinas on Pacific Coast. Have some extra fine stock for sale from the World Champion Boar Superba, the sure breeder and the most active hog of his age in California. Write us for prices. Rough's Greenfields, Arlington Station, Riverside, Cal.

BIG, SMOOTH POLAND-CHINAS—One April boar by Grand Champion Kings Big Bone Leader. One 12-month-old boar by Smooth Progress; April, May, June, and July gilts. Everything guaranteed. A. Buckland & Son, Rt. E, Box 126, Fresno.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

GATEWOOD'S BIG POLANDS—The offering for our February bred sow sale is comprised almost entirely of sows and gilts by eastern-bred sires and bred to King Big Bone Leader, the California champion. Chas. Gatewood & Son, Route 6, Fresno.

McCARTY'S POLANDS—Cholera immune. Big, vigorous boars. The kind Kansas King sires. Price reasonable. "Money back if no like." Alex D. McCarty, 324 Insurance Exchange Building, San Francisco.

FOR SALE—Two fine young boars out of $300 sow, Queen of San Joaquin, by Smooth Jumbo, grandsons of Candy Kid and President. Price $75 each. If you don't like them return at my expense. C. A. Vaughan, Hanford, Cal.

FOR SALE—Two pure-bred Poland-China boars by the prize winners, I. B. A. Wonder and Lady Louise III, age 1 year. Bargain if taken at once. Address: E. C. Pratley R. D. 1, Acampo, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal.

WEANLING PIGS, both sexes. Gerstdale-Jones and Caldwell's Big Bob blood lines. Booking orders for spring. Forest View Ranch, Paradise, Cal.

ELDERSLY FARM—Big type Poland-Chinas with quality. Young stock from the breed's best big type sires for sale at reasonable prices. J. H. Ware, Live Oak, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old Geo. V. Beckman & Sons, Lodi, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right N K Horan, Lockeford, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right Johnnie Glusing, Winton, Cal.

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Wargis, Tulare.

READAKS RANCH herd of registered Poland-Chinas W J Hanna, Gilroy

Berkshires.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed They will increase your profits. Prices reasonable; satisfaction guaranteed Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. R. Humphrey, Escalon, San Joaquin county, Cal.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
906 K St., Sacramento
In charge of Natomas Land sales.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

RIVER GARDEN FARM BERKSHIRES—A few fine weanlings and some bred sows and gilts. E. H. Whiting, Ukiah, Cal.

FOR REAL GOOD BERKSHIRES write Frank B Anderson R 724W, Sacramento, Cal

BERKSHIRES—Fair Oaks Ranch, Willits, California

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune.. Live Oak, Cal.

Chester Whites.

"BILLIKEN" CHESTER WHITES—How about the spring farrows? Are you going to use a good boar and produce some growthy, smooth pigs? If so, you need one of my yearling boars and I have but 3 left. Yearling gilts bred for March farrow. Have but 6 of these left for December delivery. A few fall weaned pigs. C. B. Cunningham, Mills, Cal

THREE BIG-BONED mature sows, bred for early March farrow. One growthy June boar pig. Several fine September farrow. S. F. Bonner, Gridley, Cal.

Duroc-Jerseys.

DUROCS—Orion C. King blood. Very typey boars ready for service. Some gilts and boars 4 months, from 800-pound junior yearling sows, same blood. Something worth while. Prices reasonable. Also one junior yearling champion sow. Will be bred for second litter this week. Garden City Sanitarium, San Jose, Cal.

GREENWOOD DUROCS—My two herd boars carry blood of more recent California champions than any two boars in any other herd. Sows all blue ribbon winners or of blue ribbon parentage. Bred gilts; bred sows; boars. Attractive prices. H. C. Witherow, Live Oak, Cal.

DUROC-JERSEYS AT IRELAND—Home of Cherry Volunteer II. Grand Champion Boar at Riverside. Ireland's Orion Defender and Orion's King of Ireland are excellent sires in service. Booking orders for spring delivery. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles.

THE JOHNSON HERD of Duroc-Jerseys—Spring gilts and boars, sons and daughters of Johnson's Defender, the 1917 junior champion, for sale. Weaned boar pigs, $25. Frederick M. Johnson, Napa, Cal.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

BARGAIN IN BOARS—Have two splended March 4 boars that I do not want to carry over, and will not kill; will sell for $50.00 each. W. P. Andrews, Rt. A, Modesto.

OPEN GILTS and two extra good service boars, one year old, grandsons of Taxpayer 13th. F. W. Gardiner, Rt. 4, Box 735, Sacramento.

START RIGHT—Registered Duroc-Jersey weanlings. Three for $35; satisfaction guaranteed. Red Rock Ranch, Glen Ellen, Cal.

THE GOLDEN MODEL STRAIN of Durocs will win anywhere. Write for prices. W. B. Hewitt, Van Nuys, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows

WE ARE CONSIGNING to Tulare sale an Advancer sow bred to Chief Defender. McDowell & Kendall, Lemoore.

DUROCS—Defender, Clinton B. and Golden Model strain; the big type. Allen Thompson, Tulare.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos

DUROC-JERSEYS—Weanlings of either sex ready for immediate delivery. H. E. Boudier, Napa.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers Stock for sale. Buy now. L. A. Denker, Sutter, Cal

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal

DAIRY CATTLE.

Holsteins.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Tovon Farm Association. First National Bank Bldg., San Jose, Cal

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R F Guerin Visalia, Cal

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

FANCY GRADE HOLSTEIN COWS and heifers from herd testing 100 per cent. Animals qualified for certified dairies. The Lewis Company, San Jose.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls Reasonable prices.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal —High-class thoroughbred Holstein bulls for sale Write for prices and pedigrees

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

SUNNYBROOK RANCH, Willits, Cal.—Registered Holstein-Friesian bulls for sale

Jerseys.

REGISTERED JERSEYS—Young bulls and bull calves T B Purvine, Petaluma, Cal

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

FOR SALE—Young registered Jersey bull. Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J Welch, proprietor, Redwood City.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, 333 Vicente Road, Berkeley.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORThorns—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

BEEF CATTLE.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

AM A SPECIALIST in registered beef cattle and familiar with the best herds in the country. If you need Shorthorns or Herefords, make use of my experience, save money and be satisfied. R. M. Dunlap, Hotel Land, Sacramento.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

GEORGE CALLAHAN, Breeder of registered Herefords, Milton, Cal.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits Cal.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Thomas Harrison, Glen Ellen, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard, Supt.

MISSION HEREFORD FARM—J. A. Bunting, Mission San Jose, Cal. Registered Herefords.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., breeders of Registered Herefords, Newman, Cal

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires

KAUPKE BROS., WOODLAND, CAL. — Breeders, importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep

HORSES AND MULES.

FOR SALE—Fine young Jack from imported stock. Raised right. C. E. Ruggles, Esparto, Cal.

MISCELLANEOUS.

FOR SALE—On account of farming my dairy ranches this year will sell 125 head of fine bred Holstein Milch Cows and Heifers, 150 head of Holstein and Durham Milch Cows and Heifers, fresh and springing Prices right. Apply, C. H. Widemann, Pescadero, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Gulford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters. These are the farmers' easy feeding, profit-producing kind R. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal

FOR SALE—One Calf-Way milking machine, 3 units. Will sell complete or without engine and pipe. Is in firstclass condition. Only used two months. D. F. Conant, Rt. B, Box 231, Modesto, Cal.

FIFTY HEAD of Angora goats for sale. Address F. W. Nason, Jamesburg, Monterey county, Cal.

Hog Syndicate or Hog Skin-dicate?

[Written for Pacific Rural Press.]

We read a little while ago of an automatic hog ranch where there were self-feeders, automatic waterers, automatic exercisers, self-oilers, self-cleaning feed troughs and everything so handy that a hog could almost bring himself up. About all the farmer had to do was to haul the hog to market and get his check.

But why bother having hogs on the ranch at all? Why put money into buildings and equipment, why do all the laborious work of feeding and caring for hogs, why run all the risks, when you can throw everything onto someone's else shoulders and still make even bigger profits than you could make on your own operations?

OPERATIONS OF THE HOG SYNDICATES.

Sure you can! If you don't believe it just write to some of the hog syndicates for their literature and read over their estimates—"estimates" is right. True, you have to pay a pretty big price for a grade sow—$150—but isn't it worth it to be relieved of all the bother and risk?

Think of it! The syndicate insures your sow, immunes her, breeds her, and feeds her and her offspring for a period of five years. You get one-half the offspring, which the syndicate markets for you free of charge, and at the end of five years your sow is sold and you get all she brings.

You run absolutely no risk—positively none. If the sow dies, the company replaces her. If she fails to have twelve pigs a year, she is replaced with one that does. You are not charged for any running expenses—the company pays for feed, labor and everything else out of the proceeds from its half of the offspring. In short, you furnish the sow and the company does the rest.

And those estimates of profits—oh, how alluring they are! They say that figures don't lie, but how some liars do figure! When the market price for hogs is 18½c, pork can be produced at 5½c per pound under these methods. And, conservatively of course, you should make $135 the first year on each sow purchased at $150—$607.50 in five years, plus whatever your sow brings. All you have to do is to sit back in your easy chair and, like cascarets, these hogs work for you while you sleep.

Can you beat it? As we heard it stated recently, "Pigs ain't just pigs any more; they're walking banks." But do we really want walking banks? Wouldn't stationary ones be better? Wouldn't it be sort of satisfying to know that no one was going to walk away with our hard-earned cash?

We are not telling all we know. We hope it won't be necessary, as we prefer to boost rather than knock. But theres' an old saying, "All is not gold that glitters," and we might coin a new one, "All is not hog that hollers." Or, if you like it better, "All is not profit that promises."

Look before you leap. Investigate thoroughly. Demand records of actual results, as well as estimates and promises. A successful record for say three years would be a good one to base your decision on. How many of these concerns can show such a record?

Look before you leap, and like as not you won't leap.

War Declared on Hog Marketing Methods

(Continued from page 693.)

ketable condition. In order to do away with this unfairness and to encourage the marketing of a better article, and also at a better price, the directors rolled up their sleeves and went into the fray.

"The marketing had all been done by local buyers, or middlemen. Sometimes there was competition among them, but more often it was 'take my price or keep your hogs.' These middlemen operated on a minimum margin of 2c. That is, for hard, grain-fed hogs, weighed at Ukiah, 2c under the prevailing market in San Francisco was paid, and, mind you, that was the minimum; the maximum often ran several cents above that.

"A livestock marketing committee was appointed, consisting of Farm Advisor C. S. Myszka and two directors. They considered the auction sale, but decided upon another method, which I shall try to explain. Let me say at the start that it was the co-operation of the Western Meat Company that made our method possible. This company agreed to keep every consignor's hogs separate, from the scales to the hook. In order to distinguish the hogs we used a tailor's scissors and clipped off slashes of hair in different places on the body of the hogs, also taking down the ear marks, if the hogs had any. In the company's yards each consignor's hogs were graded and weighed, the amount to be received by each one figured up, and the representative who accompanied the hogs to San Francisco was given a check for the carload or more which he brought in. On his return to Ukiah the check was then deposited with a local bank, which, after expenses were deducted, checked out the individual amounts.

"In order to know what we are accomplishing, we weigh each consignment separately in Ukiah and it is on these weights that expenses are figured, making it possible for the man with the good hog and the small shrinkage to profit thereby. Up to date we have shipped six carloads and have managed to save the producers money on every shipment, one carload returning $220 over the 2c margin. On our last shipment we received a premium on 50 head, and this was returned to the producer as an inducement to grow better hogs instead of making up for the fellow who had shipped an inferior article and had received more than was coming to him.

"Several days before shipping, the Western Meat Company quote us prices and we in return notify them of the number of carloads being shipped. The Farm Bureau charges one-half of 1 per cent with which to reimburse the consignor for dead or condemned hogs and any incidental expenses which may occur. Up to date we have had no condemned hogs or any dying in transit.

"In conclusion I will give an illustration of what the Farm Bureau is saving individual producers. One man marketed 30 head of hogs at two different times. Each time, before shipping with the Farm Bureau, he had a local buyer quote him a price. Then, taking that price on Ukiah weights and deducting it from what he actually received for his hogs through the Farm Bureau shipment, he was better than $75 to the good. Not an insignificant sum in these days of high prices for feed and labor."

HELP ASKED FROM THE ALLIES.

So there! We have received many more good letters, but we have given you plenty of food for thought for one week. Now what suggestions can you make? Don't forget our invitation for further discussion. But please get right down to brass tacks, and if you want to criticise make your criticisms constructive. Then, by getting a few good suggestions from your letter, a few more from another, and so on, perhaps we'll be able to combine all of them into a plan that will prove that "better way."

GIVE COWS PLENTY OF SALT.

Cows soon drop into a state of low vitality when not given the proper amount of salt. Recent results obtained by an experiment station showed that when cows were kept away from salt for a long time there was a breakdown in the animals, and their condition was serious. When salt was again supplied their recovery was rapid.

Common barrel salt has been found the best for cows. It should be supplied in a trough or box under shelter. Keep it where the cows can have access to it at all times. Some cows require more than others.

MORE BERKSHIRES ADDED TO CASTLEVIEW HERD.

When J. Francis O'Connor purchased almost the entire Frank Brush herd of Berkshires there was one sow in particular that he was very anxious to get, this being Riverby Princess, the grand champion sow at the National Swine Show. But he was not able to get her at the time, as she had been booked for a Sacramento banker at $600. However, through a misunderstanding, the deal fell through and Mr. O'Connor stretched himself for a long price and secured this wonderful animal.

The sow won in the under-six-months class at the P. P. I. E. and for the first time in Berkshire history a junior pig was made grand champion. Mr Brush purchased her at the public sale for $865 when she was under six months of age. And that the purchase was a wise one is proved by the fact that Mr. Brush realized more than $1,000 from one litter.

But this is not the only addition that Mr. O'Connor has recently made to his herd. He purchased the entire herd, of 49 head from A. W. Foster, including the Grand Lady Mayhews, the grand champion sow at the 1916 State Fair, which Mr. Foster purchased for $500 at the sale. Mr. O'Connor will retain this sow in his herd and perhaps a few others, but the balance will be used in supplying the very heavy demand that he is having for breeding stock. Most of the sows in the Foster herd were sired by Iowana Rival's Majestic, a boar purchased at the P. P. I. E. and pronounced by A. J. Lovejoy to be one of the greatest boars ever brought to California.

California Hog Book

"The Hog Dictionary"

Following is a letter received from W. F. Sandercock, carrying a fine endorsement of the "California Hog Book." Perhaps this book would be of equal value to you.

December 13, 1918.

Pacific Rural Press:

Gentlemen: I have thoroughly enjoyed and have derived much benefit from the California Hog Book, written by Mr. W. S. Guilford. I think it is the most thorough book I have ever read and we are using it on the Natomario Ranche as a "Hog Dictionary."

SANDERCOCK LAND CO.

The California Hog Book contains 250 pages, is fully illustrated, bound in cloth, price $2 postpaid.

PACIFIC RURAL PRESS
Publishers
525 Market St. San Francisco

Grand Champion BERKSHIRES

AMES RIVAL 70TH

We have in our herd the Grand Champion Boar, Grand Champion Sow and First Prize Senior Herd at State Fair.
Forty-three litters this year averaged ten to the litter. Let us supply you with foundation sows and boars to head your herd.

JAMES MILLS CO.
Hamilton City : : California

SWEETWATER DUROCS
California's Most Popular Big Type Sire.
GREAT MODEL
(By Great Wonder and Model Lady 4th)
M. C. Allen Winsor Ranch. Peters-Lamson
R. M. Allen Bonita San Diego. Co. and Walker

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

OAK KNOLL FARM
LAKEPORT CALIFORNIA
We have sold all our young boars and are now booking orders for March delivery. Highlander, the $1,000 Grand Champion Boar, heads our herd of
CHESTER WHITES
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

REGISTERED JERSEY CATTLE
DUROC JERSEY HOGS
Look up my winnings at the fairs. Stock for sale at reasonable prices.
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DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Oak Knoll Farm an Ideal Hog Domicile

[Written for Pacific Rural Press.]

Highlander, the $1,000 grand champion Chester White at the State Fair last fall. Owned by Lea Bleakmore, Oak Knoll Farm, Lakeport.

If you have traveled about very much you have observed that most "great sights" are less impressive than expected. But you won't be disappointed if you tour up into Lake county and visit Oak Knoll farm at Lakeport. You will find one of the best equipped ranches in California, and you will see hogs raised in de luxe style.

The thing that will impress you most will not be the size of the ranch, even though it consists of 1600 acres and has a mile and a half frontage on Clear Lake. It will be the up-to-date buildings and equipment, and the systematic methods employed. For instanee, there is a central farrowing house, 175 feet long, with cement floor, electric lights and steam heat. A feed cart runs through the alley, and the troughs are hinged so that when empty they can be tipped toward the alley and flushed into a gutter. There is a deodorizing plant, and all partitions are movable so that everything can be cleaned out when desired.

As it is necessary for help to be with the sows at farrowing time, there are cooking and sleeping quarters in the farrowing house, and it is safe to say that few farm houses have better quarters than are here provided.

There is a mammoth feeding shed, so arranged that the hogs cannot crowd one another while eating. From it the hogs may be turned into any one of several fields which surround it. In these fields clover grows bush-high and furnishes wonderful feed. In addition to this roughage the hogs—that is, the market hogs—are fed corn that is soaked in skim milk and cooked. A herd of cows is maintained to furnish the skim milk.

Mr. Lea Bleakmore, owner of this ranch, came in the limelight of the swine world when he purchased at the State Fair last September the grand champion Chester White boar, Highlander, paying $1,000 for him. The price seemed high, but a good judge of hogs can tell from the accompanying illustration that the boar has outstanding quality, and he has been doing such good work in the Oak Knoll that he will quickly pay for himself.

Mr. Bleakmore maintains a herd of 200 brood sows. He has found a heavy demand for sows and gilts bred to Highlander for spring farrow, and is already booking orders for spring pigs sired by this great boar.

Great Interest in San Francisco Show

[Written for Pacific Rural Press.]

When the California International Livestock Show opens its gates February 8 its capacity will be taxed to the utmost to accommodate the many breeders who desire to exhibit. Very few entries made for the former date have been cancelled, and in some cases additions have been made to the original entries. Also, Oregon and Washington will be better represented, as already several breeders from those States have signified their intentions to show.

Manager Joseph E. Painter, who recently returned from an extensive Eastern trip, during which he took in the Royal and International shows, reports that a wonderful interest seems to have been awakened among the Rocky Mountain and Corn Belt breeders, and that several of the most prominent ones will bring their herds out here. There is now a harmonious working agreement between the San Francisco and Denver shows, which will result in securing many of the herds that will be exhibited there—probably enough to warrant a special train.

The secretaries of the Hereford, Shorthorn and Angus breed associations have agreed to do everything in their power to further the interests of their breeds, and in some cases probably more money will be added to that already appropriated, in order to get better herds.

One of the features will be the sale of Hereford and Shorthorn cattle during the show week. It is expected that several animals of merit belonging to Eastern breeders will be entered. In addition to these individual sales there will be offered several carloads of breeding bulls for range purposes entered in competition at the show. This will afford the range cattlemen of California a splendid opportunity to purchase these animals at home at about the time they are needed for range use.

The noted Swift six-horse team of dapple grays, which have been such a wonderful attraction at the Chicago and Denver shows, will be a feature each evening and will be seen for the first time on the Pacific Coast.

While the entries will remain open until the middle of January, it is highly advisable that those expecting to exhibit make their entries at the earliest possible date, for probably before the final closing many will have to be refused on account of lack of space. The space, although seemingly large, will be taxed to its utmost, and when every stall is applied for it will not be possible to make any additional room.

DAIRY ASSOCIATION PROGRESS.

"Irresistible progress" would be a pretty good description of the condition of the "Milk Producers' Association of Central California" which has about 1800 members in eastern Stanislaus, San Joaquin, Santa Clara, Alameda, and Contra Costa counties. The Modesto Creamery, which the Association bought and started to operate May 1, 1918, is now producing 9,000 to 10,000 pounds of butter per day, according to general manager Lowell Gum. A new factory to make milk sugar, cheese, and casein is being built in Modesto and will be ready for operation about January 15. The Association controls about 90 per cent of all the whole milk that goes into the East Bay cities by means of its contracts with dealers. About 2,000 pounds of butter per day are being made at the Valley Creamery of Stockton, which the Association bought September 1, 1918. The policy, as outlined by Mr. Gum, is to pay competitive prices for cream and milk and then distribute the profits in the form of dividends to members. Dairymen join by paying 50 cents per cow at once and $2.25 per year per cow for two years.

SHEEP FOR PROFIT'S SAKE.

A good ewe will give more milk for the feed consumed than the best dairy cow.

Her milk fed to lambs will produce more income per gallon than cow's milk sold in the can or made into butter.

The lambs do their own milking; the cows have to be milked by high-priced help.

The ewe has a fleece; the cow has not.

Calf Enemies

WHITE SCOURS
BLACKLEG

Your Veterinarian can stamp them out with **Cutter's** Anti-Calf Scour Serum and **Cutter's Germ Free** Blackleg Filtrate and Aggressin, or **Cutter's** Blackleg Pills.

Ask him about them. If he hasn't **our** literature, write to us for information on these products.

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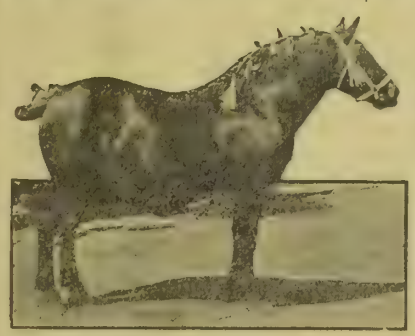

My Fall shipment of stallions has arrived. These horses were personally selected by me in the best breeding districts of Iowa, Illinois, and Indiana. Two, three, and four-year-olds that will weigh a ton or over.

The largest collection of Percherons, Belgians, and Shires west of the Rocky Mountains. State certificate of soundness and life insurance with each stallion. Every horse priced to sell according to his individual worth. Any reasonable terms will be given. I also have a carload of Heavy Draft Mares and Geldings for sale—age 4 to 7 years, weighing from 1400 lbs. to 1700 lbs. Matched teams in black, bay, or chestnut.

Correspondence invited and visitors always welcome.
N. W. THOMPSON, Patterson, Stanislaus County, California

KIMBLE RAMBOUILLETS

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots. Prices reasonable. Correspondence solicited.
CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

Champion Ram. P P I E

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

The Sheep that bring the Big Prices are the kind to buy

RAMBOUILLETS

I purchased at the Salt Lake sale 31 head of the best (Butterfield, Quealy and Bullard strains) to head my breeding ewes. I have about 100 big, smooth, heavy-wooled rams for sale.
J. BIDEGARAY FRESNO, CAL.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SOME RABBIT LORE.

We always associate the word rabbit with productiveness and prolific abundance. In the animal line the rabbit does live up to our ideas, when given proper care and feed. Many people feed rabbits so entirely wrong that the death rate of the young is enormous, simply because of wrong feeding and unsanitary conditions. Piling one hutch on top of another, several tiers high, is, according to a U. S. Bulletin, the cause of most of the contagious diseases with which rabbits are afflicted. I have had two inquiries just lately, asking if alfalfa meal was not as good as the alfalfa hay or alfalfa itself?

I am sure if those who are feeding rabbits will take time to observe the animals they will agree that I am right—dry alfalfa meal, while it contains all the nutriment of alfalfa hay, is always dusty. Now then, the rabbit must chew its food and if it chews the dry alfalfa some of the dust is going to irritate the throat and lining of the air passages, because as the rabbit gathers the food into its mouth it cannot moisten the meal fast enough to gratify its hunger unless it is fed very often, and it just gobbles it up and rolls it around to moisten it as fast as possible. If the alfalfa meal is moistened, there is not enough chewing service and it will be bolted in chunks and then the digestive tract will be irritated. Another big mistake is made by feeding dry feed for a few days and then wet feed. The digestive organs of animals are not capable of adapting themselves to sudden changes, and this changing around always makes for trouble.

Baby rabbits are delicate little creatures and need to be let alone for the first few days to the care of the mother. When a doe kills her young, the cause may often be found to be too much excitement, too many visitors inspecting the nest and handing the babies around for inspection. Unless the doe is very gentle, she resents this and kills one or more in her excitement. Still another cause of mortality among young rabbits is wet and dirty nests. If nests are not well covered, rain is likely to beat in. In such case the litter should be changed and the nest box aired and dried.

When the young get about three weeks old they will commence to nibble and from then on there should be no stint to the feed if you want them to grow. I have found out from a prominent breeder, who makes money with rabbits, that he feeds his young rabbits green feed, such as alfalfa, but he takes pains to have it free from superfluous moisture on the outside. Then he feeds sprouted oats twice a day and he says the youngsters grow like weeds. Of this I have no doubt, for I know wild rabbits always prefer the oat field. Always keep a little piece of rock salt where they can lick it. Keep quarters clean and feed regularly and the mortality of young rabbits will not be any greater than in other young animal life.

Rabbits are profitable things to have in these days and no breeder can afford to starve them, but feed so as to keep them growing.

LARGE AND SMALL BREEDS.

I noticed the Eastern poultry journals did not think very much about Edward Brown's poultry talks—too much economy in it and too much talk about the heavy breeds. Well, that is foolish of them, because we do need poultry meat just as much as we need eggs, and all the talking one man or a dozen men can do will never harm the White Leghorn. It has won its way into the hearts of men and women who want to keep poultry in big flocks, it bears confinement well and adapts itself to any and all conditions it is placed in and does its best. Which means that where lots of chickens would give up and die the White Leghorn will keep trying to make the most out of nothing. If there is anything to eat in the country, it can't be put too high for a Leghorn to reach it with clipped wings, and it can't be so hot that, once having searched and found it, Mr. Leghorn will drop it anywhere but down its gullet.

MEDIUM-SIZED BREEDS MAKE GOOD.

The work of the world is done by the army of small to medium sized men and women, and the bulk of the poultry produce is from the small to medium sized breeds. Mr. Brown could no more harm them by advocating table poultry than he could put the army of small men out of work. What the occasion calls for is enough of both kinds. Yet the farmer with land can raise the large breeds to better advantage than the man cramped for room, and the latter can keep more Leghorns in a given space than he can other breeds, so what is there to quarrel about. I talk large breeds more than small ones because I am talking to men with room to accommodate the large or medium breeds, men who can let them run while they grow bone and muscle and can then finish them off in proper style. I have seen men with fifty Leghorns buying their feed in paper sacks. The man with land would not think of doing that. Paper sack purchases mount up pretty high, but the purchaser pays out in little sums so does not miss it at the time. It's on a par with thrift stamps. If a man can raise a score or two of chickens out of his wage earnings, he is so much ahead anyway, and while some of us may be inclined to laugh I have done so myself, but felt ashamed after. Why, the spirit of thrift is always commendable and should be encouraged.

BLUE ANDALUSIANS ALWAYS CROSS-BREEDS.

To the Editor: In the Rural Press there was a question about Blue Andalusian fowls not breeding true to color, and the answer seemed a little incomplete. I think you will find the following the correct explanation: These fowls provide one of the most striking illustrations known of the famous Mendelian law of breeding, or of transmission of characteristics. Actually the Blue Andalusian is not, scientifically speaking, a pure breed, but a cross of two breeds of fowls, one black, another white. Just as lampblack mixed with white lead will make a slate color, so the cross of Black Andalusians and White Andalusians will gave a slate colored offspring. So Black Andalusians bred to Blacks will give Blacks always; White bred to White will give White, and only that, for generations untold, save as they do not come true to type; but Blue bred to Blue will carry in it never the blue as a distinct color, but only as a mixture of black and white, and for a good part of the time the offspring will come either pure white or pure black. Without going into the theory of the law, it is sufficient to say that the average colors of fowls resulting from matings between blue fowls would be one White Andalusian, as white in nature as if all his ancestors had been white; two blue fowls; and one black fowl, as black in nature as if all of his ancestors had been black.

So, in breeding Andalusians, blue fowls are always cross-breeds as far as color is concerned, no matter if all their ancestors for ten generations were blue, and their offspring will be both white, black and blue. However, black bred to white will always give blue, while blue bred to either black or white will give partly blue, partly the other color. For the explanation of this see the explanation of the Mendelian law. The facts, however, are as stated.

The red, white and roan of Shorthorn cattle run somewhat, but not altogether, similar to this, the red and white corresponding to the separate breeds, and the roan to a merging of the others.—Agricola, Exeter.

BEST TURKEY BREEDS.

To the Editor: What breed of turkeys is the largest and easiest to raise, and least liable to disease? Also, will you point out the essential differences between the Mammoth Bronze, Golden Bronze and Bourbon Reds?—S. S., San Luis Obispo, Cal.

There are, in all, eight varieties of turkeys: Bronze, Narragansett, Buff, Slate, White, Black, Bourbon Red and the Wild Turkey. The Bronze is the largest of all varieties and the Narragansett the next. Thirty years ago I had the Narragansett and I never had a sick turkey. They are particularly healthy and are prolific. They are very full breasted and are a little more compact than the Bronze. Standard weight of male is 20 to 30 pounds, for females 12 to 18 pounds. This variety is popular in the New England States, but very rare in California. Here the most popular is the Bronze, and, if properly bred and raised, they are hard to beat. If I were going into turkeys, one of these two would be my choice for commercial purposes.

Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

HOT AIR

is great stuff coming up from the furnace, but it doesn't get you much of anywhere in the poultry business. Profitable results come from having experience, good judgment, and work. Don't let the experience cost you too much—there's where good judgment comes in. How about buying chicks? Are you influenced by big claims, deluxe adjectives, exorbitant egg yields, high prices, cheap prices? Call on your good judgment again. Remember that humbug loves a sucker. Play safe. Investigate when you can. Will you risk a card and send for our circular?

• • • • • •

We hatch White, Brown, and Buff Leghorns, R. I. Reds, Barred and White Rocks, Black Minorcas. Capacity 12,000 weekly. Quality of breeding stock and chicks will please you; as will also the price and service. You can order a score, or thousands—safe delivery guaranteed and preferred pens quoted when requested.

BREEDING COCKERELS FOR SALE.
The Mission Hatchery, Box 17, Campbell, Calif.

GIANT BRONZE TURKEYS—Gold Nugget Strain. Prove their superiority by winning Gold Special Sweepstakes for best turkeys at the following great shows: Arizona State Fair, 1916; Texas State Fair, 1917; California State Fair, 1917-1918; Los Angeles Show 1917-1918; Pacific Coast Land and Industrial Exposition Oakland 1918. An illustrated record. Large turkeys can be raised at practically the same cost as small ones. Toms for sale that will increase size and improve any flock. I am the originator of the Gold Nugget Strain. J. Will Blackman, 607 East Third St., Los Angeles, Cal.

BABY CHICKS—We specialize this season on money making White Leghorns—hatching from stock with high records that are unimpeachable. Also Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and White Wyandottes. Especially interesting circular with prices ist ready January 1st. B. W. Archibald, Soquel, Santa Cruz Co., Cal.

PLACE ORDERS EARLY for chicks with the Madera Hatchery, Madera, Cal.

OUR 200-290 EGG Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Orpingtons, Ducks, clear $5 for customers now. Breeders, pullets, chicks. Half booked for January, February, March delivery, last year's prices. Many repeat orders. 30,000 capacity hatcheries full now. J. Beeson, Pasadena, Cal.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box B, 130 Willard St., San Jose, Cal.

LARM'S REDS—Larm's strain, Rhode Island Reds, single and rose comb hatching eggs from 220 egg record layers. Breeding pens. Cockerels. First prize winners in leading California shows. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

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BABY CHICKS—Ready in January. Order early and get the date you want. White and Brown Leghorns, Black Minorcas, R. I. Reds, Barred Rocks. Safe delivery guaranteed. Write for circular. Stubble Poultry Ranch and Hatchery, Palo Alto, Calif.

WE ARE READY to book orders for baby chicks from seven different breeds. Stock well mated up and well cross-mated. Advance orders receive best attention. Santa Clara Valley Hatchery, Lincoln Ave., San Jose, Cal. Joseph A. Bihn, Prop.

BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

BABY CHICKS—Hatched from our own stock in our own hatchery. Hens are of S. C. White Leghorn utility stock, bred for commercial laying. H. A. George, Route 2, Box 29, Petaluma.

BABY CHIX—R. I. Reds my specialty. The best pays. Bred for eggs, color, size. Hens on free range. January deliveries 17c each; 16c in 1000 lots. Denton Poultry Yards, Box 360, Campbell, Cal.

BABY CHICKS (White Leghorns) shipped on approval before remitting. No weak ones charged for. Schellville Hatchery, Schellville, Cal.

FOR SALE — $38.50 Kreisky oil-burning brooder stove. Never used. Successfully broods seventeen hundred chicks. Bargain, $25. H. W. Fitting, Livermore, Cal.

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BABY CHICKS—Booking orders for spring deliveries. White and Brown Leghorns, Rhode Island Reds, Barred Rocks. E. W. Ohlen, Campbell, Cal.

MAMMOTH BRONZE show and breeding toms. Big, heavy-boned, good color. Eastern blood. $10 and $15. H. G. Stevenson, Jr., Winters, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

WHITE LEGHORN BABY CHIX from heavy laying (Hogan-ized) stock $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 408 Sixth street, Petaluma, Cal.

EASTMAN'S BRED-TO-LAY Hogan-ized and trap-nested Barred Plymouth Rocks. January chicks. Eggs. Cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MODEL POULTRY FARM—White Leghorn specialists. Our fifteenth year. Baby chix and hatching eggs for sale. Also first-class breeding cockerels. Our prices are right. W. C. Smith, Penn Corners, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vedden, Box 396, Los Gatos, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

WHITE WYANDOTTES—Purebred vigorous breeding cockerels and hens for sale. R. W. Stawetaki, Route B, San Jose, Cal.

FOR SALE—Golden Bronze turkeys. Big boned breeding toms of America's best strain. Eggs in season. M. M. Reiman, Planada, Cal.

THE WAR IS OVER

BUT THE FOOD SCARCITY
IS GREATER THAN EVER

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You must soon decide upon your next garden and field crops, and the best guide at this time is the latest edition of

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BY E. J. WICKSON

The long winter evenings are with us—why not take the opportunity to study up the best way to grow and make the most out of your soil? Whether you wish to produce beans, beets, potatoes, celery, cucumbers, corn, melons, onions, tomatoes, rhubarb, squashes, turnips—or any garden or field crop—you need this book. It is a handsome volume of over 300 pages, well illustrated, bound in cloth, and will be sent to your address for $2 per copy postpaid.

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ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

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COUNTRY LANDS.

I HAVE 10,000 ACRES of good land ready for development, and am looking for a partner or associate to put in the money necessary to develop it. It is all level, deep sandy loam; average rainfall eighteen inches; two railroads across it; good climate, in California. Tract was acquired many years ago when raw and inaccessible. Now it has railroad facilities, and irrigation water is coming. Much of it is available for wheat and barley, considerable can be put in alfalfa, and all of it some time in the future will subdivide for small fruit and dairy ranches. Can be devoted advantageously to stock raising, as it commands extensive free range in adjacent hills. I have had many years experience in real estate, and picked this for my own money, but now when it calls for development, I lack the ready money for that purpose. If I can find the right kind of a partner to put in the necessary capital, I will give him a ground-floor chance. It will take $50,000 to pay off debts, and should have a fund of as much more for development. Interview and particulars to bona fide prospects. Address "Owner," Pacific Rural Press.

AN INCOME ORCHARD of 16½ acres, one mile from town, on West 1st St., Napa, with three of the best fruits grown, mixed varieties of cherries—Tartarians, Bings, Royal Ann—prunes and Bartlett pears; the land is A-1; house of 5 rooms, bath, patent toilet, with sewer to creek; large barn garage, windmill; also pumping plant run by motor; all building electrically equipped; about 1-3 down, balance on time. For full particulars address A. G. Inman, P. O. Box 35, Napa, or call No. 83 N. Main street.

FOR LEASE—SUMMER SHEEP RANGE—Solid tract of approximately 50,000 acres logged-off lands, Butte and Tehama counties, California, for term of years beginning with season of 1919. Accessible and well watered. Estimated capacity based on previous use, 14,000 head. For particulars apply to the Diamond Match Company, Grazing Dept., Chico, California.

FOR SALE OR TRADE—Fourteen acres of highly improved land in the city of Brawley. Six-room modern bungalow. Fruit trees of all kinds. Could be subdivided. Value fifteen thousand. Mrs. D. L. Boyd, Brawley, Imperial Co., Cal.

FOR SALE OR EXCHANGE—40 or 80 acres. Would trade for registered Shorthorn cattle. Address: J. S. Fry, Chowchilla, Cal.

WANT SMALL RANCH for general farming. Give price, description, location. Box 1340, Pacific Rural Press.

SEEDS AND PLANTS.

ATTENTION—In order to introduce our Sweet Spanish Onions, we will sell a few pounds of seed in small packages. The onion from this seed is mild and sweet and has no equal. Packages 30c. Seed guaranteed. Orders filled as they come in. Plant December, January, and February. Kirkpatrick-Thompson, Sweet Spanish Onion Industry of California, 667 Eighth St., Riverside, Cal.

BUDDED AVOCADOS—Fuerte, Sharpless, Lyon, Dickinson, Blakeman, Puebla, Spinks, Taft Linda, Rey, Queen, Knight, and others. A fine stock of field-grown trees, $2.50 for one. $2.00 each by the 100. 25c per tree for packing. Newbery-Sherlock, 2202 East Colorado St., Pasadena.

TO THE TRADE—Buy almond trees from an almond specialist. 100,000 almond trees on bitter almond roots, standard varieties. Car load lots solicited. Write for prices. W. T. Hohenshell, Le Grand Nurseries, Le Grand, Cal.

PLUM STOCK (P. D.)—Immune to crown gall and black knot. Tested by State Pathological Laboratory of Whittier. Unites perfectly with prune, plum, peach, almond, apricot, and nectarine. Worth investigating. Tribble Bros., Elk Grove, Cal.

HORSE BEANS FOR SALE—Medium size. Takes about 20 lbs. to the acre for plowing under for cover crop. Makes more foliage than the larger beans. Address J. C. Stahlman, Rt. 1, Box 460, San Jose.

BERRY PLANTS—Burbank Phenomenal berry, Blackberry, Loganberry, Raspberry, Strawberry, Currants, and Gooseberry. Ready now. M. J. Moniz, Berry Specialist, Sebastopol, Cal.

TREES—Bartlett Pears on Japan root. Fine trees with excellent root system. Write for prices. White Ranch Nurseries, H. J. Carse, Mgr., Peardale, Nevada Co., Cal.

A FEW SACKS Honey Sorghum seed. Greatest quantity, best quality silage ever grown—20 cents. Imperial Seed House, El Centro, Cal.

ASPARAGUS ROOTS—We have many thousand Connovers, Colossal, and Mammoth White roots. Low wholesale prices. Stanislaus Nursery Co., Modesto, Cal.

FOR SALE—Walnut grafting wood, selected Franquette, Mayette, Eureka, and Payne varieties—5c foot. Bowman, Kuhn Ranch, San Jose, Cal.

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No war prices.
Cash Nurseries, Sebastopol, Cal.

BEET SEED—Golden Tankard for sale—35c in small lots; 10 lbs. or more, 30c. C. E. Leek, Hopland, Cal.

PAYNE WALNUT GRAFTING WOOD—Order now. W. H. Ward, Morgan Hill, Cal.

AMERICANIZATION OF GERMAN SONGBIRD INDUSTRY.

As successor to the famous songbirds of Wilhelm's former land has come a college-educated bird raised in the academic atmosphere of Berkeley.

Once again has Berkeley scored in putting down the kaiser and once again has she launched a new American enterprise on the ashes of Germany's defeat.

A. H. Hasseler, native of Germany, but now a staunch American citizen, who resides in Berkeley, has the distinction of probably having the largest collection of famous German Rollers in the United States. But Hasseler refuses to have his birds associated with any reminder of "kultur" and has rechristened them "California Rollers."

NOT HYPHENATED.

"They're all American, my birds are," declared Hasseler. "More than that, too, the German Roller as raised in Germany is like a vaudeville performer compared to a grand opera star. That's what California and America have done for the birds."

Fifteen years ago Hasseler started to this country from Germany with three pairs of German Rollers owned by his father, a dealer in birds. Today he has nearly seventy, while several weeks ago he had more than 150. In the spring he expects to have between four and five hundred tiny singers.

"Thousands of Rollers have been sacrificed by Germany in the war and there are practically none left of the famous songbirds there," Hasseler declares. "America can now step in and take away from Germany an industry that has always been considered essentially German.

"Germany sent her Rollers to the front line trenches to be used in giving warning of gas attacks and thousands of the little singers gave their lives in order that soldiers might be saved, for as soon as they dropped to the ground they gave a silent signal for donning gas masks."

SENT TO AMERICA.

Heretofore, Hasseler states, more than 1,000,000 German birds came to this country every Christmas to supply the demand for the singers as Yule-tide gifts. This country, he declares, received only the inferior birds, however. "So great was the demand for them that dealers in birds found a ready market for them anywhere and they sent on only those they didn't want there," he said. "The best singers remained in Germany."

German dealers in canaries maintained regular testing rooms, according to Hasseler, similar to those used in trying phonograph records. As soon as a bird showed a shrill note he was put to one side for the American trade. The others were kept in Germany.

As evidence of what Berkeley's academic atmosphere can do for members of the bird family, Hasseler has trained his singers in following opera gems. As a rule, he declares, the birds object to anything but the classics played in the softest tones, a noisy phonograph selection bringing a bedlam of objections. One less highbrow of the canary family has chosen the "Missouri Waltz" as his favorite selection and whistles through the entire melody.

ONE-TONE SINGERS.

Hasseler is training his birds to be one-tone singers and is developing bassos, contraltos and sopranos, with still others emulating the flute, saxophone and similar soft-toned orchestral instruments. Also he has proved a second Ponce de Leon. Instead of the scant two or three years Rollers have heretofore retained the glory of their voices, Hasseler has birds who have been singing continuously for twelve years.

It took more than 200 years from the time the first Rollers were captured on Canary Islands in 1600 by German skippers to develop them into domestic birds, while Hasseler declares that perfection is far from reached in their present musical education.

TURKEYS HAVE LIVER TROUBLE.

To the Editor: A number of my turkeys are affected with liver trouble, from which some have died. The liver is about twice its natural size, is brittle and covered with yellow spots. The droppings are yellow and stringy. When sickness is first noticed the birds are thirsty and eat nothing. They have free range and are fed a little barley twice a day.—Subscriber, Paicines, Cal.

Give the whole flock a physic of either castor oil or sulphate of magnesia in a little mash at night. Next morning put 15 drops of tincture of nux vomica in every quart of water you serve, second day lower it to 10 drops to a quart of water. Keep this up until improvement sets in. Cause is improper feeding—not enough green feed—added to perhaps a little cold. If the trouble had been noticed at first, it was simply a case of indigestion.

BARGAINS in Bartlett pear. Address L. J. Eachus, Lakeport, Lake county, Cal., Oak Mound Nursery.

WALNUT TREES—Placentia and Eureka on black root. La Puenta Walnut Nurseries, Puente, Cal. Phone 103.

WANTED.

FARM MANAGER WANTS POSITION—Can convince you that I have experience in details, also executive ability in farm business and crop management. I can make your farm pay if it involves the following operations: Dairying of any type; hog raising; irrigation; land levelings; general croppings, i. e., alfalfa, all small grains, cotton, and rice. Must see your ranch and agree on policies before engagement. Box 1320, Pacific Rural Press.

WANTED—Position as superintendent or foreman on big ranch—hay or grain, fruit farm or asparagus. Understand also drying and curing and packing of fruit. Can give good references. Box 1330, Pacific Rural Press.

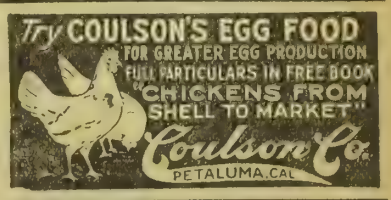
ALL-AROUND RANCH SUPERINTENDENT—Will be open for position January 15. Experienced handling orchards, alfalfa, and general farming. Best of references. C. E. Buck, Rt. A, Box 122, Modesto, Cal.

Going to Brood CHICKS?

Then send for the latest KRESKY catalogue, 20. Our latest development of the Liberty Stove has 'em all beaten.

Economy, Efficiency, Convenience

Kresky Brooder Stove Factory
Petaluma, - Cal.



Chickens Sick?—Use Germozone
Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library.
GEO. H. LEE CO., Dept. 428 OMAHA, NEB.

Make Poultry Pay

One of our subscribers was completely disgusted with poultry raising. Every morning forty of his hens would brag about what they were going to do, but at night he would find that only about eight had laid. The rest had simply lied.

So he bought a copy of our poultry book and in less than two weeks his hens had quit lying and gone to laying. They were shelling out enough extra eggs to pay for the book in less than two days.

California Poultry Practice Tells How

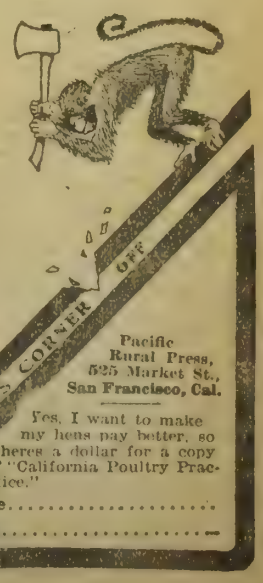
This great book will do as much for you. It was written by a Californian for Californians. The author, Mrs. Susan Swaysgood, after years of successful experience, has succeeded in showing the farmer how to make poultry raising more profitable. She knows what to tell and how to tell it. She deals out hard-headed poultry sense and still has every paragraph full of snap and sparkle.

The book deals with actual conditions—not theories—and covers every phase of the industry. It gives advice about location, buildings, equipment, choice of breeds, best way to begin, how to select stock, etc. There are valuable instructions for incubating, brooding, culling, feeding, breeding for heavy laying, showing, treating diseases, marketing products, etc. You will find everything necessary to insure your success.

Now Is the Time to Start

Never was there a better time to take up poultry raising in earnest. The nation's supply of meat animals is not keeping pace with the increase in population, and the people must turn to poultry raisers for nitrogenous foods. Eggs will be the cheapest concentrates, and table fowls the cheapest meat.

A golden market awaits all poultry products here on the coast, where we don't even produce enough to supply the local demand. As a government expert puts it: "The Pacific Coast offers a wider and more inviting field for future development in poultry raising than any other section of the United States."



Costs Only a Dollar

But play safe. Start right by getting this book and following the methods which have already proved successful. It will cost you only a dollar; you would not sell it for ten.

Send Coupon Today

THE HOME CIRCLE

The Bells on Christmas Day

I heard the bells on Christmas Day
Their old familiar carols play,
And wild and sweet
The words repeat,
Of "Peace on earth, good-will to men!"

And thought how, as the day had come,
The belfries of all Christendom
Had rolled along
The unbroken song,
Of "Peace on earth, good-will to men!"

Till ringing, singing on its way,
The world revolved from night to day,—
A voice, a chime,
A chant sublime,
Of "Peace on earth, good-will to men!"

And in despair I bowed my head;
"There is no peace on earth," I said,
"For hate is strong
And mocks the song
Of peace on earth, good-will to men!"

Then pealed the bells more loud and deep:
"God is not dead; nor doth he sleep!
The wrong shall fail,
The right prevail,
With peace on earth, good-will to men!"

—Henry Wadsworth Longfellow.

When Santa Claus Was Little

Haven't you always thought of Santa Claus as being, in his first years, a chubby, roly-poly, red-cheeked youngster? That is the way I've always pictured him. But, do you know, we were both entirely mistaken!

You look a little doubtful, and I can understand that; but let me tell you the true story, as I heard it from Mr. North Wind.

The way I happened to hear the story was this:

I was walking, one day in late December, along a stretch of country road, on my way to Greenwood Farm to buy ducks. I had two miles to go, so, to amuse myself, fell to making a few tardy plans for Christmas.

After I had arranged just what to give Betty and her brothers and sisters, and Barbara and her brothers and sisters, I thought next of Cecily. I am especially fond of Cecily, and so wanted to think very hard about her gift. In order to do this I sat down for a few minutes on an old tree stump beside the road.

Pretty soon I heard a chickadee. I whistled, and he answered. I whistled again; but this time he was suspicious, and made no reply. The third time, however, he had made up his mind to be friendly. Between the chickadee and thoughts of Cecily's present I might have been late indeed at Greenwood Farm had not some one luckily brought me to my feet.

I had just exclaimed aloud: "I know what I'll do! I'll paint her a picture of Santa Claus as a little boy—round, red cheeks, laughing face"—

"He wasn't a bit like that!" came a clear, piercing voice. At the same moment an icy blast made me spring from the stump, and step briskly forward on my way.

It was Mr. North Wind who had spoken, and he now kept me company, as he continued: "I'm glad I have a chance to put somebody right on that point. No, you may believe me or not, but Santa Claus, up to seven years old, was a very different child from your idea of him. Pale—peevish"—

"What?" I cried.

"Pale, peevish," shrilled Mr. North Wind in my startled ear, "by no means a favorite."

"You amaze me!" said I, "but when he was seven?"

"I will tell you all about it," said Mr. North Wind. "Santa Claus was an only child, and his mother was forever afraid of his catching cold, so she kept him indoors a great deal."

"Enough to ruin any child's disposition!" cried I, indignantly; for you may be sure I was going to stand by Santa Claus through thick and thin.

"True," said Mr. North Wind, "and that boy was a caution! At breakfast he wanted the thickest part of the cream. If a playmate came to see him, he shared his toys very unwillingly."

I could almost have cried to hear this.

"However," went on Mr. North Wind, "a big change came over Santa Claus, and all because of a dream, or, I might say, all because of mince pie, for mince pie made the dream. You may be sure that Santa Claus's mother seldom gave him pie for supper, least of all mince pie; but on this particular night Santa Claus went to a party at the house of a boy neighbor. He ate mince pie, nor did he refuse plum cake. Later, candy went the rounds. There followed a Dream.

"Santa Claus dreamed that he sat at the foot of a long hill, and toward him, down the hill, streamed an endless supply of cakes, candy, toys, books, and many other things. In between the cakes, toys, books, etc., wound a never-ceasing rivulet of—what do you think?—thick, yellow cream! Santa Claus tried to push off this crowding, overwhelming flow of things, but on they came. The worst of it was that at the top of the hill Santa Claus could see dozens of little boys and girls looking wistfully down upon all this profusion, many of the children reaching out their hands—all in vain—and some of the youngest ones crying bitterly.

"Now, although so petted and somewhat spoiled, Santa Claus had naturally a fine, generous heart (the whole world is ready to prove that!) and the sight of all these forlorn little boys and girls made him feel very sad, indeed. He tried his best to throw toys up to the children, but his arms and hands seemed turned to lead. Meanwhile, a loud voice came from somewhere, saying over and over, 'All for you! All for you!'

"But even the worst of nightmares come to an end, and, when Santa Claus awoke, he was much comforted to think this was but a dream."

"Then what happened?" I asked Mr. North Wind, for his voice was suddenly gentle and almost dying away. At my question he shook himself into fresh vigor.

"Santa Claus never forgot that dream. The next day was his seventh birthday, and his mother could not imagine why, with all his beautiful new presents, the boy all that morning was so quiet and thoughtful. The truth is Santa Claus was beginning to see that to share with others was the only happy way for him. It seemed suddenly mean and undesirable that he should have so much, and he was hunting about in his mind to reach the best plan for giving.

"I can't go into the whole story, as we have nearly reached your Greenwood Farm; but that was the beginning. That very day, after dinner, he got out his new scarlet sled, and asked all the boys in that neighborhood, big and little, to try it in turn. Seeing him come in at supper time in such a rosy glow, his mother decided that fresh air, after all, was best. So after that Santa Claus lived much more out of doors; and, if he grew big and strong, his generous impulses and power to love increased, too, just as steadily.

"Well, when Santa Claus became a man, he had a large fortune left to him by his Aunt Jollity (such was her curious name); and he was not long in deciding to use this vast amount of money, year by year, in making Christmas a brighter day for the children everywhere. By this time Santa Claus had grown so hardy that he preferred the coldest, snappiest kind of weather to any other. Accordingly, he built his home away at the North Pole. You have at once guessed another reason for his doing this, and you are right. The North Pole would be a fairly private place in which to keep safely his Christmas secrets. Hardly anyone dropped in of an evening. The rest you know, too — how every Christmas eve sees Santa Claus in his sleigh guiding the reindeer swiftly from door to door, and leaving all those charming gifts the children at peep of day find in their stockings."

Just then we found ourselves at Greenwood Farm, so I shook Mr. North Wind's white-mittened hand, and gave him hearty thanks for his story. As I went in to buy my ducks I could hear Mr. Wind's voice greeting Farmer Green. It sounded like this:

"Merry Christmas! Happy New-oooo-oooo-oooooooo Year!"—Caroline Stetson Allen.

CANNING OF HOMINY.

In response to requests, we reprint the following recipe for making hominy from white Indian corn:

Dissolve 2 level tablespoons of soda lye (commercial sodium hydrate) in each gallon of water in an agateware pot. Place dry white corn in this and boil hard for one hour. Place the corn in a wire basket or mosquito-netting bag and allow cold water to run through it for five or six hours. If this cannot be done, place in a large tub of water, change the water often and stir frequently for six or eight hours. This is to remove the lye.

After the lye has been removed, rub off the hulls and black-tip caps. This can be done by rubbing the kernels over a screen or colander. Separate the hulls and kernels by washing upon a coarse screen.

Fill into cans. Add a boiling hot brine of 2 tablespoons of salt per gallon of water. Cap and seal. Sterilize cans 45 minutes at 15 pounds pressure, or 1¼ hours on each of three successive days in a wash boiler. If jars are used, sterilize 1½ hours for three successive days.

HOW TO COOK TEPARIES.

[Written for Pacific Rural Press by A. C. Rapp, Tprlock.]

We have been using tepary beans at home and find when cooked right they are not inferior to any. We have employed quite a few men the last two years in caring for our crops and find that all are very well pleased with the beans. In fact, they have all eaten heartily. I will give you the recipe which we use, as follows:

Put on beans in cold water and soda and let them come to a boil and boil ten minutes and then drain. Put on clear, cold water again, let come to boil, then boil fifteen minutes. Drain and repeat with clear, cold as above twice. Then your beans are ready to be cooked, baked and seasoned to suit, as any other bean.

By putting beans through the different waters the objectionable taste is removed and your beans are as good as any.

CHRISTMAS CANDIES.

Honey Popcorn Balls. — Take 1 pint extracted honey, put it into an iron frying pan and boil until very thick; then stir in freshly popped corn and when cold mold into balls.

Popcorn Balls with Corn Syrup.—Boil together 1 cup of corn syrup and 1 tablespoon vinegar until it hardens when dropped into cold water; stir in freshly popped corn and when cool enough to handle butter the hands well and form into balls.

Honey Caramels.—One cup honey, 1 cup granulated sugar, 3 tablespoons sweet milk. Boil together until it will form a soft ball when taken in the fingers. Add 1 teaspoon vanilla; pour into a greased dish ½ to ¾ inch deep. As the mixture cools, cut in squares and wrap each square in paraffin paper. To make chocolate caramels, add 1 tablespoon melted chocolate just before taking off the fire, stirring well.

Parisian Sweets.—One pound figs, 1 pound dates, 1 pound English walnut meats. Mix together and put through the meat grinder. Work mixture on board dredged with confectioner's sugar until well blended. Roll to ¼-inch thickness and cut with sharp knife in ¾-inch squares.

Maple Sugar Candy.—One pound soft maple sugar, ¾ cup thin cream, ¼ cup boiling water, ⅔ cup English walnut meats broken up. Break sugar up and put in saucepan with cream and water. Boil until a soft ball forms in cold water; remove from fire and beat until creamy; add nuts and pour into buttered tin. When cool, cut in squares.

Stuffed Dates.—Wash and dry dates; remove stones and fill cavity with one of the following fillings, shape in original form and roll in sugar. Fillings: Peanut butter creamed with a little lemon juice; walnut or pecan meats; candied ginger; candied pineapple or fondant.

Mint Paste.—Soak 1 envelope of gelatine in a little cold water, then dissolve in 2 cups of boiling water; add 3 tablespoons strained honey, color a rich green and flavor with a few drops of oil of peppermint. Pour into oiled pans an inch deep. When cold, cut in squares and dip in powdered sugar.

Coloring for Candies.—Saffron will give a yellow tint; spinach leaves, crushed and boiled, will give green; the juice of strawberries, raspberries and blackberries will give varying shades of pink. Small tubes or bottles of coloring matter may be purchased in all colors.

Salted Almonds.—Blanch and dry the almonds; put a spoonful of oil in a small saucepan and when hot put in the almonds and brown lightly. Drain on brown paper and sprinkle with salt.

THE CHRISTMAS DINNER TABLE.

This year, when we are urged to make use of only such foods as are produced in our own State, we of California are especially fortunate, as we may have everything from soup to nuts, in a well-planned dinner, without transgressing the wish of the Food Administration.

The elaborateness or simplicity of the dinner has nothing to do with its attractiveness, for a very simple meal may be made delicious when served on spotless linen and a well-decorated table. Flowers, ferns, a large dish of fruit, or a huge pumpkin hollowed out to hold autumn leaves, huckleberry or our native redberry, makes a centerpiece that every household can arrange for.

A holly centerpiece may be arranged by making a star of the leaves and berries and placing on a large mirror. Scatter holly over the white table linen and have place cards done in holly.

A miniature cedar tree, covered with diamond dust, decorated with cranberries, cotton and strings of tinsel, makes an attractive centerpiece. The use of place cards is an addition and they may be made at home by copying some suitable design on heavy white paper and using either colored crayons or water colors to color them. Almost any child can do that kind of work and it usually makes them very happy to be permitted to be helpful in that way.

A very attractive centerpiece, especially for children, may be had by using a rather good-sized paper mache turkey, enclosing it with long sticks of striped candy laid in a fence effect.

The dinner itself helps to decorate the table—the brown fowl is in pleasing harmony with the green of parsley and lettuce and the red jelly. A baked potato may be much improved by two slashes to hold butter and a little parsley. A simple baked apple for dessert takes on a festive air when crowned with a dab of whipped cream and topped with a candied cherry. Get out the best dishes and give an extra shine to silver and glass—it is more work, to be sure, but work that is well worth while in the enjoyment of your family.

TRIMMING THE CHRISTMAS TREE

For those who want a change from the regulation ornaments many inexpensive things are offered. The small penny toys make very nice souvenirs for all the small visitors and bunches of raisins and bright-colored apples furnish something that may be eaten as well as looked at.

In using popcorn, put pins through the largest kernels and stick them on the end of the little boughs and it gives the appearance of snowflakes and is very pretty.

Candy is always acceptable and candy canes, fishes and pipes are bright and effective and a number of small baskets filled with gum drops, raisins, almonds or chocolate pennies help decorate the tree and also furnish something to give away.

After the enjoyment of the tree is over and it seems desirable to clear it away, put it in the yard, with bread crumbs in the baskets, and note the pleasure the birds get.

CHOICE OF CHRISTMAS GREENS.

People used to be more particular than they are now as to what greens they used for church decoration. The favorite plants were holly, bay, rosemary and laurel. Ivy was objectionable because it was formerly sacred to Bacchus. Cypress was sometimes used, but its funeral associations made it out of place at so festive a season as Christmas. Mistletoe was excluded because it was sacred to the Druidic religion and perhaps because it was considered too frivolous in its suggestions. The decorations should properly remain in the church till the end of January, but must be cleared away before February 2, "Candlemas Day."

CHRISTMAS CAROLS.

There is a great revival of interest in Christmas caroling in many communities. Now, when so many country people have machines, and distances are so easily covered, caroling parties in the country are quite as possible as in more thickly settled communities. To get the best results, participants should have some ability to sing and a rehearsal with someone in charge to lead is almost a necessity. Suitable songs, as "Hark, the Herald Angels Sing," "Silent Night," or "A Little Town of Bethlehem" and "Merry, Merry Christmas," should be chosen.

A good hot breakfast at some home, served after the caroling trip is over, is much enjoyed.

An old Scottish shepherd, faithful to the traditions of his clan, still wore the Highland kilt. One cold, raw day he was tending his sheep. His plaid was wrapped closely about him, but his bare legs were blue with cold. A fellow-clansman, who had been away from his native hills, came by, wearing an English overcoat. Observing the shivering shepherd, he asked, "Sandy, are ye no' cauld wi' the kilt?" "Na, na," replied the loyal Sandy, "but A'm near kilt wi' the cauld!"—New York Times.

-: AN INTERESTING SHORT STORY :-

We cannot prepare any better advertisement for

GOMBAULT'S CAUSTIC BALSAM

than the following voluntary testimonial from a man who stands very high in all business and social circles where he is known:

No. 2131 Wyoming Avenue, Washington, D. C., November 26, 1917.

The Lawrence-Williams Co.,

Dear Sirs:—I have had GOMBAULT'S CAUSTIC BALSAM constantly in my home for thirty-three years and have used it for a large number of animal and human ailments. It is by far the most effective, reliable and economical medical preparation that I have ever known. Its persistent use for chronic rheumatism, lumbago, neuritis and kindred troubles bring sure relief. For sore throat, pains in chest and acute cramps it penetrates and relieves pain. For mosquito bites, bee stings and bites of all other vermin it instantly stops all irritation. For itching between the toes and on limbs, it is an instantaneous cure. For fresh cuts, wounds and old sores, it eliminates all danger from blood poisoning and hastens a cure. A few drops of CAUSTIC BALSAM is more effective than half a bottle of any other application that I know of.

Truly yours, M. J. LAWRENCE.

GOMBAULT'S CAUSTIC BALSAM has had a steady, reliable sale in France, where it is made, for forty-five years. In the United States and Canada, with only moderate advertising, it has had an increasing sale for thirty-five years. The demand is produced strictly by its merits. Price $1.75 per bottle. Sold by druggists, or sent by Parcel Post on receipt of price. Guaranteed to give satisfaction. For further particulars and unlimited testimonials, address

The Lawrence-Williams Co., Cleveland, Ohio

Sole Proprietors and Distributors for the U. S and Canada

Write Today for This *Free* Book

of FURNITURE GIFTS for the Home

Give furniture this Christmas! There's something appropriate in furniture for every member of the family. With this helpful 112-page catalog from which to choose the furniture gift, you are certain that the gift will be A QUALITY GIFT, something that will give lasting enjoyment.

BE SURE OF THE GIFT'S ARRIVAL IN TIME FOR CHRISTMAS. WRITE FOR THIS CATALOG NOW. IT'S FREE!

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Barker Bros ESTABLISHED-1880

LOS ANGELES CALIFORNIA

The Modern Yule Log

The spacious fireplace with its blazing log was beautiful and highly satisfactory to our ancestors, but to meet the demands of this advanced age it was necessary to devise an easy means of producing a fire of real service from an economical fuel, yet pleasing to the eye. It was this need that prompted the effort which resulted in "the simplest thing in the world"—the "Premier" burner.

A piece of paper, the turn of a valve and the result is a fire of beauty, clean, hot and economical. The entire absence of effort and the usual cleaning "after effect" makes the "Premier" an ideal Christmas present for mother. Why not make every day "Mother's Day"—one continuous Yule-tide of peace and comfort? So little is required to accomplish this. You can buy the installation complete or in part, do the installing yourself without making any changes in the stove. Let us give you details—ask for drawing and circular "B." Give number, size and style of stove. Common coal oil is the fuel, a "Premier" burner the means, and five dollars the price

The burner, guaranteed and prepaid, $5.00

To complete a one-burner installation, $4.85 additional by express, charges collect.

Two burners and complete installation about $18.00

All inquiries receive prompt attention.

Premier Burner Co., Los Angeles, Cal.

HOME OFFICE AND FACTORY: 246 SO. SPRING ST.

Market Comment

Immediate Wool Deliveries Urged.

The War Industries Board has released the following statement to wool growers: "The domestic wools section of the War Industries Board announces that the Government Wool Adminstration will take over for the Government only such wools of the 1918 clip not now in the hands of approved dealers in distributing centers as have been loaded on cars and billed through to an approved dealer in an approved distributing center on or prior to December 31, 1918, and then only in case the approved dealer in the approved distributing center to whom such wools may be consigned files statement and a copy of the invoice thereof within five days after receipt of invoice."

Export of Wheat Products Permitted.

Exporters, who in the past have been refused licenses to ship wheat products, will now be permitted to ship all such products except wheat flour to specified countries, according to a ruling of the War Trade Board. Purchases of wheat product commodities for the Entente Allies and the Central Powers will continue to be made by the Allied Provisions Export Commission, acting on behalf of the governments of those countries. European and other neutrals will have to place their orders for flour through the Food Administration until the next crop is in.

An Acute Garlic Shortage.

Garlic was a drug on the market last year at 6c a pound and at present that product is commanding 30c a pound, with the prospect that the supply will be entirely exhausted before the next new crop. Two reasons for the existing scarcity are assigned. One is that conditions were not favorable last summer for garlic growing, and another is the heavy buying of California garlic early in the season by Eastern wholesale produce dealers in expectation of an early shortage.

No Official Bean Prices This Year.

George A. Turner, president and manager of the California Bean Growers' Association at Stockton, says the association furnished the largest part of the beans recently purchased in California by the U. S. Food Administration. All varieties were furnished at the market prices, and this will be the practice of the Food Administration in all future purchases. No prices will be fixed by the Government this year.

Rice Price Agreement to End.

This year the price of rice was stabilized through an agreement with the United States Food Administration and the growers, and the latter are further protected by an embargo upon the importation of Oriental rices. This arrangement will terminate with the marketing of this year's crop, and sooner, should the peace treaty be signed before the crop is marketed.

Minimum Hog Prices Explained.

Hogs weighing 150 pounds are not protected by the minimum prices, but are classed as "throw-outs." Producers should remember that $17.50 is the average cost of packers' droves, and purchase may be exclusive of "throw-outs" as low as $16.50, but must be bought above the minimum in order that the average cost will not fall below $17.50.

Barley May Move Again.

The removal of war restrictions on the exportation of barley must be very gratifying to barley growers of California. Before the war this was a very important business at this port, shipments going largely to Mexico, Canada, Central America, Japan and South America. This trade will doubtless be resumed at once.

Canada's 1919 Wheat Crop.

Canada has decided not to guarantee the wheat crop for 1919. The Government feels that there might be a loss of several hundred million dollars if the crop should be guaranteed.

THE MARKET REPORTS

Where commodities are consigned on a commission basis, the only price obtainable is the San Francisco price, from which customary charges are deducted to ascertain actual price paid to producer. Lines of commodities sold on exchanges, as butter, eggs, cheese, grain, etc., are priced according to exchange figures, which are not the prices paid to grower. From these figures must be deducted the legal percentages permitted to be taken by wholesalers before remitting balance of sale price to shippers. Schedules of discounts governing these transactions may be obtained from the offices of the Food Administration or of various exchanges.

SAN FRANCISCO

San Francisco, December 18, 1918.

WHEAT.

ANNOUNCEMENT.

The following are the prices announced by the Federal Grain Corporation, which are still in effect:

Per bushel—
No. 1 hard $2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1 .... 2.16
do, No. 2 .... 2.13
do, No. 3 .... 2.09

Recleaned for seed, per ctl.—
California Bluestem .... $4.15@4.25
Early Baart .... 4.15@4.25

BARLEY.

The grain exchange made an effort to start calls on barley this week, but no enthusiasm developed, and it is believed that no life can be instilled in any of the grains until after the holiday season. The other grains were not called. Barley is inclined to steadiness, and no change in quotation is noted.

Choice feed, per ctl .... $2.20@2.25

OATS.

Oats are dull and unchanged. There is but little demand, and that for small quantities.

Red feed, per ctl .... $2.50@2.60
Red for seed .... 2.65@2.90
Black for seed .... 2.80@3.00
Recleaned Red or Black for seed 3.35@3.50

CORN.

Corn prices are unchanged this week. Some choice California white corn was offered on the street and sold at $3.25.

Egyptian, choice .... $2.75@3.00
Milo .... 2.70@2.75

HAY.

Receipts of hay for the past week were 816 tons, compared with 844 of the previous week. Shipments were delayed by the rains of last week and these also further damaged hay, particularly in the river districts. The continued cold weather following the rain is retarding the growth of new hay to a considerable extent. Local conditions have been very unsettled since September on account of the repeated rains and considerable effort has to be made to dispose of the damaged hay arriving. Interior trade is reported dull, but as stocks of hay are getting low, some activity may be expected shortly.

Wheat, No. 1 .... $25.00@27.00
do, No. 2 .... 19.00@23.00
Choice tame oat .... 24.00@26.50
Wild oat .... 19.00@21.00
Barley .... 19.00@21.00
Alfalfa .... 17.00@21.00
Stock .... 17.00@20.00
Barley straw .... .50@ .80

FEEDSTUFFS.

The market for feedstuffs is dull to a great extent on account of the holiday season. No buyers are making purchases in excess of immediate needs, and they do not want to carry large stocks over the period of winding up the year's business. Coconut meal is again in the market and is quoted at $45 to $47. It is reported that the flour mills may again make bran, shorts and middlings, but "mill run" is the only wheat by-product at present on the market. Linseed meal is another of the feedstuffs again coming on the market. So far it is in limited quantity and sells at $77 to $78.

New alfalfa meal, per ton .... $35.00@36.00
Coconut cake or meal .... 45.00@47.00
Whole yellow corn .... 77.00@80.00
Cracked corn .... 80.00@82.00
Oilcake .... 77.00@78.00
Rolled barley .... 45.00@47.00
Rolled oats .... 55.00@57.00
Mill run .... 34.00@35.00
Linseed meal .... 77.00@78.00
Fish meal, per 100 lbs .... 4.80@ 5.00

POTATOES, ONIONS, ETC.

While potatoes are quoted somewhat higher, there is very little demand at this season. This, however, is normal at the holiday season and a stronger market seems probable in the course of a few weeks. Onions are very weak. There are no more fancy to be had and the ordinary run is selling at lower quotations. It is said that some sold at low as 50 cents. All the tomatoes in the market are now coming from the South. They are better quality than the recent receipts from this section and sell at a higher price. Celery is strong and in demand. The bulk sells from $4 to $4.50.

String beans .... 12@15c
Lima beans .... 8@9c
Carrots, per sack .... 85c@$1.00
Rhubarb, San Jose, per box .... $1.00@1.25
Pumpkins .... 75@90c
Cucumbers, hothouse, box of 30 .. $2.50@3.00
Eggplant, per lb .... 8@16c
Lettuce, per crate .... $1.50@2.00
Celery, bunch .... 20@25c
do, crate .... $3.75@5.00

Tomatoes, per crate—
Southern .... $2.50@3.00

Potatoes—
Fancy whites .... $2.00@2.15
Choice .... 1.85@1.90
Sweets, per sack .... 3.50@3.75

Onions—
Yellows .... 60@90c
Australian Browns .... 60@90c
Garlic, new .... 20@25c
Green corn, Alameda, per sack .... Nominal
Okra, per box .... None

BEANS.

Beans continue to be more or less of a drug on the general market. No demand from any quarter has developed, and while only a few descriptions are marked at a lower level, nearly all the prices quoted could doubtless be shaded if there was a prospect of a sale. There is absolutely no life in the market.

Bayos, per ctl. .... $7.25@7.50
Blackeyes, new crop .... 5.50@5.75
Cranberry beans .... 7.75@8.00
Limas (south, recleaned), new crop $10.40
Pinks .... $6.65@6.75
Mexican Reds .... $6.75@7.00
Tepary beans .... 5.00@5.50
Garbanzos .... 8.50@9.00
Large whites, new crop .... 8.20@8.30
Small whites, new crop .... 9.10@9.25

POULTRY.

The poultry market is in a normal condition as far as local shipments and prices are concerned. Shipments from the East are arriving in good quantity. This week's arrivals and scheduled arrivals before Saturday amount to 12 carloads. This will have a stabilizing effect and the general opinion is that there will be no changes in quotations until after Christmas.

Turkeys, live, young spring, lb .... 36@38c
do, old .... 35@36c
do, dressed 45c
Broilers, 1½ to 2 lbs .... 39@42c
do, 1¼ lbs 43c
do, ¾ to 1¼ lbs 45c
Fryers 35c
Hens, extra, per lb., colored 33c
do, Leghorn 33c
Smooth young roosters, per lb. (3 lbs. and over) 33c
Old roosters, colored, per lb 24c
Geese, young, per lb .... 32@35c
do, old, per lb .... 30@32c
Squabs, per lb .... 65@60c
Ducks .... 30@32c
do, old .... 27@30c
Belgian hares .... 23@24c
Jack rabbits .... $3.25@3.75

BUTTER.

Extra butter continues to advance in price, 64 cents being established as the week's price on Monday of this week. Prime firsts were again quoted this week, the price 63½ showing an advance of 4½ cents from the last quotation of ten days ago. Storage butter is becoming scarce in the local market and some inquiry has been made for the Australian butter, whose arrivals a year ago greatly relieved the market at that time.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	63	63	63	64	64	64
Prime first	..	..	..	63½	63½	63½
Firsts	58	58	58	Nom.	..	..

EGGS.

Extras and extra pullets dropped 5 cents last Friday, on the development of weakness in the Eastern market. The lower prices in New York brought about a temporary panic in the local exchange. Somewhat of a reaction came on Monday and some of the members made shipments to the Eastern market in expectation of a recovery there. The Eastern market is now much stronger and local prices for pullets are equal to the high price of last week, while extras are only a cent and a half lower.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	81½	76½	76½	77½	79½	80½
Extra 1sts	81	Nom.	..	..	..	..
Firsts	Nominal.					
Extra pullets	78	73	73½	75	78	78½

CHEESE.

The cheese market continues strong at constantly higher quotations. While the demand is not very vigorous the receipts are comparatively small and not more than the trade is willing to absorb, even at present prices.

Fancy California flats, per lb 36½c
Oregon triplets, fancy 38½c
Monterey cheese .... 26@29c

FRESH FRUITS.

The holiday demand for fruits is normal, but large enough to justify dealers in changing quotations. The commission men report a good demand for apples, but other fruits are not in especial demand.

California apples .... $1.00@2.00
Northwest apples .... 2.00@3.75
Winter pears .... $2.00@3.00
Persimmons .... 1.00@1.50

CITRUS FRUIT.

Mandarins are quoted somewhat lower, but otherwise there has been no change in the quotations of citrus fruits. The season's demand for oranges is excellent, while other citrus fruits are more or less neglected.

Oranges, navels .... $3.00@5.00
Mandarins .... 1.50@1.75
Tangerines .... 2.50@3.00
Lemons, fancy .... 4.50@5.00
do, choice .... 4.00@4.50
do, standard .... 3.50@4.00
California limes 1.50
Grapefruit, new .... 2.25@3.00

HONEY.

The honey market is unsettled, with very little demand. Buyers are unwilling to make an offer for honey at any price, owing to the small demand.

DRIED FRUITS.

Apples this week were somewhat lower and some prime fruit was bought from the packers at 11 to 11½ cents. The market was fairly active at these figures. No other change in dried fruits is reported.

RICE.

Paddy rice, 1918 crop $4.32
Clear No. 1, 1918 crop, at mill 7.00

LOS ANGELES

Los Angeles, December 17, 1918.

BUTTER.

Continued light receipts caused a firm market the past week and what arriving was taken by the consuming trade at full old prices. Receipts for the week were 243,800 pounds, against 253,700 pounds the same week last year. Monday the San Francisco market advanced 1c on extras and Chicago and New York ½c higher, causing what little extra offered on 'change Monday to sell up 1c, and more could have been sold if here. The supply of fresh butter being light and no indication of an increase in the production in the near future and very light stocks, makes the situation a firm one. There was taken into cold storage the past week 13,583 pounds, mostly sweet butter, making the holdings now in cold storage 123,623 pounds, against 152,942 pounds the same week last year.

We quote—
California fresh extra creamery 62c
do. prime first 60c
do. first 58c

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon.
Extra	61	61	61	61	61	62
1917—						
Extra	46	46	45	45	45	46

EGGS.

There has been a sharp decline in this market from a week ago. With the Chicago and New York markets 5c to 6c lower than last week and the approaching of the laying season, caused buyers on 'change to hold back and insist on lower prices. The receipts of fresh ranch eggs by rail for the week were only 384 cases, against 648 cases the same week last year. The truck receipts continue to run about four times as large as the arrivals by rail, making the supply for the week 1920 cases, against 3240 cases the same week last year. To meet this shortage in the supply of fresh eggs there was withdrawn from cold storage during the week 6098 cases, bringing the cold storage holdings now down to 15,861 cases; this time last year 10,301 cases. There is still over 5500 cases more eggs in cold storage than a year ago and in another week the Christmas demand will be over and with the coming of the new year a marked increase in the receipts of fresh eggs may be looked for and lower prices anticipated.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon
Extra	75	75	74	70	70	70
Case count	70	70	70	67	67	67
Pullets	71	71	70	65	66	66
1917—						
Extra	49	49	50	50	50	55
Case count	47	47	47	47	47	51
Pullets	43	43	45	45	45	50

POULTRY.

There was a fair demand the past week for what coming in and all young stuff was higher. But few coming in. Turkeys and geese in fair demand and steady. Hens also unchanged and selling fairly. Ducks scarce and higher.

The following prices were agreed upon last Friday, December 13, and hold good until the coming Friday.

Broilers, 1@1¼ lbs 40c
Broilers, 1½@1¾ lbs 45c
Fryers, 2@3 lbs .... [illegible]
Roasters (soft bone), 3 lbs. and up 30c
Stags and old roosters, per lb 20c
Hens .... 28@32c
Tom turkeys .... 31@34c
Ducks .... 22@28c
Geese 28c

VEGETABLES.

Fresh vegetables are getting scarcer and higher every week. Green peppers are in good demand. Not many coming in. Tomatoes are also higher and what few No. 1 coming in are in good demand. Sweet potatoes are dull and weak. Cabbage dull but unchanged. Cauliflower coming in more freely and lower, but demand fair. Celery in good demand and higher. Garlic scarce and sharply higher. Potatoes coming in more freely; market is draggy. Onions are hardly so firm; poor stock is dull and lower. Squashes and pumpkins coming in freely and market dull. Lima beans out of season. Peas in light supply and the best a little higher.

We quote from growers:
Peas, per lb .... 9@12c
Bell peppers, per lb .... 9@10c
Chile peppers, per lb .... 9@10c
Potatoes, northern, per cwt .... $2.00@2.25
do, Idaho Russets, per cwt .... $2.00@2.15
Sweet potatoes, per cwt .... 1.75@2.25
Garlic, per lb 30c
Onions—
Australian Brown No. 2 .... $1.35@1.40
Australian Brown, per cwt .... $1.65@1.75
White Globe, per cwt .... 3.25@3.50
Cabbage, per 100 lbs .... .75@ .85
Celery, crate .... 4.00@4.50
Tomatoes, No. 1, lug .... $1.50@1.65
do, No. 2, lug .... .30@ .40
Cauliflower, standard crate .... $1.20@1.40
Hubbard squash, per cwt $1.00
Banana squash, per cwt 1.00
Pumpkins, per cwt .... .75

FRUITS.

A firm market and very good demand was had the past week for apples, which continue to make up most of the offerings of deciduous fruits. A few Japanese persimmons are coming in and the market for them is steady and firm. Guavas are no more.

We quote from growers.
Apples—
King Davids, 4-tier .... $2.75@3.00
Black Twigs, 4-tier 3.00
Baldwins, 4-tier 2.50
Red Pearmains, 4-tier 1.75
White Pearmains, 4-tier 2.00
Yellow Newtown Pippins, 4-tier .... $1.75@2.00
Bellefleur, 4½-tier .... 1.60@1.75
do, 3½-tier .... 1.85@2.00
Bellefleur, 4½-tier .... 1.75@1.80
Jonathans, Northwestern pack 3.00@3.25
Winesap, loose, per lb .... 5½@6c
Japanese persimmons, per lb .... 4@10c

WALNUTS.

Few walnuts are now to be had from first hands and they from independent growers and of low grades. Prices for such steady and demand fair. Culls are also selling fairly and bringing 14c to 15c a pound to growers. The association's deliveries have dropped down to four or five cars a week and the season will soon be over.

	1918	1917
Fancy budded	33c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

BEANS.

The market here is still dull. Very little buying the past week, and that local. No outside demand for any kind. The trade is holding back until after the opening of the new year.

Limas, per cwt.	$10.00
Large white, per cwt.	$8.00@9.00
Small white, per cwt.	8.00
Pink, per cwt.	6.50
Tepary, per cwt.	4.00
Blackeyes, per cwt.	4.50

HAY.

The market the past week was dull and weak. More coming in and under the influence of the increased supply buyers held back and only took such lots as were needed to do them from day to day. We quote f. o. b. Los Angeles:

Barley hay, per ton	$24.00@25.00
Oat hay, per ton	26.00@28.00
Alfalfa, northern, per ton	21.00@22.00
Alfalfa, local, per ton	22.00@24.00
Straw, per ton	9.00@10.00

COTTON.

The market the past week was a fairly good one, though it was void of excitement. The week opened lower under the influence of a bearish Government report, which was made public Wednesday of last week. It made the crop this year 11,700,000 bales, against 11,302,000 bales last year. This caused more or less realizing by timid longs. But at the lower prices there was fair buying. The current week opened with a good export demand caused by lower ocean freights and fair home buying, and prices ruled higher both in New York and New Orleans. In New York December closed at 28.80c and January at 26.84c. In New Orleans December closed at 29.10c and January at 27.35c.

Special Citrus Market Report

Los Angeles, December 16, 1918.

Now that practically all the navel crop has been shipped from the Tulare district, the returns show that the crop has been larger and prices lower than had been hoped for. Instead of about 1200 carloads, as per early estimates, shipments have run over 2000 cars—2037 up to December 10. It is thought the fruit has averaged about $3 per box to growers. Attention is now directed to Southern California, which will supply the bulk of the navels for the remainder of the season. The demand for ripe, well-colored fruit is strong, and the general range of prices has been from $4.50 to $5. A few lots of fancy stock have sold for as high as $7 and some off stuff has sold as low as $2.75. Owing to favorable weather conditions, a larger orange crop is expected in Southern California than earlier estimates forecast.

Lemons are strong in all markets and range from $3.50 to $4.75 delivered. It is reported from New York that a fair-sized consignment of foreign lemons is on the way.

Shipments to date total about 3000 boxes of oranges and about 1000 boxes of lemons.

Special Livestock Market Report

San Francisco, December 18, 1918.

CATTLE—The cattle market shows indications of weakness, and it looks as though the prices at which stockmen are holding their cattle will have to be lowered, as packers claim they cannot get their money out of beef at present holding prices. Calves are scarce and held at stiffer prices.

Grass Steers—
- No. 1, weighing 1000@1200 lbs. 12¾@13c
- do, weighing 1200@1400 lbs. 12@12¼c
- do, second quality 11@11½c
- do, thin 9½@10c

Cows and heifers—
- No. 1 9@9½c
- do, second quality 8@8½c
- do, common to thin 6@6½c

Bulls and stags—
- Good 6@6½c
- Fair 5½@6½c
- Thin 4½@5½c

Calves—
- Lightweight 11½c
- Medium 10½@10¾c

SHEEP—Sheep and lambs to meet present demands are coming principally out of feed lots. Some heavy lambs are coming on the market and are bringing about 14c here with the wool on.

Lambs—
- Yearling 12@12½c
- Milk 14@14½c

Sheep—
- Wethers 11½@12c
- Ewes 9@9¼c

HOGS—While hogs are still coming in freely, they are readily absorbed by the packers, who are now well equipped to handle all that may be offered.
- Hard, grain-fed, 100@150 16c
- do, do, 150@300 16½c
- do, do, 300@400 16c

Los Angeles, December 17, 1918.

CATTLE—There is no quotable change in this market from a week ago. At the same time its tone is weak in sympathy with markets East, that just now are burdened with heavy receipts. Choice fat steers continue scarce and are in demand, while thin and medium are dull.

Per cwt. f. o. b. Los Angeles—
- Beef steers, 1000 to 1100 lbs. $9.00@12.00
- Prime cows and heifers 8.00@ 9.00
- Good cows and heifers 7.00@ 7.50
- Canners, per cwt 5.50@ 6.00
- Calves, per cwt 8.50@10.00

HOGS—Under moderate receipts and the quality of logs coming in good caused killers to take what hogs arriving at steady prices. Receipts at Chicago and Kansas City the past week were excessive and only the support given the big packers by the government in contracts based on previous high prices has prevented a heavy decline.

Per cwt. f. o. b. Los Angeles—
- Heavy, averaging 275@350 lbs $14.00@15.00
- Mixed, 225@275 lbs 15.00@16.00
- Light, 175@225 lbs 16.00@16.50

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—More liberal receipts at the Eastern markets and lower prices there caused killers here to bid lower for lambs the past week. But at the lower prices there was a fair demand for both muttons and lambs.

Per cwt. f. o. b. Los Angeles—
- Prime wethers $9.00@10.00
- Prime ewes 8.50@ 9.50
- Yearlings 9.50@10.50
- Lambs 14.00@15.00

PORTLAND LIVE STOCK.

Portland, December 17, 1918.

CATTLE—Strong; receipts, 68. Steers, prime, $11.50@12.50; good to choice, $10.00@$11.50; medium to good, $9.50@10.00; fair to medium, $8.00@8.50; common to fair, $3.50@7.50; cows and heifers, choice, $7.50@8.00; medium to good, $6.00@7.00; fair to medium, $5.00@6.00; canners, $3.00@4.00; bulls, $5.00@7.50; calves, $9.00@11.00; stockers and feeders, $6.00@9.00.

HOGS—Higher; receipts, 185; prime mixed, $16.85@17.15; medium mixed, $16.50@16.85; rough heavies, $14.75@16.00; pigs, $14.00@15.00; bulk of sales, $16.85@17.00.

SHEEP—Firm; receipts, 24; prime lambs, $12.00@13.00; fair to medium, $9.00@11.00; yearlings, $10.00@11.50; wethers, $9.00@10.00; ewes, $6.00@8.00; rough heavies, $14.60@14.75.

Chicago, December 17, 1918.

HOGS—Receipts, 50,400; market slow, generally steady; bulk of sales, $17.35@$17.60; butchers, $17.45@17.50; light, $16.55@17.45; packing, $16.60@17.40; throwouts, $15.50@16.60; pigs, good to choice, $13.75@$15.00.

CATTLE—Receipts, 25,000; good weight steers and canner stock strong; other classes opening slow; calves, 25c lower; feeders, steady. Beef cattle, good, choice and prime, $15.25@19.75; common and medium, $9.50@15.25; butcher stock cows and heifers, $7.00@14.25; canners and cutters, $6.50@7.00; stockers and feeders, good, choice and fancy, $10.25@13.50; inferior, common and medium, $7.25@10.25. Veal calves, good and choice, $15.50@16.00; western range, beef steers, $14.25@17.50; cows and heifers, $7.00@12.25.

SHEEP—Receipts, 17,000; market, opening steady; lambs, choice and prime, $14.75@15.00; medium and good, $13.50@14.75; culls, $9.50@12.00; ewes, choice and prime, $9.00@9.50; medium and good, $7.75@9.00; culls, $4.00@6.75.

Our Christmas Wishes

If all the Christmas wishes of the publisher and editors of the Rural Press to you, dear readers, were printed in this issue it would be as big as all outdoors.

So we can merely take the space to send you a lighted fagot from our heart's fire to increase your own, and to express our deepest wish, which is that the evergreen of Rural Press service may never lose its charm for you, but, on the contrary, will become more fascinating and helpful every day.

When the Christmas bells
Ring out their message true,
Remember that in our hearts
There's a loving wish for you.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan. 2	34.50	50.40	35.25	50.16
" 9	39.41	51.08	36.90	50.00
" 16	35.83	52.33	37.00	50.50
" 23	36.91	52.50	35.00	52.00
" 30	38.48	53.00	38.87	51.83
Feb. 6	40.00	50.80	41.19	49.66
" 13	39.70	52.00	39.00	48.00
" 20	36.00	51.41	37.00	48.00
" 27	37.00	51.30	36.00	49.33
March 6	35.50	50.66	34.50	50.00
" 13	33.50	51.16	33.00	49.50
" 20	33.25	47.83	33.00	47.00
" 27	36.00	46.30	33.00	43.30
April 3	37.91	43.16	36.33	42.16
" 10	39.33	39.25	37.00	39.50
" 17	39.58	39.00	38.00	36.83
" 24	35.56	40.50	36.50	38.16
May 1	33.08	40.83	33.00	39.00
" 8	34.05	40.66	33.20	39.00
" 15	35.50	40.46	34.16	39.00
" 22	36.30	44.33	35.16	41.00
" 29	36.60	42.30	37.33	39.00
June 5	36.30	43.90	37.66	41.58
" 12	36.50	44.92	38.00	40.58
" 19	36.00	46.50	37.50	41.75
" 26	35.06	47.42	37.00	43.00
July 3	35.06	48.08	37.00	46.00
" 10	36.41	48.90	37.16	47.50
" 17	37.83	50.83	38.66	48.66
" 24	40.25	52.66	42.58	45.16
" 31	42.82	52.16	44.00	51.00
August 7	43.00	52.16	43.00	50.83
" 14	41.66	51.66	42.00	49.00
" 21	41.50	52.25	42.00	49.58
" 28	41.91	53.00	42.00	50.00
Sept. 4	42.10	53.00	41.33	50.00
" 11	42.00	54.90	41.00	50.33
" 18	45.00	57.80	43.00	51.67
" 25	45.00	61.33	45.50	56.17
October 2	44.90	64.75	45.91	58.00
" 9	44.00	64.50	46.33	59.33
" 16	46.25	62.50	47.00	60.00
" 23	45.41	61.75	46.50	60.00
" 30	43.50	60.50	44.83	59.50
Nov. 6	41.41	59.60	42.00	58.83
" 13	40.83	60.00	41.33	57.00
" 20	40.83	61.00	42.22	57.25
" 27	40.83	61.60	41.33	58.75
Dec. 4	41.70	62.60	42.00	60.00
" 11	44.50	63.00	44.60	60.16
" 18	46.00	63.50	46.00	61.01

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1917	San Francisco 1918	Los Angeles 1917	Los Angeles 1918
Jan. 2	38.10	52.80	37.00	48.16
" 9	37.91	60.91	38.16	50.66
" 16	41.83	65.66	40.83	55.00
" 23	32.50	65.66	33.12	58.00
" 30	32.08	61.25	33.02	54.00
Feb. 6	34.99	58.50	34.70	51.66
" 13	33.30	44.40	31.66	44.83
" 20	33.01	44.75	30.75	40.83
" 27	29.00	42.40	27.66	39.58
March 6	24.75	36.83	24.91	35.00
" 13	25.96	37.91	26.08	38.00
" 20	25.66	40.66	25.91	39.63
" 27	27.16	39.50	28.00	40.00
April 3	28.58	38.91	29.25	38.33
" 10	29.66	37.58	30.41	36.33
" 17	32.33	39.16	32.08	36.83
" 24	32.91	40.50	32.83	39.66
May 1	32.00	41.66	31.83	39.33
" 8	33.75	40.08	32.00	37.00
" 15	34.20	39.16	32.50	38.83
" 22	33.40	40.50	34.00	39.00
" 29	33.80	38.66	33.50	37.41
June 5	33.20	40.80	34.66	38.83
" 12	31.16	41.00	33.00	33.75
" 19	31.41	43.33	33.10	33.00
" 26	30.16	44.32	32.16	39.08
July 3	31.90	44.91	34.25	41.75
" 10	33.50	48.30	36.00	45.00
" 17	33.66	47.66	34.41	45.50
" 24	35.25	47.91	36.91	45.16
" 31	38.00	48.83	40.16	46.56
August 7	42.58	49.50	37.08	46.58
" 14	41.41	52.08	42.25	48.00
" 21	43.33	56.33	42.25	50.17
" 28	53.50	59.20	43.50	53.00
Sept. 4	43.80	62 40	43.58	56.33
" 11	45.08	63.70	44.91	58.67
" 18	47.83	61.30	47.83	59.00
" 25	47.58	60.17	49.50	55.67
October 2	47.00	65.42	50.83	59.75
" 9	47.10	65.08	51.50	60.00
" 16	52.59	71.30	54.50	62.66
" 23	54.83	78.88	56.16	70.33
" 30	56.16	86.41	58.00	79.33
Nov. 6	57.41	87.90	57.80	78.00
" 13	56.25	86.00	55.16	78.00
" 20	56.25	77.25	54.36	72.00
" 27	56.52	79.80	55.16	72.33
Dec. 4	52.70	82.00	52.16	73.83
" 11	50.00	82.08	49.66	74.33
" 18	53.50	79.65	52.50	72.33

United States Beet Sugar Crop, 1918

[Written for Pacific Rural Press.]

The following interesting resume of the beet sugar crop of the United States for 1918 is issued by the Bureau of Crop Estimates, December 10, 1918:

The production of beet sugar in the United States from the harvest of 1918 is estimated at 740,100 short tons. This estimate is based upon reports made before the close of the season and is subject to revision. The production in 1917 was 765,207 short tons. The area harvested in 1918 is estimated at 592,100 acres, or 72,697 acres less than in 1917. The area planted was 689,700 acres in 1918 and 806,600 acres in 1917. In 1918 there was 14 per cent of the planted acreage abandoned, and in 1917 25 per cent, which was the highest on record.

The beets worked in factories in 1918 are estimated at 5,822,600 short tons and were purchased at an average price to growers of $10.02 per ton, as compared with $7.39 in 1917.

The principal sugar-producing States, with their output for 1918, are: Colorado, 182,700 short tons; Utah, 118,000; Michigan, 117,600; California, 109.300; Ohio, 43.100; Wisconsin, 14,300; and all other States 111,000 short tons. Details concerning this report will be published in the Monthly Crop Report for December, 1918.

The acreage harvested in these States was: Colorado, 126,500; Michigan, 108,200; California, 102,400; Utah, 83,600; Ohio, 33,300; Idaho, 32,600; Wisconsin, 12,600; and all other States, 92.900 acres.

The beets worked in these States were: Colorado, 1,412,200 short tons; Utah, 1,012,900; Michigan, 873,700; California, 843,700; Idaho, 336,600; Ohio, 328.900; Wisconsin, 110,400; and all other States, 904,200 short tons.

STANISLAUS CROP ACREAGE INCREASED.

Stanislaus county's acreage of leading field crops for the harvest of 1919, as estimated for the Government by the Stanislaus County Board of Trade, are about as follows, compared with figures for crops harvested in 1917:

Crop—	Acreage 1917	Acreage 1919
Gyp corn	12,000	12,600
Oats	20,813	21,853
Barley	90,000	94,500
Rye	2,000	2,100
Rice	900	1,320
Sweet potatoes	1,300	1,300
Beans	17,000	30,000
Wheat	5,000	45,000
Total	149,013	208,673

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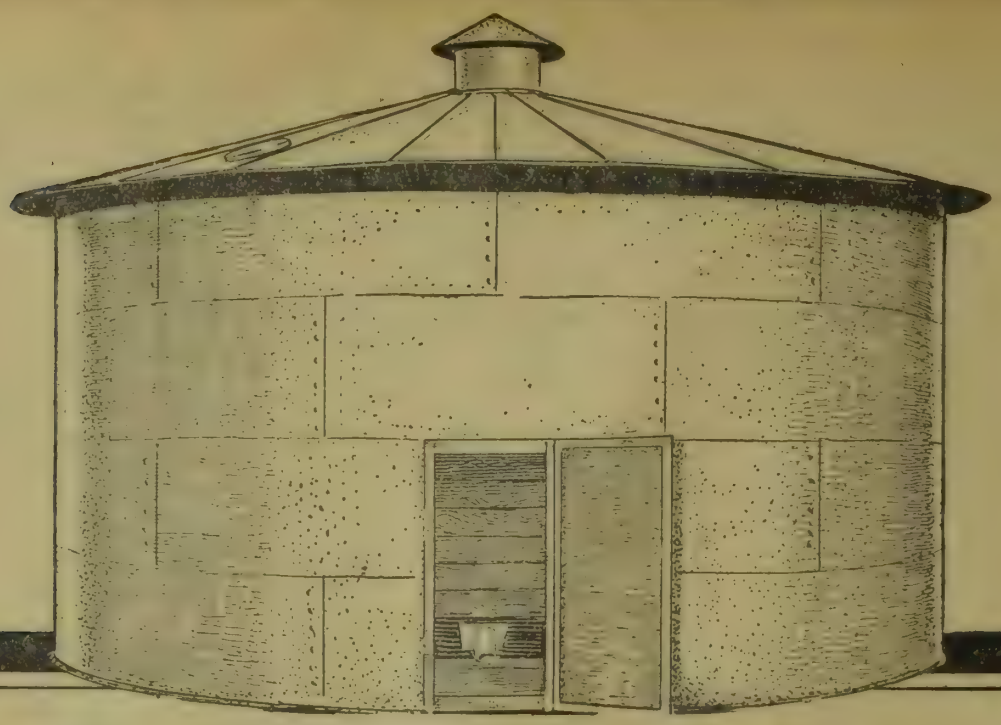
Berkeley, Cal.



Calco Metal Grain Bins may be erected quickly with unskilled labor. A hammer and a monkey wrench are all the tools needed. These fire-proof bins come in galvanized sheets, punched and shaped to fit. Galvanized stove bolts hold them in place. They are durable, rust-resisting, economic bins for grain handling. Capacities from 600 to 5400 bushels.

Save Grain

Handling grain in sacks causes waste—large waste. Experts find that 10% of all California grown grain is wasted through sack handling. One-tenth of each year's crop eliminated. One-tenth of the grower's profit—gone. One-tenth of the California crop of grain never reaches its market. Absolute waste. How? A little here and a little there.

Save Grain from Rain

Sacked grain in the fields becomes filtrated with dust—rain comes, the bottom of the sacks are spoiled—the grain often sprouts before it is shipped. How much grain did early rains cost you last year?

Save Grain from Vermin

Rats, mice, gophers,—little ways that destroy a great quantity of California's sun-drenched, golden crops. The holes rats and gophers gnawed in your sacks last year—how much did it cost you?

Save Grain from Leaking Sacks

Leaking sacks! They are ripped when thrown down, a snag, a nail, careless help—and the weak place gives way. How much did you lose this way last year?

Save on Labor

How about your labor problem? How many sack sewers, buckers and jiggers did you hire? You threshed and left the sacked grain in the field. You were trying to get the most out of your help.

Handle Grain in Bulk

Suppose you could harvest your grain *without* sacks, sewers, and jiggers. Suppose you could thresh your grain directly into a dump wagon—in bulk—and put it into a fire-proof metal bin on your own farm? You could let your *extra* help go and save those wages.

Save Sack Costs

You would save the entire cost of sacks. You would cheat the rats and gophers, the birds, the rain, fire and thieves. You would *save*—not waste.

Write for this Booklet

The Calco Metal Grain Bin is for the grain grower who watches the corners. It is rat-, mice-, gopher-, fire-, weather-, thief- and waste-proof. Write for the booklet, "Calco Grain Bins." It tells of the costs of handling grain by sacks and the saving in bulk handling. Just write your name and address on the edge of this page and mail it. It does not obligate you a particle. Do it NOW.

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Calco Metal Grain Bin

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THE PACIFIC RURAL PRESS

Forty-eighth Year

SAN FRANCISCO DECEMBER 28, 191. LOS ANGELES

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California Farm Products Biggest in History

Written for Pacific Rural Press by R. E. Hodges

FIELD CROPS have been produced in California during 1918 on the greatest acreage ever planted, and while the yield per acre was not in all cases up to normal, the value of the crops will, we believe, prove to be the greatest ever raised in the State, when they shall have been sold. Markets on some of the main products have been slow to open up due to the uncertainty of Government Food Administration regulations, especially since the armistice was signed. But the world shortage of food gives every promise of market improvement when market men know where they stand. The dry winter of 1917-18 following one of less than normal rainfall, was the cause of considerable reduction in yield, on both dry-farmed and irrigated lands. Costs of production jumped twenty to several hundred per cent and growers have been injured by lack of markets at corresponding prices.

Hay.

Hay has continued the chief field crop of California in acreage, yield, and farm value, though the acreage of alfalfa was considerably reduced last spring in favor of other field crops. In spite of the dry season, which normally throws much grain into hay, the crop of grain hay was much smaller than last year. Price levels of last winter and spring are not maintained, but the average farm price of hay of all sorts has been higher than in 1917, and there is reason to believe that the present crop will have moved at paying prices before next crop comes. The selling market for alfalfa hay seems to have better prospects than that for other kinds. A reason for the relatively low prices of alfalfa recently is the rain-damaged stuff that has been dumped onto the market.

Beans.

Beans stood second to hay in 1918 in estimated farm value; and the acreage and production were the greatest in our history. Serious losses in yield and extra cost of production were caused by the early fall rains. Considerable sales have been made at prices about 20 per cent less than a year ago, but most growers are holding for what looks to be a better market in the near future, when trading opens free from restrictions, provided the large Asiatic crop does not prove a greater influence than now seems probable.

CALIFORNIA FARM PRODUCTS, 1918

ORCHARD AND VINEYARD PRODUCTS.		
Deciduous Fruits	$39,639,500	
Citrus Fruits	52,133,500	
Dried Fruits (including Prunes, Raisins, Figs)	35,621,000	
Berries	6,847,500	
Olive Products	2,900,000	
Nuts	11,040,000	
Table and Wine Grapes	25,046,000	
		$173,227,000
FARM PRODUCTS.		
Barley	$37,568,800	
Beans	44,297,000	
Corn	4,788,000	
Cotton	14,500,000	
Hay	84,400,000	
Hops (estimated)	1,000,000	
Oats	7,010,000	
Potatoes	15,066,000	
Rice	13,056,000	
Rye (estimated)	400,000	
Sugar beets	8,453,874	
Wheat	16,622,100	
Vegetables (canned and fresh)	40,500,000	
		287,663,774
DAIRY PRODUCTS.		
Butter, 60,348,595 pounds	$27,199,112	
Cheese, 9,795,974 pounds	2,290,298	
Condensed and Powdered Milk, Casein, Milk Sugar	6,938,646	
Market Milk and Cream	15,500,000	
Calves produced on dairies	1,500,000	
Skim Milk and Butter Milk	1,000,000	
		54,426,056
POULTRY PRODUCTS.		
Eggs	$36,480,000	
Poultry	12,600,000	
		49,080,000
MISCELLANEOUS.		
Honey	$2,400,000	
Nursery and Florist Products	4,500,000	
		6,900,000
LIVESTOCK.		
Horses	$11,466,000	
Mules	1,897,500	
Milch Cows	21,641,250	
Other Cattle	25,064,235	
Sheep	37,642,560	
Hogs	15,340,500	
		113,052,045
Grand total		$684,348,875

Farm population of California (U. S. Census), 440,985.

Barley.

The greatest acreage of barley ever planted in the State did not yield the greatest crop, because of the dry season, and its plumpness is not up to normal. The abnormal prices which led to such a large acreage were due to abnormal conditions which did not continue, and barley is a drug on the market at what growers consider is the cost of production without any profit. Since several of the leading barley producing countries of the world probably did not produce much last season, there is hope for the marketing of the present crop. The outlook for the crop of 1919 is not clear, but Europe may call for all we will grow beyond local feeding requirements. The East is likely to retire from her plunge into barley and this will improve the chances for the California product.

Potatoes.

In tonnage produced, potatoes stand next below hay and barley. Discouraging conditions last spring caused decreased planting, and unfavorable summer weather reduced the crop prospects. Despite this and a decreased production throughout the United States, the late market has been draggy and prices to growers not far, if any, above cost of production. A large acreage of summer potatoes yielded light but sold well. Many of the older fields where quality is not the best anyway will be devoted to other crops next year. Considerable acreage in the Delta is being reclaimed to raise potatoes next year. Our potato shipments out of the State are increasing, but are still far less than our imports.

Wheat.

It is a trifle amusing and highly satisfactory this season to see the grand rush to plant wheat. Last season's planting was the largest in recent times, but high barley prices intoxicated many farmers and in their intoxication they could not see how wheat at Government prices could repay the costs of production. They said that their land would not grow wheat with any safety. This was before the dry season was assured. Now, wheat is replacing barley on much of the acreage that would have been planted to the former last fall. Some people claim they were urged by the Government last fall to grow barley, but as we remember, the Government was pleading for more wheat. At any rate, the

(Continued on page 719.)

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EDITORIAL STAFF

E. J. WICKSON - - - - - - - Editor
R. E. HODGES - - - Assistant Editor
R. H. WHITTEN - - - - - Livestock
JNO. J. FOX - - - - - Horticulture
SUSAN SWAYSGOOD - - - - Poultry

EDITORIALS

WHAT CROP-DRIVES FOR 1919?

WE ARE giving much space this week to crop reviews by our staff writers, who are making it their lives' work to know broadly and accurately the special lines of production which we entrust to them. They are all men of adequate experience and wide observation in California agricultural affairs and of long and intimate acquaintance with California producers and handlers of crops, whose good will and confidence they enjoy. Each of them uses these resources in the effort to set forth significant facts as to the present conditions and relations of the producing lines which he endeavors to describe and trace out. It is up to the discernment and judgment of the reader to select from their statements which facts and tendencies are significant under his own resources and conditions and therefore may become a guide in his undertakings. The writers do not undertake to function as prophets, but they do not hesitate to indicate what appeals to them as reasonable expectations on the basis of facts which they have discerned. The reader must determine for himself what ground he has for cherishing particular expectations with his own outfit of natural and economic conditions, capacity and energy. This is a proper man's job in farming: he must hold his own lines or steering-gear and must make his own crop-drive for 1919. All producers should do their best to roll up a grand surplus of staple and transportable foods in the coming year, for the outlook is apparently clear that the world will need them and will pay well for them; but what individual producers shall undertake each must decide for himself through the best judgment he can form, according to his own measure of his conditions and abilities to put up and come through. Our statements and our carefully compiled tables of statistics cover great facts of production which are significant in forming individual judgments, but we write no programs and boom no "good things." We have gone far enough in "reconstruction" to avoid the errors of the immediate past.

A YEAR OF GREAT ATTAINMENT.

WE HAVE classified the attainments and present conditions of California production in three main categories: General Agriculture, Animal Industries and Fruit Production. The first is fundamental, the second indispensable, the third intensive—the concentration of California's distinctive natural adaptations into products of highest popular estimation. These categories do not specify all the farming products of California, but nearly all others which are of commercial account will attach themselves more or less closely to one or the other of these and add to the importance of it in the reader's mind. California has a range of products which surpasses that of any other State and this fact must be assurance that measurements upon the three-fold basis indicated are really expansible without exaggeration. It is a safe estimate that the open-air industries, including forestry and mining and apart from what are recognized as factory-production, made an output of a billion dollars' value in 1918. It is true that this sum seems quite moderate and comprehensible since we have so much experience in figuring war costs and liberty loans, but it would amount, for this branch of industry alone, to an output of about $330 per capita—and when one remembers that it is that much for every Californian from grandpa to baby Ann, and a million city people also, it is surely heading somewhat high. City industries also saw great expansion during 1918 and achieved results are so gratifying that they are setting grave metropolitan bankers to jesting about the future like the grave-diggers in Hamlet. But that is out of our line.

GREAT TIMES COMING.

EVERYBODY is anticipating great development for all California things, now that the war shackles have been stricken off. The railways will return to their old business of inviting instead of avoiding travel. Uncle Sam is evidently minded to show the people that he really has unique talents as a promoter as well as a demoter and will make railway train lists and menu cards to suit the most fastidious tastes. Even ex-railway manager McAdoo himself, after having made a war-time economy record by scraping a million tons of waste oil from car wheels, has set a brilliant example of loosening up by selecting a winter residence among the sanctified millionaires of Santa Barbara. And tourist promoters say everyone is doing it and that it is much easier to interest the weary, war-profit money kings in wintering alongside the westward course of empire than to waylay them to the gulf resorts, where there is nothing to do but to count the blinks of an alligator. The 1919 crop of tourists, investors and settlers promises to be immense. By doing her duty during the war, by sending men and building ships and furnishing food with record-breaking speed, volume and variety, California has earned most desirable publicity. We are receiving more inquiry letters than ever before from abroad and from all parts of this country, asking whether the things they hear are true and production of the things they see is open to newcomers—and no doubt this is the common experience of Californians. California men and women and California productions have received the world's admiration during the war as never before, and the State will immediately begin harvesting the crop from such an honorable sowing!

COMELY CALIFORNIA!

REV. J. P. McQUAIDE of San Francisco, who is now a captain and wears the blue chevron for service in France, tells a reporter that while he was waiting in General Pershing's anteroom at Chaumont he was delighted to see upon the wall this placard:

Out here in California, where the orange turns to gold,
And nature has forgotten the art of growing cold,
There's not a day in all the year that flowers do not grow;
There's not an hour that rivers do not unfettered flow;
There's not a single moment that songsters do not sing,
And there's a constant conflict between summer and the spring.
Oh, just the joy of it were worth one's life to give,
Out here in California, where it's just a joy to live.

We are not sure that it is poetry, but we agree with Captain McQuaide that fact and sentiment are all right. And he imagines that General Pershing pasted the card himself. With this also we agree, for General Pershing was a Californian before he became a world hero, and being a Californian is a thing one never forgets to be thankful for!

CLOSE OF THE VOLUME.

THE general review effort to which we give special attention in this issue has required some slight changes in the arrangement of other more conventional matter which we hope the reader will find to his advantage. One thing is, however, thoroughly regular in this issue as the last of its volume and that is the index which occupies the last page. It has been prepared with unusual care and is the key to the contents of all issues for the half year. The volume is undoubtedly the best of the long series of which it is the ninety-sixth. It has had more work expended upon it and it has gathered tokens of appreciation and support beyond any hitherto enjoyed. We have two earnest hopes to express in connection with this fact: first that we have rendered service commensurate with favors received: second, that we shall be able to do better with the next volume.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Starting Fig Trees.

To the Editor: Should yearling fig tree cuttings be cut back when planted? If so, to what length? How should yearling rooted fig trees be treated when planted in orchard?—C. A., Guinda.

What are called "tip cuttings," or those which have a bud at the top end, are preferred to those made by cross-cutting and leaving exposed pith at the top. Tip cuttings can be made from the ends of long shoots if the wood is well matured, round and smooth, not angular and wrinkled. Short lateral shoots ending in a tip-bud are preferable and they are usually made ten or twelve inches in length and planted about two-thirds of their lengths below ground. If enough tip cuttings are hard to get, lower cuts can be used—carefully sealing the tops with asphaltum grafting wax. In cuttings of figs always cut through the joint where the wood is hardest. We would plant out yearlings about as they come from the nursery, not cutting back as with other trees, but removing shoots which start too low and forming the head about 24 to 30 inches from the ground. Very large yearlings can be cut back to about this height—waxing the cut ends carefully.

Pollination of Bartletts.

To the Editor: Please advise me through the Pacific Rural Press if it is necessary in a Bartlett pear orchard to plant also some other kind of a pear?—H. K., St. Helena.

On the basis of the experience of California pear growers for several decades during which they have successfully grown Bartletts in solid blocks, it must be answered that the introduction of other varieties to pollinate the Bartlett is not necessary. The question of whether somewhat greater crops can be had by cross-pollination is not definitely settled. Though some are planting with such expectation, others report that they cannot see any better bearing from Bartletts which stand near other varieties than from those which do not. We are always glad to receive results of observation on this point.

Seed from Hold-Over Carrots.

To the Editor: Will you please let me know if carrot seed saved from carrots left over from the year before and not transplanted make good seed. —A. A., Hollister.

If you mean whether seed you have secured that way will grow, we have no doubt that it will. If you mean to ask whether that is the way to grow good carrot seed, we answer that it is not, because it gives no chance to select the best type of roots for mothers and it does not allow you to get the land in good shape for the best performance of the roots you select to plant. In the course of time you would get back to the wild type by sowing and growing that way.

A Book on Lawn-Making.

To the Editor: Can you cite me to a text book on lawn-making in California or to any publication giving fullest details?—R. V., Sacramento.

We do not know of any monograph on this subject. The fullest details thereof, according to California practice, so far as we have observed, are presented in "California Garden Flowers," published by the Pacific Rural Press.

California Weather Record

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 24, 1918:

Stations—	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	1.00	11.60	15.13	56	34
Red Bluff	.38	14.45	9.03	62	34
Sacramento	.22	7.39	6.32	54	32
San Francisco	.28	11.02	7.25	58	43
San Jose	.26	9.91	5.45	58	30
Fresno	.09	3.84	3.09	64	32
San Luis Obispo	.22	7.37	5.09	62	34
Los Angeles	.02	3.98	4.39	68	46
San Diego	.62	4.14	2.64	64	42

Two Hundred Millions in Calif. Fruit Products!

Written for Pacific Rural Press by John J. Fox

TAKEN AS A WHOLE, the year 1918, which started full of promise, has been a profitable one for the growers. Some of the fruits have given exceptional results. Others with a light setting have been satisfactory. Where unusual weather conditions were responsible for a grievous loss to prune, raisin and fig growers, they were met with fortitude and a steady front. After two very dry years many trees and vines were in a very weakened condition and were at their lowest ebb when the fruit was ripening. As this report goes to press, orchard trees everywhere are in better condition than they have been for a long time and are in the fullness of vigor. The outlook therefor for 1919 is distinctly buoyant.

Cherries.

Cherries were an improvement over last year with an estimate of 72 per cent of a crop for the State as compared with about 25 per cent last year. Up to the time of the September rains cherry trees all over the State showed more or less distress after two dry years and a very low water-table. Not nearly so many cherries were face-packed as usual because of the expense, and some were shipped in lugs. On local markets good blacks went as high as 15 cents. The ready movement of cherries throughout the season was somewhat fluctuating owing to the difficulty experienced in getting car service with the usual promptness.

Apricots.

The crop was a bit shy on apricots this year through the State with 74 per cent of a crop on an increased bearing acreage of 1,250 acres in excess of last year's returns. The demand for apricots was fair, the packed fruit ruling around $1.25 a crate and going as high as $2.00. The embargo on dried fruits put a crimp in the market so far as moving stock was concerned, though the Prune and Apricot Association cleaned up the entire hold-over at prices very little below the previous year's average as we have recently explained. The average ruling price for the year was about 14½ cents on dried stock. Apricot pits sold at about $40.00 a ton. Improving conditions should lead to increased plantings where the apricot is known to thrive and where it has been tried out. Apricot trees throughout the state are in excellent condition now.

Peaches.

In many sections the crop ran light but the crop for the State totals up 73 per cent of a seven-year average. Prices of fresh fruit throughout the year were satisfactory. Perhaps $37.50 a ton on all varieties will not be far out. Tuscans were selling as high as $62.00 at the ranch and 4 cents and better on the market. The peach growers by co-operation have placed the industry on a pretty solid foundation again, which is reflected by the confidence with which men are going ahead and planting out new acreage. Many other old peach orchards are being kept going because of the goodly prices obtained. The dried stock ranging around eleven cents was almost all saved before the rain.

Berries.

Strawberries, blacks and logans yielded pretty close to a 95 per cent crop this year and the demand and prices kept up throughout the season. At the height of the season strawberries sold at $7.00 to $9.00 per chest; blackberries at $6.00 to $7.00; raspberries at $9.00 to $11.00 and loganberries at $8.00 to $10.00. There was practically no loss of fruit from rain, heat or any other weather condition. In the Sebastopol section (where 80 per cent of the berry business of Sonoma county is handled), canning stock averaged $100.00 a ton to the grower and shipping stock from $200.00 to $230.000 a ton. Lawtons averaged 20 per cent higher than last year; Mammoths 40 per cent, while logans beat them all.

Pears.

Pears are credited with 82 per cent of an average crop. The stock brought to the grower an average of $70.00 a ton.

The area in bearing pears now shows an increase over last year of 7,500 acres. Ten to 11 cents was obtained on dried pears similar to stock selling at 7 to 8 cents last year. Lake county pears went to 15 cents. The State Pear Growers' Association has lent stability and confidence to its members.

Pear trees came through this trying year in perhaps better condition than any other orchard trees. Plantings are steadily going forward—there is no boom but a steady growth. Winter and keeping varieties are being planted judiciously among the Bartletts and the demand will be carefully tried out.

Plums.

The demand for plums was steadfast throughout the season and prices were satisfactory ranging from $1.00 to $1.50 a box. Among the varieties that seemed most in demand were Formosa, Cal. Blue, Santa Rosa, Grand Duke, Wickson, Burbank, Beauty. President also seems a comer as are the Tragedy, Sugar and Standard prunes. The Satsuma is also liked. Vacaville seems to be fighting shy of late plums. The planting of young plum acreage for this season are about normal so far as we can gather.

Almonds.

This steadily growing industry has added 1,500 acres to its bearing area the past year. The crop averaged 63 per cent of normal. After two dry years many almond orchards suffered severely this year from attacks of red spider and mite, damaging to the trees and reducing the quality and size of the fruit. The September rains did comparatively little damage to the crop and were very beneficial to the trees—probably saved the life of many. Opening prices to the growers ranged from 15 cents for Drakes, 16 cents for Ne Plus Ultra, 17 cents for I X L's, while Nonpariels were quoted at 19½ cents. We are not yet able to get final prices to the growers.

There is plenty of room for this industry to expand, when our importations of almonds came to over 11,000 tons in one year.

Apples.

The State average crop of apples was 66 per cent of a seven-year average. The acreage shows a decrease, though the bearing area is increased by 4,726 acres. The fruit has been of good quality generally, standardization having improved orchard management as well as the pack. The demand may be said to have been well sustained throughout the season. Probably a dollar and a quarter per packed box would represent a pretty fair average return to the grower. Orchards were sold at $32.00 a ton at Watsonville "orchard run." At Sebastopol from $40.00 to $60.00 a ton was paid for shipping apples delivered to the packing house in lugs. This is 20 per cent improvement on last year's prices. Dried stock was quoted at 14½ cents in November, but receded to 11 cents a month later when fruit from the Southern and Eastern states was shoved on to the market. This has made it rather a disappointment to dryers and processors who bought at the advanced figures, 12½ cents on average sales.

Prunes.

In point of acreage this crop comes second (with peaches) only to oranges. Plantings are going steadily forward while the future of this great industry looks bright. The markets are being rapidly extended as the growers support their organizations to make this possible. Prices early in the season were definitely set by the Food Administration and a certain portion of the crop commandeered by the government for the use of the Army and Navy. On bases these prices ranged as follows: 31-41 at 10 cents; 42-51 at 9½ cents; 52-71 at 8½ cents; 72-101 at 8 cents; 102-121 at 4½ cents a pound; 122 and up at 4 cents, while 20-30 were on a flat rate of 15 cents a pound. Though the estimate of the year's crop only stood at 69 per cent, the new acreage coming into bearing would probably have topped this. But on September the 12th we received a visitation in the shape of excessive rains lasting from 24 to 36 hours which caught nearly half the crop on the trays and much of the remainder on the ground. This rain was so unexpected that only a small percentage of fruit had been stacked and the exposed fruit was saturated, carrying off the sugar in solution or else by fermentation. Practically all of the fruit stacked was saved while that that was fully exposed perished or was saved in such poor condition as to render it of small value. A great deal more might have been saved but for the dull, muggy weather that followed the storm. As it was, many growers only endeavored to salvage some hopeless-looking stuff as a patriotic duty. The Government messed things up for the growers, who are still suffering because of delayed action on the part of the authorities in the fulfillment of their contracts and the making of prompt returns therefor. Either that or release the fruit to the ordinary channels of trade—fish or cut bait.

Figs.

The condition of figs before the rains was quoted at 99 per cent. Throughout the State conditions of both trees and fruit was top-notch. However, the rains reduced the crop considerably in Modesto and Merced counties and took almost all in the northern valley counties. In the chief growing section of Fresno and Tulare counties not much damage was done. Extensive plantings are contemplated for the coming season.

Walnuts.

This has been a banner year for walnuts in every way—production, quality and prices to the growers. This important industry now has 47,272 acres bearing and 21,675 acres non-bearing. The Association price was 29 cents. Culls are bringing 14 to 15 cents a pound to the growers through process of manufacture. These prices range about 30 per cent higher than last year's fruit and the quality has probably never been surpassed. In two sections there was some loss occasioned by the walnut worm against which a campaign will be waged the coming year. Walnut growers have no complaint this year, for their 78 per cent of a crop as estimated has been exceeded.

Olives.

This year produced about 65 per cent of a crop for the State and a very large proportion of the crop was up to pickling standard. The rains came along at a good time for olives—invigorating the trees and plumping out the fruit.

Loss from frost was generally negligible. The producing area has increased over last year by 4,380 acres. War conditions put a temporary crimp in the marketing of ripe olives, but the growers' associations will now be able to pick right up where they left off. The demand for this article is increasing and there is good scope for its extension. The increased demand for the Greek olive was due to the impossibility of obtaining it from Europe. Trees for the coming year are in excellent condition. The average prices to growers would range from $150.00 to $175.00 a ton and picking cost about $40.00 at ton this year.

Lemons.

Lemons have had a banner year with 90 per cent of a crop and a strong demand resulting in good prices. There is a reported increase of 7,000 acres in bearing. Nothing untoward has to be chronicled against this industry for the year. They are believed to have averaged the grower from $2.50 to $3.00 a box.

Oranges.

The orange crop for the year was estimated at 85 per cent of a crop, though it is doubtful if it will reach this owing to some loss from drops and splits. The latter are being used in the making of marmalade. The great orange industry that has helped to make California famous is still steadily growing in magnitude. The bearing area exceeds the report of last year by 4878 acres. Average returns are up to expectations, generally speaking. Returns to the growers are estimated at about $3 a box. Though some off-colored fruit has returned less than half of this, yet a goodly amount has yielded far more. A readjustment of the marketing test for oranges is expected to be arrived at before another season and one, it is to be hoped, that will work out satisfactorily in all orange districts with their varying conditions and seasons.

Raisin Grapes.

The raisin industry centered at Fresno is probably the largest concentrated dried fruit undertaking in this or any other country. And, like a snowball, it is gaining in size and solidity as it rolls steadily on. Since the growers have associated themselves together—all pulling in one direction—it seems that the more raisins they produce the easier it is to find a market for them.

This year, with a heavy crop in prospect and price set by the Government, everything was practically cut and dried before harvest. And before the rains came the major portion of the seedless grapes were harvested and the rest stacked in safety except in the northern counties. Then came the rain right onto the curing Muscats, which resulted in reducing a 200,000-ton crop to an estimate of 160.000. This includes the 75 per cent loss on seedless raisins experienced in the northern Sacramento Valley, which is not a good Muscat region in competition with the Fresno section. The prices this year were fixed at 5½ cents for Muscats, 6¾ cents for Thompson Seedless, and 6½ cents for Sultanas. Quite a quantity of the rain-damaged Muscats were salvaged and are labeled C grade, these bringing 3½ cents, we understand.

Table Grapes and Wine Grapes.

This has been a really wonderful year for table grape shippers, beating all records, which this year was harvested from some 70,000 acres. The crop was strong and well set and very little damage was effected by the rains, except where foliage was very heavy or very light; but even this was small. With some 16,500 carloads of grapes shipped for the season, with an average of perhaps $60 a ton to the grower loose, the table-grape men had every reason to be satisfied with the season, as was mentioned in a special article appearing in the Pacific Rural Press of December 14. Many of the grapes shipped were sent forward unpacked and the fact that wine grapes commanded such large prices in the Eastern market explained the use for which they were intended. The grape industry is one of such magnitude and one for which our great State is so pre-eminently fitted that the writer feels that everything possible should be done to realize its benefits.

Seen From the Livestock Observatory

Written for Pacific Rural Press by R. H. Whitten

HERE WE ARE on the threshold of the new year. In the business world it is customary at this time to take inventory of stock on hand, to reckon profit and loss, to look back over the year and from the experiences gained lay plans for the new year.

And why should we not do the same in the livestock world? Successful business men take plenty of time for reflection; time to study conditions and problems; time to lay sound plans. Why should we not do likewise? Farmers, as a rule, do not think enough; they just drift with the tide. But a good business man develops foresight; he is able to reason from cause to effect, and by studying past and present conditions he can tell pretty nearly how to lay his plans for successful future operations. So let's be good business men of the livestock world and study the situation at close range.

Our review this year must necessarily be different from that of previous years, not only because conditions have been abnormal but particularly because the ending of the war has brought us face to face with an entirely new set of conditions. Consequently, in determining where we are at and what we should do, we must take into consideration the conditions existing before the war as well as during the past year; also the after-war foreign demands as well as our natural home requirements—that is, so far as they affect the situation here on the Coast.

GREAT PROSPERITY AHEAD FOR DAIRYMEN.

Dairy products will stand near the top of the list of foods needed in Europe, and while probably no California butter will be shipped abroad it is doubtful if the East can supply the foreign demand, and this means a good market in the East for California butter. Several carloads have been shipped East recently, scoring high and bringing good prices.

But can we supply this demand? No! It is doubtful if our production will even keep pace with home consumption. On the first of January there were 597,000 dairy cows in the State, and it is probable that about 40,000 were slaughtered during the year. This caused a shrinkage of 8,000,000 pounds of butter for the year, the production for 1918 being 60,358,595 pounds, as against 68,373,021 pounds for 1917.

It is estimated that if we consumed as much milk and dairy products as we should it would require 1,211,000 cows to supply the demand, which means more than double the number now in the State. It is pretty certain that the demand will steadily increase, for a national campaign is being conducted to educate people to the food value of dairy products and their absolute necessity in the human diet, and soon California organizations will be playing an important part in this campaign. This, together with prohibition, will increase the demand for milk, butter, cheese and ice cream, and the consumption per capita will be much greater than ever before.

Prices for dairy products have been higher than ever before. For example, butter at San Francisco averaged 45.07 cents for the year, as against 37.07 cents for 1917 and 32.12 cents for 1913, the last full year before the war. And while we produced 8,000,000 pounds less butter in 1918 than in 1917, prices ranged so much higher that the total value of butter for the year was $27,199,122, as against $25,345,879 for 1917. The same applies to all dairy products, the total value for 1918 being $54,428,056, as against $48,235,107 for 1917—an increase of $6,192,951.

While it cannot be expected that the high prices paid for dairy products during the year will continue permanently, still it is quite certain that they will never go back to the old level. There is talk of the Government regulating prices, but whether anything comes from this or not, the heavy demand that is bound to result from an increased population and an increased consumption per capita is bound to keep prices up to a point that will return the producer a satisfactory profit, especially now that feed is down to a reasonable price again.

However, there never will be a time when poor cows can be made to pay, and herds should be tested, culled and bred up. The future of dairying is safe if conducted along these lines.

BEEF CATTLE MEN LEARNED LESSON FROM DROUGHT.

It is impossible to get accurate down-to-date figures on the beef cattle situation. There were 1,701,000 head in the State at the beginning of the year, 1,636,000 on January 1, 1917, and 1,410,000 head on January 1, 1914. This shows a steady increase, yet not sufficient to keep pace with the increase in population. Furthermore, on account of short feed and unpromising weather conditions, liquidation was heavy early in the year, and as fewer cows than usual were bred the calf crop was short.

But as hard as the drought was on cattlemen it proved a blessing in disguise, for it taught them to prepare for dry years. They have built silos, raised silage crops, developed water and put their operations on a sound basis so that they will not be at the mercy of the weather.

Cattlemen also have learned that more money can be made from a few animals that have been bred for fast-growing, easy-fleshing qualities than from twice as many of the ordinary kind, and those who have breeding stock for sale report the demand for registered bulls greater than ever before.

The worst drawback to Great Success in the beef cattle game today seems to be the lack of adequate marketing facilities. Too big a share of the profits now goes to the local buyer. But active steps are being taken to perfect a marketing organization, and probably before the end of the year we shall see this trouble remedied.

Prices paid for steers have been high—going considerably above $13. They may drop a little, but there will be a sufficient margin between feeding costs and market prices to guarantee cattlemen a substantial profit. Packers expect that the demand will be good and prices will continue quite near the present level for many months. O. V. Battles of Congdon & Battles said at the International Livestock Show that California would become a beef cattle paradise during the next decade because of its luxuriant forage and long season of open grazing. Here's hoping.

SHEEP RAISING STILL PROFITABLE.

Conditions in the sheep industry are a little different. Because of the Government demands for wool and the exceptional prices paid, sheep values soared out of sight. On January 1, 1914, there were 2,551,000 sheep in California, valued at $3.80 per head. On January 1, 1918, there were 2,776,000, valued at $11.30. The number increased only slightly, but the value per head jumped almost

> *The Livestock industry is on the threshold of the greatest boom it has ever experienced.—John Fletcher, ex-Pres. Drovers' National Bank, Chicago.*

300 per cent. Values went still higher during the year, and we heard of grade yearlings selling for $18 and $19 as breeders. Market prices were correspondingly high, and lambs sold at $9 and $10, while before the war they were bringing about $5.

This year's prices would be ridiculous for peace times, and a big drop must be expected. The Government stopped appraising wool at the close of the war, as it has a stock of about 300,000,000 pounds on hand which is estimated to last at least fourteen months, so wool also will drop in price.

But the point we want to make is that even when normal prices are resumed there will still be good money in sheep. A flock should be kept on almost every farm to clean up the waste, and in proportion to the cost of feeding them they will prove the best money makers on the place.

HOGS STILL GOING STRONG.

The hog has been in the limelight more during the past year than any other farm animal, chiefly because of the open discussion regarding marketing conditions. Hog raisers have been emphatic in their demands for better marketing facilities, and while all of this agitation will probably lead to better methods, still at the present prices of feeds and hogs the latter can be marketed at a satisfactory profit.

The Food Administration has established a Chicago minimum of 17½ cents, and the 1-cent differential on this Coast will be maintained, thus making the Coast price 16½ cents at terminals. This is for hogs weighing over 150 pounds, and does not include stags, boars, thin sows and skips. San Francisco packers state that they expect this minimum to be maintained for many months, and they do not see any reason for a drop in hog prices for a long time.

Certainly there is no danger of an over-production. On January 1, 1914, we had 797,000 hogs in the State. In 1917 the number had increased to 994,000, but on January 1, 1918, the number had dropped back to 974,000. We have no figures to show the number now on the farms, but while the Government asked for an increase of 15 per cent we believe that hogs did not hold their own during the year. Feed was high last winter and only about 50 per cent of the usual number of sows was bred for spring litters. Probably a larger percentage was bred for fall litters, and after the big drop in barley a still larger number was bred for next spring's farrowing. Since barley went down and the fall rains came on there has been a very heavy demand for breeding stock, and especially for bred sows. The year 1919 will see many more hogs in the State, but packers say that they expect to be able to handle all that are offered, and at prices that will mean a satisfactory margin of profit to the raisers.

GOOD HORSES STILL NECESSARY.

In 1914 there were 498,000 horses in the State, valued at $100 each. On the first of this year the number had dropped to 468,000, and the price to $98. Probably there has been a still greater drop during this year, and while it may safely be said that the day of the small horse has gone, it is pretty certain that there will always be a place for the good draft horse.

It is useless to deny the value of the tractor. Under favorable conditions it may do most of the work on some ranches, but weather conditions often preclude its use, and in irrigated sections many farms are so interset by ditches as to make the tractor's use impossible. To insist that the tractor can entirely replace the horse is not justified by conditions or facts, and the well-bred, heavy draft horse will always be "sure of his job."

In 1912 there were 1957 registered stallions in the State. The 1918 report shows only 590, or about 30 per cent of the number in 1912. Probably we don't need so many as formerly, but as 20.5 per cent of those registered are classed as mongrels, cross-breds or non-standard, the number of real good registered stallions is getting dangerously low, and the tide should begin to turn.

BIG DEMAND FOR REGISTERED STOCK.

With the signing of the armistice between the Allies and Germany has come a rebound in the livestock breeding world that is astonishing even the most optimistic breeders. Top prices, average prices and group prices show a confirmation of our oft-repeated statement that after the war we would see the greatest demand for breeding stock ever known.

For some time we have been keeping our readers posted on Eastern sales and it will be remembered that records have been broken almost with the speed of a rapid-firing gun. Here in California breeders report an unprecedented demand for stock. Many are sold out and booked ahead; some are increasing their herds in order to supply the demand.

At the Liberty Fair the demand for breeding stock was phenomenal. One beef cattle breeder from Kansas City brought out 12 head of bulls and sold 10 at an average of about $1,100 each. Another beef cattle breeder booked orders for 30 bred heifers. An offer of $2,500 was refused for a yearling boar, and one firm made sales of hogs amounting to $14,500, and, to cap the climax, a Wyoming beef cattle concern booked orders for 130 heifers and five bulls.

That's the way things are going. The breeders who hung on are reaping their just reward for perseverance, and those who go into the game now will not be too late to win their share of the prosperity that is coming to every rancher who plays the game in the right way. It is no time for wild, reckless plunging, but the man who uses conservatism and sound judgment will find livestock raising the biggest profit-making proposition that looms up on the agricultural horizon today.

GOVERNMENT GIVING REAL ASSISTANCE.

He won't have to play the game so much alone as has been necessary in the past. Government and State agencies will work for him and with him. Permanent Government control of both packing houses and stockyards is being recommended by Secretary Houston. Stockyards at Los Angeles are promised at an early date, and probably San Francisco will fall in line soon.

Counties included in the California farm bureau system now cover 85 per cent of the farms of the State. Farm bureau sales are bringing farmers higher prices for their hogs, and feed is being bought at a considerable saving. Also the farm advisors are giving the farmers much valuable assistance.

Government and State have joined in fighting tuberculosis, hog cholera and other animal diseases. Losses from cholera have been reduced more than 50 per cent, and to encourage dairymen to have clean herds an accredited list is being published giving all herds that are free from tuberculosis.

A mill feed law will probably be passed at the coming session of our State Legislature, so that buyers will know what they are getting and will get what they pay for. Also, probably a law will be enacted that will put a crimp in the making and selling of oleomargarine as a substitute for butter.

During this period of readjustment many of the problems which have been vexing farmers will be solved; many of the obstacles in the way of successful livestock raising will be removed. The coming year will see great advancement along many lines. It is going to be the greatest year for livestock men in the history of the State. The signs of Great Prosperity have never before been so evident. Rainbows, rainbows everywhere.

California's Farm Production Over $1300 per Capita

Figures Complied by H. E. Pastor

CALIFORNIA CEREAL AND FIELD CROPS.

The tabulations below are compiled from the most reliable data available at this time. The figures for 1918 are the preliminary estimates only, but will be found to vary little from the finals. On a few of the commodities nothing like dependable data could be obtained, and the figures given express approximations only:

BARLEY.

Year—	Acreage	Production (bushels)	Price	Value
1914	1,402,000	42,060,000	$0.59	$24,815,000
1915	1,306,000	39,440,000	.62	24,453,000
1916	1,190,000	33,320,000	.95	31,654,000
1917	1,350,000	39,150,000	1.20	46,980,000
1918	1,500,000	34,060,000	1.13	37,568,800

BEANS.

Year—	Acreage	Production (bushels)	Price	Value
1914	215,000	3,875,000	....	.....
1915	225,000	3,868,000	$2.75	$10,637,000
1916	340,000	5,576,000	5.00	27,880,000
1917	558,000	8,035,000	6.20	49,817,000
1918	650,000	8,931,000	5.60	52,013,600

CORN.

Year—	Acreage	Production (bushels)	Price	Value
1914	60,000	2,160,000	....	$1,879,000
1915	64,000	2,624,000	....	2,309,000
1916	64,000	2,048,000	....	2,540,000
1917	75,000	2,400,000	....	4,440,000
1918	76,000	2,660,000	$1.80	4,788,000

COTTON.

Year—	Acreage	Production (bales)	Price, lb.	Value
1914	47,000	50,000	$7.0	$1,750,000
1915	39,000	29,000	11.2	1,599,000
1916	52,000	43,620	20.0	4,362,000
1917	117,000	67,000	28.0	9,380,000
1918	.....	100,000	29.0	14,500,000

HAY (tame).

Year—	Acreage	Production (tons)	Price	Value
1914	2,700,000	5,265,000	$8.20	$43,173,000
1915	2,350,000	4,230,000	11.20	47,376,000
1916	2,500,000	4,375,000	12.60	55,125,000
1917	2,400,000	4,560,000	19.20	87,552,000
1918	.....	4,000,000	21.10	84,400,000

OATS.

Year—	Acreage	Production (bushels)	Price	Value
1914	220,000	7,700,000	$0.53	$4,081,000
1915	211,000	6,963,000	.50	3,482,000
1916	200,000	6,500,000	.72	4,680,000
1917	196,000	6,860,000	.85	5,831,000
1918	178,000	5,696,000	1.25	7,010,000

POTATOES.

Year—	Acreage	Production (bushels)	Price	Value
1914	75,000	10,350,000	$0.70	$7,245,000
1915	78,000	10,140,000	.75	7,605,000
1916	75,000	10,575,000	1.40	14,805,000
1917	105,000	15,225,000	1.50	22,838,000
1918	93,000	12,555,000	1.20	15,066,000

RICE.

Year—	Acreage	Production (sacks)	Price	Value
1914	15,000	440,000	$2.00	800,000
1915	34,110	880,000	2.27	2,041,000
1916	58,000	1,200,000	1.90	3,031,000
1917	80,000	2,500,000	4.10	8,343,750
1918	110,000	3,750,000	4.16	13,056,000

RYE.

Year—	Acreage	Production (bushels)	Price	Value
1914	8,000	136,000	$0.85	$116,000
1915	8,000	112,000	.90	101,000
1916	8,000	104,000	1.16	121,000
1917	....	.....	1.66	.....
1918	....	.....	1.75	400,000

SUGAR BEETS.

Years—	Acreage	Production (tons)	Price	Value
1914	104,000	1,082,000	$5.45	$5,900,900
1915	122,737	1,249,111	5.86	7,400,000
1916	141,097	1,477,426	6.30	9,207,783
1917	161,909	1,331,548	7.60	10,119,800
1918	102,400	843,700	10.02	8,453,874

WHEAT.

Year—	Acreage	Production (bushels)	Price	Value
1914	400,000	6,800,000	$1.04	$7,072,000
1915	440,000	7,040,000	.95	6,688,000
1916	350,000	5,600,000	1.52	8,512,000
1917	375,000	7,425,000	2.00	14,850,000
1918	506,000	7,590,000	2.19	16,622,100

U. S. CEREAL CROPS FOR 1917-18.

Production for the United States as estimated by the Department of Agriculture:

	Bushels, 1918	Bushels, 1917		Bushels, 1918	Bushels, 1917
Corn	2,749,198,000	3,159,494,000	Buckwheat	18,370,000	17,460,000
Wheat	918,920,000	650,000,000	Rice	41,918,000	36,278,000
Oats	1,535,297,000	1,587,286,000	Kafirs	61,182,000	75,866,000
Barley	236,505,000	208,975,000			
Rye	76,687,000	60,145,000	Total	5,638,077,000	5,796,332,000

FRUIT AND NUT CROPS.

Figures on values are computed on average prices to the grower for the season.

ALMONDS.

Year	Production (lbs.)	Value
1914	4,500,000	$ 900,000
1915	7,000,000	980,000
1916	6,800,000	1,204,000
1917	8,000,000	1,375,000
1918	10,200,000	2,040,000

APPLES.

Year	Production (bu.)	Value
1914	6,000,000	$ 4,560,000
1915	4,690,000	3,986,500
1916	5,754,000	5,638,920
1917	5,592,000	6,484,758
1918	4,830,000	6,800,000

APRICOTS.
(Reduced to green basis.)

Year	Production tons	Value
1914	140,372	$ 8,422,320
1915	131,674	5,266,960
1916	90,680	5,894,200
1917	123,669	8,038,485
1918	145,500	9,457,500

CHERRIES.

Year	Production cars	Value
1914	166	$ 332,000
1915	205	414,100
1916	164	524,800
1917	330	1,320,000
1918	351	1,684,400

BERRIES (1918).

	Production tons	Value
Black Mammoth and Loganberries	20,443	$3,097,500
Strawberries	12,800	3,750,000

FIGS.

Year	Production (lbs.)	Value
1914	10,000,000	$ 350,000
1915	15,000,000	600,000
1916	16,400,000	1,476,000
1917	22,000,000	2,242,000
1918	18,000,000	2,700,000

(153 cars dried figs,)

TABLE GRAPES.

Year	Production cars	Value
1914	.....	.....
1915	.....	.....
1916	9,721	$13,026,140
1917	13,111	17,500,000
1918	16,355	20,046,000

WINE GRAPES.

Year	Production tons	Value
1915	.....	.....
1916	.....	.....
1917	382,000	$ 6,000,000
1918	.....	5,000,000

LEMONS.

Year	Production boxes	Value
1915	.....	.....
1916	.....	.....
1917	.....	.....
1918	3,667,000	$ 9,167,500

OLIVES.

Year	Production gal.	Value
1914	750,000	.....
1915	.....	.....
1916	900,000	$ 1,200,000
1917	862,500	1,192,000
1918	1,000,000	2,900,000

ORANGES.

Year	Production boxes	Value
1914	11,264,865	$18,990,725
1915	15,050,000	39,130,000
1916	17,500,000	47,250,000
1917	8,632,000	23,738,000
1918	14,322,000	42,966,000

PEACHES.

Year	Production (bu.)	Value
1914	10,387,000	$ 8,250,000
1915	9,768,000	5,372,000
1916	11,733,000	9,386,000
1917	14,151,000	14,151,000
1918	15,057,600	15,057,600

PEARS.

Year	Production (bu.)	Value
1914	1,958,000	$ 1,852,600
1915	1,650,000	1,897,500
1916	3,124,000	2,967,800
1917	3,523,000	3,523,000
1918	3,600,000	5,400,000

PRUNES.

Year	Production tons	Value
1914	56,000	.....
1915	92,500	.....
1916	78,500	.....
1917	109,000	$16,000,000
1918	29,000	5,221,000

PLUMS.

Year	Production cars	Value
1914	1,907	$ 1,044,200
1915	2,225	.....
1916	1,999	.....
1917	2,651	.....
1918	2,483	1,240,000

RAISINS.

Year	Production	Value
1914	196,000,000	$ 7,165,760
1915	260,000,000	.....
1916	264,000,000	15,000,000
1917	326,000,000	18,000,000
1918	321,000,000	27,200,000

WALNUTS.

Year	Production (pounds)	Value
1914	17,778,000	$ 2,940,000
1915	29,634,000	4,000,000
1916	29,244,000	5,533,000
1917	30,810,000	6,909,600
1918	33,000,000	9,000,000

CALIFORNIA FRUIT ACREAGE, 1918.

	Bearing	Non-Bearing
Almonds	30,648	22,764
Apples	46,310	14,085
Apricots	40,849	19,904
Berries	8,981	84
Cherries	7,957	5,445
Figs	6,017	5,631
Lemons	29,640	18,613
Olives	18,362	13,142
Oranges	118,699	50,451
Peaches	102,898	16,548
Pears	28,084	24,637
Plums	15,240	4,645
Prunes	90,157	41,457
Walnuts	47,272	21,675
Grape Fruit	1,562	1,892
Table Grapes	67,309	13,613
	659,983	274,679

Last year's total....840,316 acres
This year's total....934,569 acres

DAIRY PRODUCTS.

BUTTER.

	Pounds
1914	59,286,460
1915	67,549,409
1916	70,030,174
1917	68,373,021
1918	60,358,595

CHEESE.

	Pounds
1914	6,016,815
1915	6,249,775
1916	7,747,124
1917	9,236,663
1918	9,795,974

CONDENSED MILK.

	Cases
1914	274,096
1915	345,402
1916	379,212
1917	506,095
1918	1,050,903

LIVESTOCK IN CALIFORNIA. JANUARY 1. 1918.

(Bureau of U. S. Crop Estimates.)

Milch Cows—	Number	Price
1918	597,000	$72.50
1917	591,000	67.00
1916	568,000	69.00
1915	541,000	72.00
Other Cattle—	**Number**	**Price**
1918	1,701,000	$42.10
1917	1,636,000	38.10
1916	1,558,000	36.30
1915	1,480,000	39.30
Sheep—	**Number**	**Price**
1918	2,776,000	$11.30
1917	2,524,000	6.70
1916	2,450,000	5.00
1915	2,500,000	4.50
Swine—	**Number**	**Price**
1918	974,000	$17.50
1917	994,000	10.10
1916	947,000	8.40
1915	877,000	10.50

HOW A COVER-CROP STEALS MOISTURE

Henry Wheatley, a well-known fruit-grower of Napa county, keeps his orchards in a very high state of fertility by applications of manure and by cover cropping. He has a heavy crop of green stuff to turn under practically every year, and believes in getting it plowed in early, if possible. It is not always possible, The writer saw a very heavy crop of vetch and barley of his, between the rows of a 3-acre apple and peach orchard two years old. It had been an old horse corral and the ground was rich enough to use in a propagating shed. The crop we saw last spring was the result of 40 pounds of vetch and ten pounds of barley seed to the acre, and yet as hay it would have yielded four tons to the acre. Mr. Wheatley cut one-half of this crop green and fed it out to horses, after which the ground was immediately plowed and worked down. The other half of the crop was allowed to mature (as there was too much of it to use green), and after it had been mowed and hauled off the ground was thoroughly irrigated, then plowed and worked down along in April and later irrigated.

This is one demonstration, and it seems to be a valuable one, of the fact that results do not show that irrigation can replace winter storage of moisture. At least in this class of land, which is a strong alluvial clay loam of great depth. When the writer saw the young trees with the cover crop growing amongst them last spring they were very even in size. Today, at the end of the growing season, the trees where the crop was cut green and the ground plowed early are fully four times the size of those where the crop was matured. Both on identically the same land and having the same care after May first. This is an example worth seeing and is especially valuable to those men who insist on maturing their cover crops before turning under.

We have some more cultural examples to buttress our principle of early plowing—especially where irrigation can only be light or is not practiced at all. These examples will be reserved till plow time approaches and interest is centered in the work at hand. A couple of months from now will see a pretty general scouring of plow shares amongst orchardists.

Today (Dec. 16th) we noticed a number of fruit men plowing in the neighborhood of Santa Rosa, where there was a heavy growth of mullen and mustard which was yellow with bloom. Those heavy crops will be rotted in a month if turned under now, and there is every likelihood of a second growth to be turned under in March. At any rate those tough old weeds will not have a chance to get woody and interfere with the functions of the mulch next spring. And the ground will be in better shape to absorb the rainfall.

Squirrel Eradication Saving to the State

[Written for Pacific Rural Press.]

A report has been made by the County Horticultural Commissioners through the State Commission to the Insecticide and Fungicide Laboratory at Berkeley.

We gather from this report, through the courtesy of Prof. Geo. P. Gray, in charge of the Laboratory, that approximately 625 tons of poisoned barley were distributed in the State of California during the year immediately preceding June 30th, 1918. The average cost per ton was $350.00 or 17½c per pound, an estimated total amount of $218,750.00 being expended for poisons, other materials and barley during this period.

It is generally conceded that about 1 pound (1 qt.) of poisoned barley is sufficient for 40 baits, i. e., enough to poison 40 ground squirrels, or 80,000 baits to one ton. From records of the United State Biological Survey, for years engaged in the eradication of ground squirrels on government lands, National Forests and Public Domain, of the Rodent Control Division of the State Commission of Horticulture, in charge of ground squirrel eradication on state and school lands in California, we find that approximately 1 lb. (1 qt.) of poisoned barley is sufficient to poison 5 acres. Due to the fact that these records were mostly obtained on rough range lands, an adjustment of this estimate should be made to suit conditions prevailing on private properties over which the major portion of these 625 tons were distributed, to read 1 pound (1 qt.) poisoned barley to 2½ acres. Presuming that this contention is correct, we find that on this basis 1 ton would be sufficient for the control of ground squirrels on an area of 5,000 acres. As previously mentioned, 625 tons were used in California, which at 40 baits to the pound, or 80,000 baits to the ton, would mean 50,000,000 baits, or eradication completed over 3,125,000 acres.

Again: If for the sake of argument we contend that only one bait in ten was effective, in other words, destroyed a ground squirrel, the 50,000,000 baits would have accounted for at least 5,000,000 of the pests.

According to Prof. R. L. Adams' figures, squirrels on agricultural land destroy grains and other crops to the extent of $1.50 each per year. Squirrels on pasture and range land destroy feed valued at 25c each per year, or a mean average of the two of 75c per squirrel per year.

At least 5,000,000 ground squirrels doing 75c damage annually or a total of $3,750,000 were destroyed by the use of 625 tons of poisoned barley at a total cost of $218,750.00, allowing at net saving to the State of $3,531,250.00 by Rodent Control operations during the past season.

WHY DO WE "KNOCK" TEPARIES?

A subscriber objects to the "knocks" we have been giving tepary beans. It is not our fault that consumers and dealers do not want them. We merely state the fact because it is our business to keep our readers informed. We would hate to lead anybody to plant teparies next year. We have suggested that some agency such as the Bean Growers' Association might put on an advertising campaign that would teach consumers how to cook them properly. Then if teparies were sold to consumers as "teparies" and not as "small whites," a market might be created for all that would be grown where other beans would not thrive.

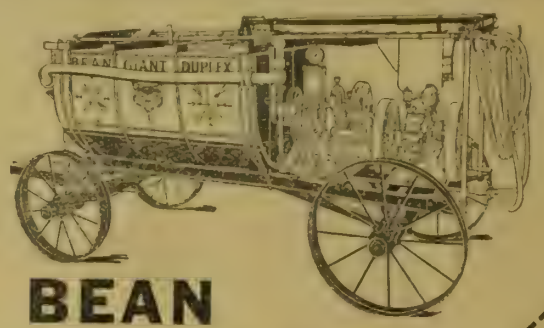
"THE BEAN IS THE BEST."

Winter Spraying Is Now On

And the growers who are cleaning up their trees are now the growers who are going to have the big crops—the good fruit—and the long profits at harvest-time next year. You can tell the growers who spray and those who don't by their profit balance at the end of the season.

Get a Good Sprayer

The Bean stands up to the work day in and day out—driving the material on at heavy pressure—and requiring no attention except to start and stop! Our catalog tells all about the many distinctive advantages are built into the Bean Sprayer



BEAN
Power Sprayers

Check the coupon. Write your name and address plainly, and send to us for a copy of our new catalog of Hand and Power Sprayers.

BEAN SPRAY PUMP CO.
211 W. Julian Street
SAN JOSE, CAL.

THE BEAN SPRAY GUN makes the largest power sprayer a real one-man outfit.

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Please send me your sprayer book with full information about Bean Sprayers.
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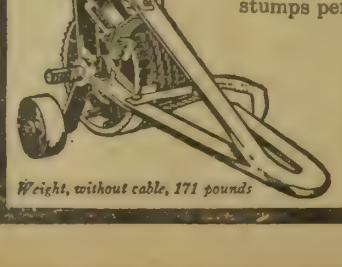
We specialize in selected SEED POTATOES: Certified White Rose, American Wonders, British Queens, Burbanks, Garnet Chilis, and other varieties. Also fancy, recleaned Alfalfa Seed. Write for prices.

WM. A. CURTIS & CO. = San Francisco, Cal.

Stop Wasting Money On Your Stump Land
Turn It Into Dollars

GRASP the OPPORTUNITY and put DOLLARS in your pocket by clearing your stump land. Stump land was never so valuable as it is TO-DAY. The "K" Stump Puller will do the work in less time and the least expense. Cost just about ½ of a horse power machine and about ¼ of the cost of dynamite. One man or woman with a "K" can out pull 16 large horses. One person single handed can pull from 50 to 150 stumps per day.

HAND POWER
K Stump Puller


Weight, without cable, 171 pounds

No stump too big for the "K"

works by leverage—same principle as a jack—one man can lift or pull 48 tons alone. Works easy as rowing a boat. Works on hillsides or marshes where horses cannot operate. Has 2 speeds and weighs 171 pounds. Made of the best steel. Absolutely guaranteed against breakage. Endorsed by U. S. Government officials. Highest bank references.

Send for my special offer and free book on Land Clearing

WALTER J. FITZPATRICK Box 12 182 Fifth St., San Francisco, Calif.

Horticultural Jottings

The death of County Horticultural Commissioner A. H. Taylor of Lassen is reported, on December 5th.

If this season's plantings equal those of last year, California will boast one million acres in fruit in 1919.

Imperial county is launching out in the production of grapefruit. She has 72 acres in bearing and 446 in non-bearing.

In the berry districts $36 a ton was paid for picking shipping stock this year and $28 a ton for picking canning stock.

From what we learn, this will be about the last year when paper trays will be used for drying raisins, except in an emergency.

The improvement in our system of county roads and highways will bring more cherry land within profitable reach of the markets.

H. G. Keesling has presented several pounds of the Keesling walnuts to the San Jose Chamber of Commerce to be placed on exhibition.

Miller & Gobbe's evaporating plant at Sebastopol is closed for the season. This firm packed and shipped 30 carloads of apples this year.

Imperial county seems to be launching out a bit in her grapefruit acreage. She has 72 acres bearing and 446 acres not yet bearing.

Plowing of orchards is already going forward where the weed crop is heavy. Much mustard is in bloom and this is being turned under near Santa Rosa.

The cold, snappy nights and white frosts lately have done very little damage to citrus fruit crops of Sutter county, most of the fruit being well matured.

H. C. Hauck of Kelseyville has 200 young Comice pear trees just commencing to bear. He reports a yield this first year of 60 boxes of fine, large fruit, which he sold at $3.50 a box.

The largest single order ever placed with a California nursery was that of Howard Reed, who has purchased 55,000 pear trees to be planted on his 500-acre ranch, which lies along the Yuba river, near Hammonton.

F. P. Roullard, Horticultural Commissioner of Fresno county, recently conducted a squirrel drive over a large section of his worst infested territory. A levy of 2 cents an acre was made to pay for the poison.

Sixty-two carloads of cantaloupes were shipped from Ripon the past year—a good beginning. San Joaquin county also shipped 2,706 cars of table grapes and 896 cars of wine grapes to the Eastern markets—happy New Year!

Orange Cove is packing and shipping oranges in earnest. Four boxes of oranges from this section took first prize recently at the Liberty Fair in Los Angeles. It was shown as a part of the Fresno County Chamber of Commerce exhibit.

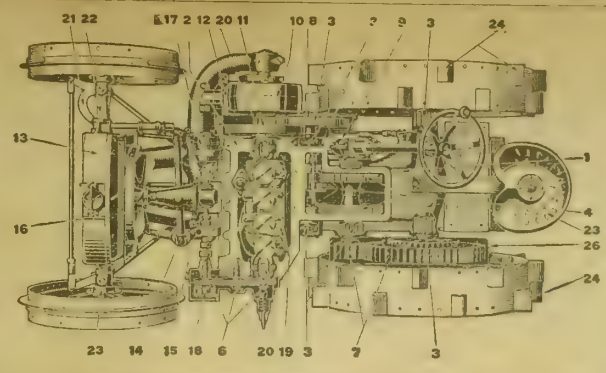
A successful grower volunteered the expression last week to the writer: "If ever, for any reason, my Marketing Association should cease to get the support from members necessary for its successful operations, I should get out of the business while the 'getting' was good."

The Elderwood packing house, near Woodlake, has shipped about 30 carloads of navel oranges for the season. The house will continue in operation for lemons and grapefruit. The latter is expected to furnish 20 carloads, after which will come the crop of Valencia oranges, which is expected to mature much earlier than usual.

As a result of examination held at Redding on November 29th, to fill vacancy caused by the resignation of Mr. Geo. A. Lamiman of Anderson, Mr. B. F. Stroup of Happy Valley has been appointed. Mr. Stroup is a well-informed young man with just those sterling characteristics that should make him a valuable asset to Shasta County, and we are assured that he will have the hearty co-operation and encouragement of horticultural interests in his jurisdiction.

Key to Plan View

1—One-Piece Main Frame—Holds all shafts, bearings and gears in proper alignment.
2—Motor Set Crosswise—Eliminates bevel gears, worm friction or chain drive.
3—Hyatt Roller Bearings at all important places.
4.—Cut Steel Gearing in transmission.
5—All Cut Steel Gearing between crank shaft and gear box.
6—All Cut Steel Helical Timing Gears.
7—Forged Cut Steel Master Gear and Bull Pinion with differential (fully enclosed).
8—Oil-Tight Housing for all gears between crank shaft and transmission.
9—Worm and Sector Steering Gear, enclosed.
10—Clutch Pulley on crank shaft.
11—Fly Wheel—Next to main bearing (normal speed 1050 R. P. M.)



Key to Plan View

12—Brake for belt or road work.
13—Cast Frame, 5-piece, Army truck type, non-clogging Radiator.
14—Sylphon Thermostat.
15—Centrifugal Pump.
16—Spiral Gear-Driven Fan; gears enclosed.
17—Dust Proof High Tension Magneto.
18—Speed Governor enclosed.
19—Pistons—Diameter 3¾ in. Stroke 5 in
20—Main Crank Bearings, 2¾ x 4½.
21—Steel Steering Knuckles.
22—Drop Forged Front Axle.
23—Dust Proof Hubs.
24—Detachable Tire Lugs—other styles furnished if ordered.
25—Spring Seat.
26—Dust Proof Housing for final drive.

Study This Chassis
of the Case 10-18 Kerosene Tractor

ABOVE we show a plan view of the Case 10-18, with an explanation of the details. Study this chassis—note its features.

In many ways, you will find the Case 10-18 far in advance of today's usual offerings. For instance, it is the first to offer a one-piece main frame with a four-cylinder motor, mounted cross-wise. This is merely one of the dozens of betterments. The one-piece frame casting constitutes a dust-proof housing for the rear axle, bull pinion shaft, transmission and the bearings for these parts.

This type of construction brings rigidity, reducing vibration, preventing disalignment. Power is conserved, while we multiply strength.

The belt pulley is mounted on engine crank shaft, doing away with bevel gears. It is part of the tractor—not an extra-cost accessory.

The Case Sylphon Thermostat insures complete combustion of gasoline or kerosene, and prevents raw fuel from passing by the pistons and diluting oil in the crank case.

The Radiator has a cast frame. The Core is copper—fin and tube non-clogging type.

A Case air-washer prevents grit or dust from getting into the cylinders.

These are but a few of the greatest advancements in tractor history. Case offers you today, NOW, what others will attempt later on.

The Case 10-18 is rated according to the conservative Case policy.

It develops nearly 14 horsepower on the drawbar and about 24 horsepower on the pulley. Thus we insure abundant reserve power.

Our booklet and specifications point out dozens of other advancements, all of which demand your consideration before you buy.

Write to us today for a copy. Or visit a Case dealer.

J. I. Case Threshing Machine Company, Inc.
Founded 1842
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CASE
KEROSENE TRACTORS

TREES
PEACH APRICOT ALMOND
PLUM PRUNE PEAR
APPLE CHERRY OLIVE
FIG ORANGE Lemon, Etc

More Than a Million High Class Fruit Trees per Year to California Planters

KIRKMAN NURSERIES

Established 1888
Incorporated - $100,000

Fresno, California

PERPETUAL CROPPING FOR COWS.

A mixture of barley and vetch planted just after the first September rain by a well-known San Mateo county dairyman was about two feet tall when he began cutting for green feed about the first of November, though the vetch had not thrived greatly. He continued cutting across the field, as feed was needed, and six weeks later the first strip cut was ready again. By mid-March he expects the grain to be four feet tall and it will be siloed. The ground will at once be planted to Indian corn to refill the silo when the barley and vetch are gone.

MORE AND BETTER POTATOES

Always on the alert for something better, some aid to agriculture, Aggeler & Musser Seed Company endeavored to grow potato seed perfectly free from disease, with only partial success; therefore, to make success complete, they have installed a large vat for the purpose of dipping all potato seed into a solution of Corrosive Sublimate, which will destroy the diseases of scurf and Rhizoctonia, making clean seed, which will produce 25 per cent more and better potatoes. This innovation is a great boon to potato growers in Southern California, where it is so much needed.

AGGELER & MUSSER SEED CO., the Seed House of the Southwest. Main Store, 620 South Spring St.; Market Store, 767 South Central Ave.; Mill and Warehouse, Sixth and Alameda.

WRITE FOR THEIR 1919 CATALOG.

AGGELER & MUSSER SEED COMPANY
620 So. Spring St. LOS ANGELES, CAL.

Here and There in the Fruit Business

(Written for Pacific Rural Press.)

Cross-fertilization of Wickson Plums.

As we have been asked twice lately as to the cross-pollenation of the Wickson plum we have been making special inquiries in our travels to find out if any new combination had been found. So far as we can learn no definite experiments have been yet made or published as an improvement on the Climax as a cross-pollenater. That and the Santa Rosa are used in Tulare county. James W. Mills. Farm Advisor of Solano county, has a tree that is half Climax and half Wickson which is loaded with fruit every year and has to be thinned. This is near Marysville. L. K. Marshall of Lodi has a Wickson plum among Tuscan Clings which he says bears every year. J. H. Clancy of Acampo said that on the Buck place, there used to be five acres of Wicksons and they were taken out some years ago because they did not bear, lacking a pollenizer. If any grower has found out an improvement on the Climax as a cross-pollenater of the Wickson, we would be glad to hear from him with definite figures of results.

To Save Waste in Grapes and Fruit.

The Contra Costa County Farm Bureau has adopted resolutions calling for the broadening of the work of the Viticultural Laboratories at the University of California.

It points out that increasing quantities of fruit are wasted each year that might be utilized for by-products and asks that the Board of Regents appropriate in its budget the necessary funds to carry out the work in the laboratories. Owing to Congressional legislation, there may be half a million tons of grapes next harvest for which no outlet is in sight. Other problems are also pressing including rain-damaged prunes or raisins and small or inferior fruit which might be made into jams, marmalades and other by-products if methods can be devised and demonstrated by the laboratories.

A Feather in Our Cap.

The French Minister of Agriculture has established an Insectory at Mentone, after plans and specifications furnished by the California State Commission of Horticulture. A recent French Bulletin that the methods formulated by our own State Insectory in the rearing and distribution of beneficial parasites have been adopted by the French Society for the Study of Agriculture at Bordeaux. A number of these insects have been furnished to the French government by the Sacramento Insectory in the past, but the increasing menace of the cottony cushion scale in Southern France made it desirable that quantities of its natural enemy—the ladybird (Novius Cardinalis) be available.

This Seems a Good Cross for Robes.

On the old Buck and Corey place at Acampo there is an orchard that is said never to miss bearing a crop. It consists of four rows of Robe de Sargent prunes and four rows of Tragedy prunes planted in alternate groups. J. H. Davis is the manager of this place. Another orchard of Robe de Sargent prunes that is a regular bearer belongs to J. H. Clancy of Acampo (formerly manager of the Buck and Corey place). He has 45 acres 24 years old that is chiefly Robe de Sargent, but it has several different varieties dotted about throughout the orchard, evidently enough for cross pollenation, for Mr. Clancy averages one and a half tons of dried fruit to the acre.

Avoid Injury by Field Mice and Rabbits.

It has been found that field mice do not attack young trees when the grass is kept away from the trunk. Keep a space hoed away around the young tree a foot and a half from the stem. Field mice generally avoid tunneling in ground that is bare of weeds and grass unless they are after peas and other seeds, but make no passageways where the ground is exposed.

Where rabbit fence does not surround a rabbit-infested orchard a good alternative is a protector made of half-inch mesh wire netting 24 inches high. This can be left on several years and will not interfere with the sun protector.

Grafting Over an Old Fig Tree.

An old White Pacific fig tree has been grafted over to Black Mission and White Adriatic in the Fly District of Napa, by Morton Duhig and H. J. Baade, Farm Advisor of Napa county. Mr. Baade reports 100 per cent stand of grafts, 16 scions were put in on the first of June, 12 at the end of June and two the latter part of July, every one of which started and thrived. The scions grafted on June 1st had fruit setting on October 20th. The stubs have been well sealed to protect them from fungus injury.

Orchard Conditions in Solano County.

James W. Mills of Solano county reports that quite a number of cherry trees died this year in his county—probably 5 per cent. The rains, however, have put the orchards into good condition and the buds are in good shape, giving promise for next year's crop. He says that many prune trees that had been grafted on old almonds have died this year and instanced one man who will lose three-fourths of his 12-acre orchard.

Peach Orchard Worked to Prunes.

George Ellicker of Coombsville (Napa county), worked over 700 six-year-old peach trees to French prunes three years ago on the writer's recommendation. Mr. Ellicker was a novice at the work, but by careful detail and watching of his grafts he had only one missed tree and practically all the unions are now grown over. This (third year from grafting) he harvested seven tons of green prunes which ran 47. From the 12 acres, he this year sold $1,400 worth of grapes which are interplanted. We were well pleased to see his successful young stand last week.

In Defense of the Grape Industry.

Theodore Bell, who has been to the National Capital as the representative of California grape growers, has just returned. He went to look over the situation to see what action should be taken to preserve this great industry. Bell said that he will bring an injunction suit to test the constitutionality of the Presidential proclamation forbidding the sale of alcoholic liquors after July 1, 1919. Beyond this he disclosed no plans.

Pear Blight and Thrips.

In the Rogue River Valley of Oregon a campaign is being directed against pear blight by spraying against Thrips, which are considered most active in disseminating pear blight. The spray used is Black Leaf 40 degrees—1-800, and distilled oil emulsion of the strength of 1½ per cent as already recommended by our own State Commission of Horticulture.

California Dried Fruit in Northwest.

Twenty carloads of California prunes and fifteen carloads of our dried peaches were handled last season by the Tri-State Terminal Co., which is owned by the Northwestern Farmers' Union, covering the States of Washington, Idaho and Oregon, according to President A. A. Elmore.

Dead Leaves Are Valuable.

Based on prices now demanded for fertilizers, 100 pounds of leaves contain fertilizing elements which would cost 56 cents if purchased in chemical fertilizers—besides the humus, add some acid phosphate to get the best results from them.

Fred K. Howard, Horticultural Commissioner of Kings county, reports that he has a squirrel free district ready for inspection. He also states that ten residents of the district will substantiate his claim, so that there is no doubt as to his ability to qualify at any time the Rodent Control Division is able to make the necessary inspection. It seems as if Mr. Howard is to be the first commissioner in the State to have a district officially declared squirrel free.

PLANT TREES

BECAUSE—

—Your raw land should be improved.

—Trees greatly enhance the value of your property.

—Our country needs greater fruit production.

—A fruit bearing orchard will furnish a perpetual income to yourself and family.

Why Buy Our Pedigreed Trees ?

BECAUSE—

—Our seedling stocks are properly selected.

—Our buds are taken from Record Bearing Orchards.

—Our trees are scientifically and intelligently budded.

—They are dug by improved methods which preserve a good root system.

—The climatic conditions of Fresno cannot be excelled for the production of well-matured trees.

—We accurately grade all our stocks. This insures uniform trees.

—In handling and packing our trees receive the most careful attention. They reach their destination in perfect condition.

You will want our big 1919 illustrated Catalogue and Price List—brim full of interesting and helpful information to the orchardist. It describes in detail all well-known varieties of deciduous, citrus and ornamental trees, vines and roses.

Free on Request.

The Fresno Nursery Co.

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Fruit Trees That Produce

Losse Blenheim Apricots

One of the finest 'cots in existence. The fruit grows to a uniformly large size—is of finest flavor and quality—and brings a big price in the market.

We offer the Genuine Losse Strain—budded from the original Losse orchard. Write for further information—also our latest price list.

Elmer Bros. Nursery

"The Nursery That Helped to Make Santa Clara Valley Famous"

76 So. Market St. San Jose, California

Farmers and Fruit Growers, Attention!

Order your Trees NOW from the biggest and best nursery on the Pacific Coast. Reliability counts.

(*Fifty years in business—1000 acres in nursery.*)

After November 15 we will be shipping every day to California.

PEARS PAY. "Chester Ferguson, of Yakima, Washington, realized an average of $2,016 per acre for pears this year." PLANT PEARS.

Write for our big descriptive catalogue and prices for trees delivered to your nearest railway station, freight paid.

Agents wanted to represent us in each locality. Address

OREGON NURSERY COMPANY Orenco, Oregon.

The War Is Won

But the consumer of Food
Must Still Economize

and the producer of Food
Must Fertilize

The Food Administration is at this very time warning our people of the danger of any let up in the economical use of food.

While food will be needed next year more than ever, there are thousands of acres of valuable land idle as a result of the war. Therefore every acre under cultivation must be made to produce its utmost.

Just as our soldiers must be well fed to make them efficient, so the soil must be well fed in order to make it produce larger and better crops.

GOLD BEAR
FERTILIZERS

are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products that contain the necessary elements to feed your crops.

SEND FOR OUR NEW FERTILIZER BOOKLET

Western Meat Company
SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

A MILLION DOLLARS TO PEACH GROWERS.

Three months' notes, given to peach growers as part payment on their crop by the California Peach Growers, Inc., are now due and the peach company is handing out checks that will aggregate a million dollars. The notes bear 7 per cent interest, but expire at the end of three months. The company does not need the money and is urging members to exchange their notes as soon as possible. The first year of the existence of this co-operative company it was glad to have the growers leave their money to assist with the financing. But the growers' organization is now well on its feet and does not need these additional funds. The above is part of a three-cent payment made on the peaches this fall. Growers will net about 11 cents a pound this year. Quite a change from a few years ago, before the peach growers organized. More power to them and success to the coming season.

HIGH-GRADE OLIVES AT OROVILLE.

L. W. Pray reports as follows: I will quote you grade of a ton of olives taken from the Moore ranch, just out of Oroville, as follows: 44 lbs., 10-16; 270 lbs., 11-16; 783 lbs., 12-16; 655 lbs., 13-16; 192 lbs., 14-16; and 56 lbs., 1 inch and over; no oil stock or smaller sizes than the above. This grade was compiled by W. Winser, manager of the Pacific Coast Products Co., which has leased the California Olive Growers' Association output and plant for two years. I saw these olives and will verify the grade, actually the finest fruit in olives I ever saw. Mr. Moore claims they are a special Mission variety and an early ripener, and I am satisfied that they are properly handled in the way of constant fertilizing and cultivation. We have the finest crop of olives here this season we ever had as regards size and quality.

PROPAGATION OF DATES.

Bruce Drummond, in charge of the U. S. Department of Agriculture experiment station at Indio, Cal., is forcing the growth of date offshoots by "plunging" them in a forcing bed consisting of one and a half feet depth of manure, covered with one foot of earth. The forcing house now in use is of canvas and the heat thus generated, together with moisture and plant food supplied, induces such a rapid and vigorous growth that offshoots cut from the parent tree in the spring are ready to plant out in the grove in the fall and will begin bearing dates four years thereafter.

There are about 1000 bearing trees of the original stock, according to Horticultural Commissioner D. D. Sharp. Offshoots are taken till the trees are about 10 years old—about nine or ten offshoots from a tree.

NURSERY STOCK MOVING.

Arthur E. Beers, Horticultural Commissioner of Merced county, sends the following report:

Kirkman's nursery at Athlone, Merced county, is busy digging over a million deciduous trees. The soil is just right for digging, but there is no surplus moisture for healing in. The trees are tied by the same man who lifts them from the ground, and the roots at once laid in a deep furrow, the trees inclining at a sharp angle. A ditcher throws freshly plowed moist soil over the roots and trunks. The broad wheel of a light tractor packs the soil on the roots, and the ditcher following, throws more loose soil on top. In no case are the trees out of the ground an hour. The trees so far dug show only two trees in a thousand affected with root knot. The trees show a fine, stocky, even growth.

In figuring on alfalfa irrigation, it is well to remember that loss of water by evaporation through the plants themselves in a well-developed field is greater than evaporation from an open water surface, as stated in a report of the Arizona Agricultural Experiment Station.

THE BASIS FOR ORCHARD PERFECTION — THE CROW TREES — TRADE MARK

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Better Lady Washingtons.

Several sacks of good looking Lady Washington seed beans were obtained in 1917 from Stockton by L. C. Quimby of Stanislaus county, and sold to farmers in his territory. They proved so superior, according to Farm Advisor A. A. Jungerman, that he urged these people to save their crops from this seed to plant in 1918. This season again showed their superiority. About 1000 sacks were raised this year. Vine growth was not so heavy as in the old strains, they had a heavier setting of pods, the beans are heavy, plump, and matured ten or twelve days earlier. One man's crop was observed with regard to moisture after the rains. The old strains had absorbed much and were soft, while the new kind were hard and dry.

Alfalfa Waxes After Waning.

As a more or less accurate indication of what happened in dairy counties of California in 1917-18, Stanislaus county, which had 117,906 acres of alfalfa in 1917 according to the county board of trade, had only 60,602 acres in 1918. Though alfalfa was plowed up and cows sold in order to raise beans and barley, sentiment is swinging the other way now; and unless the latter crops are moved at high prices before spring, a great additional acreage of alfalfa will be sown. Local seed dealers last fall sold three times as much alfalfa seed for fall planting as they did the year previous. Local dairymen have quit selling cows and are buying at advanced prices.

Expectations From Gyp Corn.

To the Editor: What should I realize from one-third share-rent on 40 acres of gyp corn grown on rather light soil well irrigated?—E. J. W., Escalon.

A yield of 8000 pounds threshed per acre is reported from within 30 miles of your ranch, but half that is a good yield. What the price will be, nobody knows, but unless you put hogs on the ranch to market your crop, it may not be worth over $2 per hundred by that time.

7,000,000 Tons of Seed Planted.

American farmers plant upward of 7,000,000 tons of seed per year, most of this being wheat, corn, cotton, etc., according to the U. S. Department of Agriculture. If seed were selected enough more carefully to add one pound of yield per ton of seed planted, the crop would be increased by 7,000,000 pounds!

Wheat Matured Before Barley.

Early Baart wheat planted last February by T. A. Owen of Stanislaus county yielded 18 sacks per acre and was followed by Lady Washington beans, which yielded 12 sacks per acre. The beans were planted in mid-June. Mr. Owen's neighbor planted barley a week before the Baart was planted, but the barley matured later than the wheat.

Oats and Barley for Livermore.

Two carloads of Texas oats and two cars of Chevalier barley from Salinas have been shipped into Livermore by the Independent Warehouse Co. for seed. The acreage of these crops in Livermore Valley will be greatly reduced by the extra wheat planting.

Potato Shortage.

Storage for potatoes should be dark and cool as possible without freezing. This will avoid sprouts and greened potatoes and will minimize the spread of rots.

Agricultural Notes

Early Baart wheat was harvested as grain last season in time to follow it with a bean crop in Stanislaus county.

Four tons of threshed gyp corn per acre sold before the rains at $77 per ton is reported of O. H. Perry in Stanislaus county.

Yolo county had a light yield of alfalfa because in many places they had no irrigation up to July 1 and a great deal was allowed to go to seed.

The hay market has been depressed by the sale of damaged hay coming by boat to San Francisco. But when this is cleaned up, prices should be better.

While a great deal of hay was spoiled by early fall rains, J. S. Bomberger of Stanislaus county figured that the alfalfa grew enough more to make up the loss.

Over four tons of threshed dwarf milo per acre are reported by Stanislaus Farm Advisor A. A. Jungerman to have been made by C. Thoresen in boys' club work at Patterson.

Support of labor organizations is pledged for the proposal to establish county experiment stations for deciduous fruit, as advocated by the Farmers' Union for many years, according to Secretary Fred Millard.

Last year a personal canvas of all Stanislaus county farmers showed there were 6008 acres of wheat. This year on December 5 Farm Advisor A. A. Jungerman stated that nearly 45,000 acres had been signed up.

Seed wheat trade has been far in excess of normal in the territory served by the Grange Co. of Stanislaus county, according to A. H. Turner. Seed oats and barley began to move to planters about the first of December.

Nowhere near normal alfalfa acreage has existed in Stanislaus county the past year, according to J. C. Loomis of the Bomberger Seed Co. But farmers here are learning that they can't compete with the Delta on beans and are consequently planning to sow alfalfa.

The farmers of the Haywards district have been organized as the California Pea Growers' Association. They plan to sell their product direct. At present there are approximately 900 acres under control of the association.

To protect cotton growers from the pink boll worm and other insects injurious to the cotton crop, large houses into which freight cars may be run will be built in several Mexican border towns and smaller ones for the fumigation of trucks and wagons.

The farm value of the 1918 corn crop in the United States was over $3,500,000,000, wheat almost $2,000,000,000, hay and cotton over $1,500,000,000 each, and oats over $1,000,000,000, according to the U. S. Bureau of Crop Estimates.

California has 34,000,000 acres of public domain, but the amount which could be turned over to returning soldiers for homesteads and other purposes has never been determined, according to a late announcement from the United States Land Office.

The Sunical Packing Company of Oroville intends to add a substantial extension to its canning plant. String beans will be added to its products next year. At the present time it is packing spinach, pumpkins, olives, tomatoes and peaches, salad oil and tomato paste.

Normally 150,000 sacks of grain are stored in Livermore warehouses, according to E. G. Wente of the Independent Warehouse Co., besides what is shipped out during the summer. This season there are only 1000 sacks and these are from one farmer who operates five ranches.

Out of a total of 73 incendiary forest fires in this State during the past year, at least 50 per cent were kindled by members of the I. W. W. and German sympathizers, according to statistics given out recently by R. F. Hammant, forest examiner, and C. V. Brereton of the arson squad of the United States Forest Service.

The Natomas Orchard Company, which has over 1000 acres of olives and citrus fruit near Folsom, took 45 tons of olives from 40 acres of six-year-old Manzanillos this year, worth $175.00 a ton, orchard run. A 20 acre olive orchard, 10 years old, yielded three tons to the acre, and a 15 acre orchard 9 to 10 years.

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The Killefer Monarch Cultivator has more varied uses on the ranch than any other tool we manufacture. As a Beet and Bean Chisel it has no equal. As an Orchard Cultivator, where deep cultivation is desired, it gives perfect satisfaction.

As an Alfalfa Cultivator, when fitted with our Special Alfalfa Tooth, it does excellent work, loosening the ground to a depth of from six to eight inches without injuring the stand. This deep cultivation enables the water to percolate to a greater depth than any cultivator on the market.

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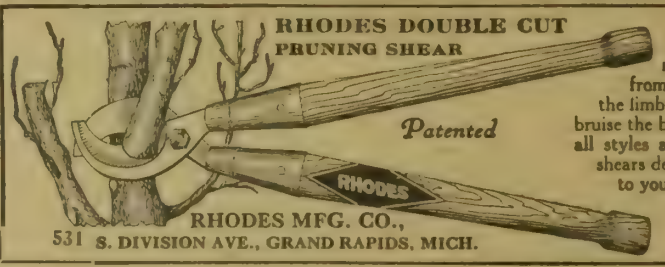

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SEND FOR OUR LATEST PRICE LIST

We have all the leading varieties of olives.

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The Name Guarantee a New Industry

[Written for Pacific Rural Press.]

George C Husmann, pomologist in charge of viticultural investigations says that the United States Department of Agriculture has successfully demonstrated that Zante currants (the currants of commerce) can be profitably grown in California, paving the way for the establishment of another very important and extensive grape industry.

An exceedingly important matter is that currant grapes are among the earliest grapes to ripen; so early that they can be dried and warehoused before the earliest rains occur even in districts where other raisin varieties are too late in ripening. In Fresno and other raisin sections, they can be dried and stored by the time other raisin grapes ripen so that the same labor can be employed to harvest both crops. Professor Husmann says that they should be grafted on resistant stock suited to the soil. To set a good crop of fruit, the vines need girdling at the proper time. The crop ripens from July 15 to August 15.

Mr. Husmann says that the government is ready to make distributions to growers of a supply of cuttings of the currant that is considered the only variety that should be grown. Requests for these cuttings should reach George C. Husmann, Pomologist U. S. Department of Agriculture, Washington, D. C. Not more than a four-pound package, including packing, may be sent, so in the letter of request to Washington, applicants are asked to state their willingness to pay express charges. The cuttings themselves will cost nothing.

Pear Market and Latter Conditions

Prices on pears early in the season were good. Many shipments at the midseason disclosed a distinct loss to growers, while high prices reigned at the end of the season. The losses at midseason did not result from glutting of the markets, but from delay in transportation and in insufficient icing, we understand. Owing to war conditions, claims are being made against the Railway Administration for such losses as are directly traceable to lack of ice.

The market for dried pears at present runs from 10 to 12½ cents a pound to growers. If it were not for the embargo on the shipment of dried pears to Europe just now, there would be a ready market there for all the dried pears held in California, as the Scandinavian countries are the chief consumers of dried pears. Growers are hoping that the embargo will soon be lifted, but it is impossible to make any predictions, as the powers that be have their own way of doing these things and information is impossible to obtain as to their policy just now. This same situation applies to dried apples.

A Future for Figs

[Written for Pacific Rural Press.]

It is likely that before many years the fifteen or sixteen million pounds of figs annually imported from Smyrna will be supplanted by the home-grown product. This is the opinion of the U. S. Department of Agriculture in a recently issued bulletin (No. 732).

figs in California is not far from

The annual production of Smyrna 2000 tons and within a few years this production will be greatly increased. Some 10,000 acres of Smyrna fig trees have been planted in the central San Joaquin valley since importations were cut off on account of the war.

Start Right to Grow More

NEVER before has there been so loud a call for more and still more grain, coming from all points of the compass. Never did you face so great an opportunity to help the world and yourself. Never were good tillage tools so necessary!

Good tillage implements—like **Deering** and **McCormick** disk harrows, peg and spring-tooth harrows, cultivators, etc.—make mellow, uniform seed beds, free from lumps, moisture-holding, allowing crops to grow to vigorous full yield. Real cultivation means more bushels and more dollars, and the dollars will pay for your investment.

Deering and **McCormick** disk harrows have these big, new improvements: The **Third Lever,** which controls the depth of penetration, regardless of soil condition. The **Exclusive Attachment of the Tandem,** which forces the tandem always to cut the ridges left by leading gangs, yet allows perfect flexibility at turns.

Remember the other tried and thoroughly-satisfactory features—built-in angle steel weight boxes; adjustable forecarriage; tall, hard oilers, convenient and protected; 4-wear wood bushings, improved scrapers, etc.

This year every added bushel counts doubly. Start right with right seed beds. See the local dealer and write us now about **Deering** and **McCormick** tillage tools.

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land similar to that which through many years has **averaged from 20 to 45 bushels of wheat to the acre.** Hundreds of cases are on record where in Western Canada **a single crop has paid the cost of land and production.** The Governments of the Dominion and Provinces of Manitoba, Saskatchewan and Alberta want **the farmer to prosper,** and **extend every possible encouragement and help to**

Grain Growing and Stock Raising.

Though Western Canada offers land at such low figures, the **high prices of grain, cattle, sheep and hogs will remain.**

Loans for the purchase of stock may be had at low interest; there are good shipping facilities; best of markets; free schools; churches; splendid climate; low taxation (none on improvements).

For particulars as to location of lands for sale, maps, illustrated literature, reduced railway rates, etc., apply to Supt. of Immigration, Ottawa, Can., or

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"Caterpillar" Disc Plows are heavy and strong, yet light of draft and easy to operate. They have made good, in years of service, where other plows have failed. They have aided tractor success and increased tractor capacity by lessening delays to the outfit. Send, today, for the "Caterpillar" Disc Plow catalog.

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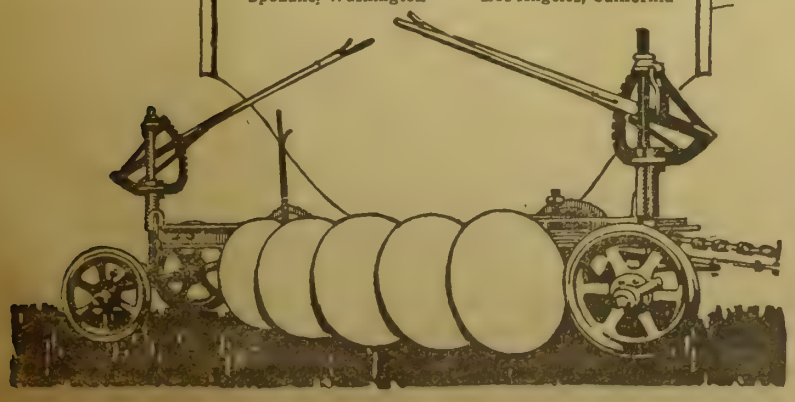

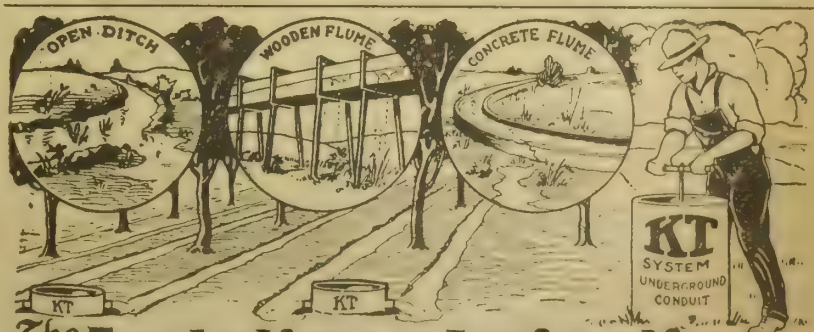

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of underground conduits, equipped with gates and valves. This provides for a perfect distribution of the water at the exact spot required, and at just the time it is needed. It also eliminates the constant losses resulting from evaporation, seepage and ditches choked with weeds—wasting time, water, land and money.

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"Originators of the Valve System of Irrigation."

Avoiding Loss of Grain After Harvest

[Written for Pacific Rural Press.]

With twenty million tons of food stuffs promised Europe by the President to feed the starving millions of devastated France and Belgium, it is highly important that American farmers continue in the war time effort to raise bumper crops. In the period of reconstruction, which began with the cessation of hostilities, food will play as important a part, as it has in the war time period just concluded. So much destruction of productive territory has marked the Hun's raid across the Rhine, and there has been such a general reduction in production of food supplies in Europe, that food will be in even greater demand for the next two years or more than when the armies were facing each other prior to November 11th.

PRESERVE BUMPER CROPS.

It is just as necessary to raise a bumper crop, and it is as important to prevent waste of food products through voluntarily following the Food Conservation rules, as before the cessation of hostilities. Preservation of food products, after they are harvested, to prevent loss from weather exposure, consumption and spoilage by rats, mice and other vermin, and fire losses, form an important part in this campaign for a more plentiful food supply.

LOSSES THROUGH INADEQUATE STORAGE.

All too frequently, after the farmer has responded in these past two years of strenuous endeavor in the producing of huge crops, tremendous losses have occured through inadequate and improper storage facilities. At a time when every grain of wheat has been considered on a parity, almost, with a grain of gold we have witnessed the heart-breaking spectacle of a million dollar grain loss in a wooden grain elevator at Brooklyn, N. Y., while it was awaiting "bottoms" to carry it "over there."

Such losses have come to be regarded as a concomitant of the grain business. Every year there are losses, that center the public's attention on the need for greater protection of the crop, after it is harvested.

GRAIN SACK LARGE WASTER.

While these spectacular losses are large, and important, the amount of wastage, in a percentage sense, of the total crop raised is not nearly as large as the almost unseen loss of California wheat and barley crops, between the thresher and the mill, due entirely to the antiquated methods of handling the State's crop. Experts who have made a life-long study of the California grain situation, and these include farmers, threshermen, warehousemen, and the grain buyers of the big milling companies, unite in saying the annual crop loss through handling California wheat and barley in sacks is often close to 25 per cent—one quarter of the grain raised in California lost.

SACK HANDLING RESPONSIBLE.

This tremendous crop loss is directly at the door of the old grain sacks. Leaking sacks—and all of them leak—are listed at the top of the loss charge, and in every one of the five handlings or operations between the thresher, and the mill, there is a distinct loss in weight, due to grain spilled through the sacks.

The custom of piling California wheat in sacks in the field, covered sometimes with a scant layer of straw, is responsible for another big loss through exposure to the weather. All too often the California grain grower is too busy to get his sacked wheat to the warehouse before the early rains. Too frequently the teams are required for other and apparently more urgent work. The result is the layer of sacks on the outside of the pile sunburns, becomes water soaked, and many, many times the shipment reaches the mill with the grain sprouting through the sack. This storage method also is resultful of moldy grain, and the filtration of dust and dirt through the sacks, on the lower tier of the pile.

RATS EAT AND SPOIL.

Rats, mice and other vermin can easily attack grain stored in sacks, and while these pests eat a lot, they spoil more, and in the eating they multiply. This is an important part of the matter. Remove the rat from his source of food, and a way of exterminating these expensive pests will be immediately apparent.

THEFT OF SACKS.

Theft of grain stored in grain sacks is a simple matter, either while in the field, pile, in storage, in transit to the mill, or while being transferred from car, boat, or warehouse in one of the five operations between the thresher, and the mill. A large loss always occurs in this way.

High labor charges for handling the grain in sacks, and excessive insurance premiums, because of its storage in such inflamable material, constitute another charge against the farmer, and his crop, which reduce his profits, and add to the cost of the wheat to be passed on to the consumer.

BULK STORAGE ALMOST UNIVERSAL.

These wasteful methods prevail only in California, Argentine Republic, and in the Australian wheat fields. All other wheat growing countries, even including the primitive farmer of Africa, have been storing their wheat in bulk for years.

METAL GRAIN BINS USED.

Easily erected metal grain bins have come into general use among progressive farmers throughout the eastern, middle western, and southern states, and in the last few years have been adopted by wheat growers of Oregon, Washington and Idaho, for the storing of wheat on the farm after threshing. The grain is handled in bulk by means of grain tight wagon boxes from thresher to bin, and transferred from bin to freight car or barge and from that to elevator, or mill bin, by means of portable steel elevators, at a minimum of expense, compared with the labor charges incurred through handling in sacks.

Metal grain bins are made of galvanized sheets of rust-proof iron, shaped and punched to fit. They are easily erected by unskilled labor, being held together by stove bolts.

ELIMINATE ALL LOSSES.

These metal grain storage bins absolutely eliminate the losses due to weather exposure, leaking sacks, consumption and spoilage by rats and mice, and practically remove the fire hazard. As a consequence of the economy of handling in bulk, with inexpensive elevators of the portable tubular steel type, transferring from thresher to bins in tank wagons, and from bins to elevators or freight cars in grain tight motor truck bodies for shipment to mill elevators, there is a large reduction in labor charges. Fire insurance premiums are lower. Losses by theft are eliminated completely because the grain is stored under lock and key on the farmer's own place, rather than left out, unprotected in the open field.

Sweet peas were largely planted around Eureka, Humboldt county, the day after the armistice was signed, anticipating renewal of the annual summer sweet pea carnival, which has been suspended during the war.

DUNHAM
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The Culti-Packer Fits Your Seed Bed In Record Time—

Would you like to cut the time of fitting your seed bed by 20 or 30 percent? A hundred thousand farmers will testify that you can do this very thing with the Dunham Culti-Packer.

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In nine soils out of ten, this will give you a finished seed bed without further work.

The soil will be fine and free from clods, all air spaces and loose spots will be firmed out and the surface will be a mellow mulch ideal for seeding or planting.

Not only will you save hours of labor but the crop will start sooner, grow faster and yield better because of the good condition of soil.

Ask the nearest John Deere Dealer to show you a Culti-Packer or to get one for you if he has none in stock.

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56 Pages on soils and their tillage. Illustrated with over 90 field photos.

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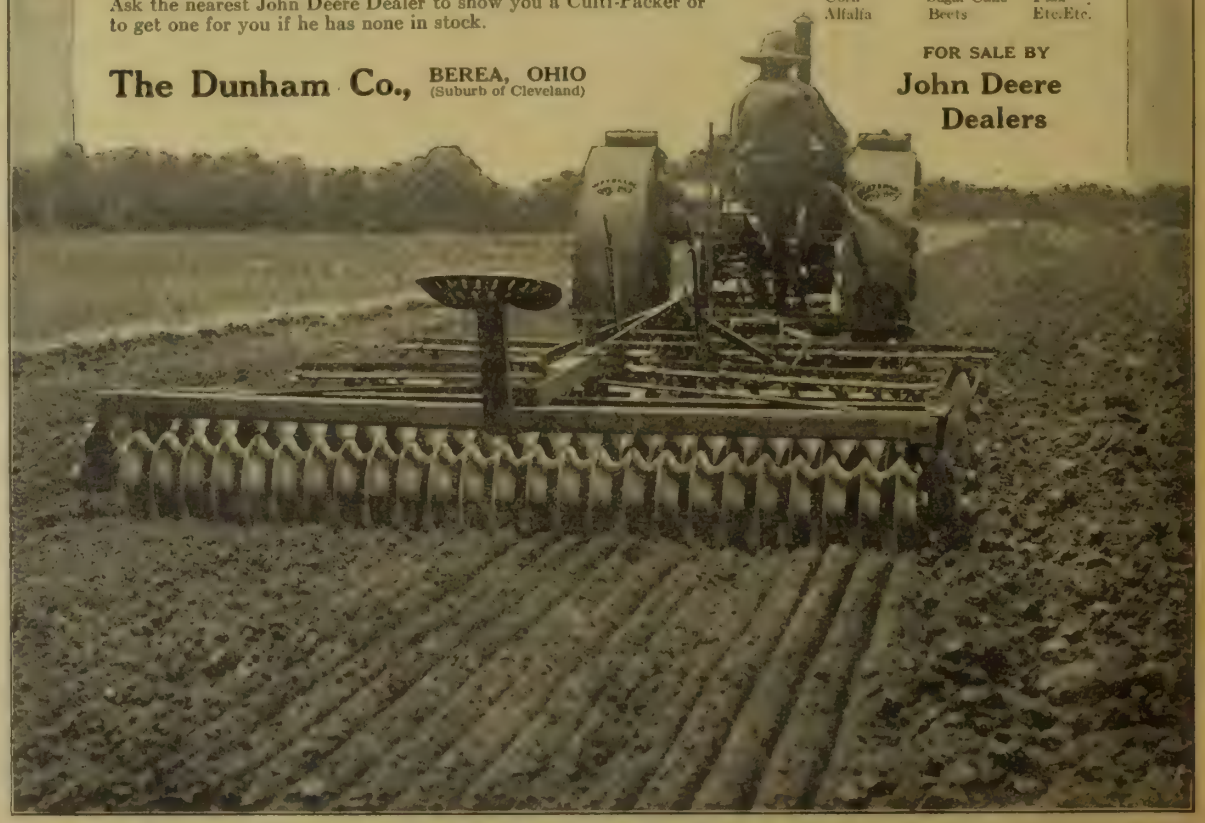
FOR SALE BY
John Deere Dealers



The Dunham Culti-Packer and John Deere Disc Harrow pulled by Waterloo Boy Tractor.

Hay for Horses Didn't Pay

[Written for Pacific Rural Press by R. E. Hodges.]

COULD INCREASE GRAIN HAY MARKETS.

About half of the crop from the Livermore-Altamont district is normally sold in San Francisco. Motorization of city work is destroying this trade, but the suggestion which grew out of a sale made last season to the Golden West Meat Co. of Oakland, might well be expanded by hay growers to make a good market for all the hay they could raise. The meat company bought 100 tons of Livermore grain hay, chopped it with alfalfa, and fed it to sheep, finding it a better, cheaper ration, according to Mr. Wente, than cheap alfalfa hay and ground barley. The writer has found dairymen and cattlemen in various parts of the State using chopped grain hay with alfalfa or other legumes. Emery Gates of Stanislaus county, has had the finest kind of success feeding a mixture of barley and vetch hay to cattle and sheep. Other dairymen in the same county have been using grain hay. Considerable wild-oat hay has been sold from Livermore Valley to dairymen. A Napa county cattleman of the Monticello district fattens his stock on a chopped mixture of alfalfa and grain hay; and a prominent San Mateo county dairyman is among others who have had fine results from grain hay with vetch. His cows produce far more than when fed alfalfa alone. Such consumers ought to be multiplied by the efforts of special marketing agents of the hay growers; for it would not only avoid the tying up of a season's expense and labor in a warehoused crop, but would increase prosperity of stockmen and dairymen by providing their stock a balanced ration more economical than alfalfa alone.

"If we can't sell grain hay when we have only a half crop, we will raise grain next year if we can," the people of Livermore Valley are saying. This valley and the hills surrounding it constitute one of the chief and most widely recognized grain-hay producing districts of America. Its product was used all over the United States in the days of horse racing, when the jockeys insisted on feed from this district wherever they jockeyed.

About three-fourths of the valley is planted to wheat for a harvest of grain next year, if conditions shall be right for its maturing, according to E. G. Wente of the Independent Warehouse Co., who handle about half of the crops sold from the district. The company has this season handled 6300 sacks of wheat for planting before New Year's. This is four or five times their normal requirements. Two dry seasons of short crops just past, along with the extra rains that have already fallen, give hopes for a good grain crop next year, as the land has had a fairly good rest.

BLUESTEM SAFEST HERE.

However, farmers are playing safe by planting only Bluestem, which will be suitable for hay if grain will not mature. Bluestem remains green to the top until growers can tell whether it will make grain. It does not yield so well as Australian or Early Baart; both of the latter dry up to the tops too soon and thus make coarser yellow, strawy hay, and the Baart beards are objectionable.

Two factors besides dryness normally operate here in favor of hay rather than grain. One is the premium of $1 or more per ton obtained over hay from the interior valleys. The other is a labor condition. The grower with one hired man can handle a hay crop on 100 acres with his own machinery, where a lot of extra help and hired machinery are necessary at a busy part of the year if grain is harvested.

HAY SCARCE BUT SLOW.

Still nobody in this district wants to raise hay next season if he can raise grain. Hills surrounding the valley are never expected to raise much grain anyway, largely for lack of water, but partly on account of superior sweetness of the hay. Two years ago the Altamont hills produced about 4000 tons; and the other hills and valley tributary to Livermore produced 18,000 tons more. Next season's crop will not be over 3000 tons, says Mr. Wente, if grain can be made. The crop this season was between 7000 and 8000 tons, and the Altamont had only 2000. Still it does not move.

Pays 100% Every Year

"An Imitation—be it Ever so Good—is Still an Imitation"

"I purchased one of your Spreaders eight years ago and it has spread all of my manure from 50 head of stock during that time. It has easily paid for itself each year. Any farmer having more than five head of stock cannot afford to be without it unless he is especially fond of spreading manure by hand, which I am not."
C. E. HOUGH. Conn.

Hundreds of progressive farmers have written that "the Nisco Spreader pays for itself every year"—"the most profitable investment on the farm"—"it doubles the yield"—"saves its cost"—"couldn't farm without it"—and other such statements.

These letters mean much to the man who is farming for profit. They are conclusive evidence to any farmer willing to consider the facts. They prove the statements of Experiment Stations and Agricultural Colleges. They prove that you should own a

NISCO The New Idea

The "NISCO" is THE ORIGINAL wide-spreading spreader, the machine that revolutionized old-fashioned methods—that has always been the leader in quality, improvements and popularity. Has solid bottom with chain conveyors. Pulverizes thoroughly and spreads evenly 5 to 7 ft. wide. Drives with heavy sprockets and chain—no gears. Low down, light draft. Loads and pulls without undue strain on man or team. Saves time, reduces labor.

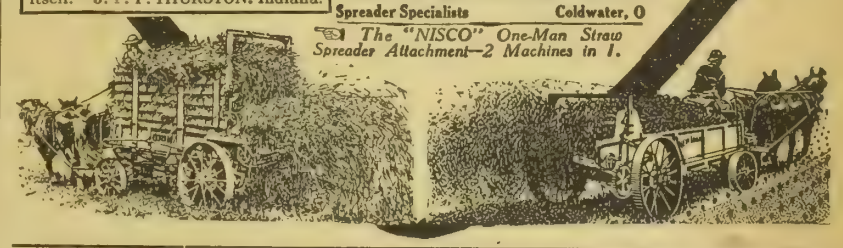
"I use your Spreader and find it far superior to others in construction, durability and efficiency. The manure goes from a third to a half farther than when spread by hand. It saves at least a third of the time of man and team, not to speak of saving fertilization value by even and wide spreading. Your spreader can soon be made to pay for itself." J. F. P. THURSTON. Indiana.

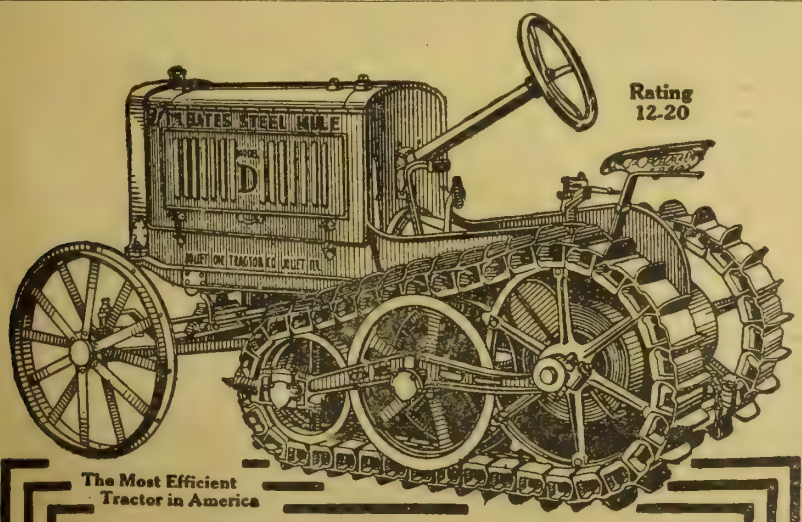
See your "Nisco" dealer. He is pretty busy and may not get around to you. Call him up and when you go in, insist on the "Nisco"—the machine you are *sure* of. If you don't know him, we'll send you his name and a free copy of "Helping Mother Nature," a splendid book on soil fertility.

(7)

NEW IDEA SPREADER CO.
Spreader Specialists Coldwater, O

The "NISCO" One-Man Straw Spreader Attachment—2 Machines in 1.





Rating 12-20

The Most Efficient Tractor in America

POWERFUL ON SOFT GROUND

The twin crawlers of the Bates Steel Mule form a firm runway on soft ground. Twenty-four cleats prevent slipping, and the ground pressure is less than 3½ pounds per square inch. So soft ground is no different from hard, as far as pull is concerned. And the non-slip feature saves fuel.

Unit construction: Timken roller bearings; hardened cut-steel gears running in oil, and heavy duty, valve-in-head kerosene motor also contribute to the Steel Mule's efficiency.

We are anxious to have you compare the Model "D" STEEL MULE with any other tractor built. Seeing is believing, so come and inspect the machine we have on exhibition—and convince yourself.

F. T. BRILES, South California Distributor

Excellent Proposition offered Live Agents

214-216 No. Los Angeles St. Los Angeles, Cal.

Auto Saws Wood at 15¢ a Cord

LAY Porta Power

THIS remarkable implement, instantly attached to the rear tires of your car, delivers 5 to 8 H. P. at the belt for running any machine on your farm. LAY Porta Power saves you $150 to $300 if used instead of stationary engine, and is far more valuable because you can *take the engine to the job.* Thousands now used by enthusiastic farmers. It takes the place of missing farm labor. It may add hundreds of dollars to your income each season.

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Send full particulars about LAY Porta Power.
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General Agricultural Review

Asparagus.

While asparagus occupies more acreage than cantaloupes in California, we hear less about it because practically the entire crop is grown in one restricted district—the islands of the San Joaquin-Sacramento Delta. There something over 23,000 acres of this perennial vegetable are grown for shipment early in the season and for canning later. The sales were good this year, the demand strong, the crop short because of lack of labor. Very early asparagus from Imperial county is a growing industry that pays well when labor is available.

Sweet Potatoes.

San Joaquin Valley produces most of the sweet potatoes of California, the acreage this year having been estimated at 6000 and the crop at over 1,000,000 bushels. The yield per acre was much above the average and the quality was better, but the total crop was only a little larger than 1917. Canning the smaller sizes assumed great importance this year, whereas formerly the small sweets were fed to hogs.

Tomatoes.

Of field vegetables, tomatoes are most important, over 30,000 acres having been contracted to canners. Acreage would have been greater had not there been an unfortunate dispute about planting time in regard to prices the growers were to be allowed. Early shipping tomatoes moved freely at prosperous prices, but very few late tomatoes could be obtained for shipment, as canners took practically all.

Cantaloupes.

Imperial county, cantaloupe leader, was estimated to have 10,896 acres of cantaloupes this year, as against 12,939 last year. Stanislaus county growers planted a little less than half that acreage and much of that was abandoned. There was a feeling that food crops should be grown instead of melons. The short crop led to a strong, profitable market demand.

Celery.

The Sacramento- Contra Costa county delta is the chief celery producer of California, a total of 2070 acres having been transplanted here this year, as against 3882 last year. Lack of hand labor is a reason for the reduction. Orange county, which used to be a large producer, is about out of it. Los Angeles county has a district of some importance.

Onions.

Prices for onions in 1918 were nearly 30 per cent higher than in 1917, but the yield per acre was less. Acreage in the Delta was estimated by R. G. Risser of the U. S. Bureau of Crop Estimates at 9204 for 1918, as against 8068 for 1917. Earliest onions are shipped from Coachella Valley, Riverside county.

Lettuce.

Most of the commercial lettuce, aside from city market gardens, is raised in Imperial Valley and shipped East. Shipment is about to begin. Some of last season's crop was delayed on the road, with damage, but the acreage is not far different from last year.

Cauliflower.

Los Angeles and San Mateo counties are the chief cauliflower producers. Their acreage in the crop now moving is materially decreased from that of last year, due to hard luck last season. The heads are of first-class quality and are moving at good prices.

NAPHTHALINE-LIME SULPHUR SPRAY.

A new combination spray tested during the season of 1917-18 by the Stoke Fruit Growers' Association, of New Zealand, consisted of naphthaline and lime sulphur, with and without the addition of arsenate of lead. The trees had been badly infested with wooly aphis early in the season, but at picking time (April 1918) fruit and foliage looked good, the fruit being clean and bright. In these applications soft water (well water) was used. The addition of naphthaline seems to thicken the spray and make it stick better. The cost per gallon is the same as ordinary lime-sulphur.

The State Quarantine Station at Los Angeles intercepted in October, shipments containing the Colorado potato beetle, alfalfa weevil and gypsy moth amongst other pests and the cars were promptly sealed and returned with their contents.

The United States Department of Agriculture has declared quarantine against the whole world on sweet potatoes to prevent the importation of the sweet potato beetle (cyclas formicarius).

Tehachapi has 3,800 acres in pears besides a large acreage of apples and is still growing.

GYP CORN AS AN EGG PERSUADER.

To the Editor: I am feeding gyp corn heads and they are all right as a grain ration; also they make hens lay. We have sold $55 worth of eggs from 40 hens since last July and had all the eggs we cared to use besides.—D. A. Nowels, Linne.

The L. A. Puente Nurseries have some fine Placentia Walnut stock this year. They are grading them in fours and sixes of one year stock. Also 10,000 saleable Placentia Perfection, two years from graft, and about half as many Eurekas. They will regraft all seedlings this year. Tilton Bros. of Whittier will do the grafting.

GROZ-IT

HIGHLY
Concentrated - Pulverized

Manure

A mixture of cattle and sheep manure from animals fed on cotton seed meal and cake and alfalfa (highly nitrogenous foods) aged for several years under climate conditions that remove moisture but prevent leaching and fermenting.

No odor.
No flies or insects.
No weed seed or foreign matter.
Many times plant food values of ordinary manure.
Guaranteed contents:
Nitrogen, 1.5 to 2%
Phos. Acid, P_2O_5, 1.25 to 2%.
Potash K_2O water soluble, 4 to 5%.

We are shipping GROZ-IT in immense quantities to Southern and Eastern states, where present freight rates make it $10 per ton more than cost to you. Place your order now to insure delivery.
Sold in bags or bulk.
Write for circular and prices.

Also ordinary Manure in Carloads
Horse-Sheep-Cattle and Rotted Manures

Pacific Manure & Fertilizer Co.
429 Davis St., San Francisco

HANDLE YOUR GRAIN AT LESS COST WITH THE

JOHN DEERE GRAIN ELEVATOR

BUILT FOR THE WESTERN GRAIN GROWER
FOR BULK HANDLING OF GRAIN

John Deere Tubular Elevator with Engine Mounted on Elevator Truck

INITIAL COST
Investment in Elevator and Storage Outfit
Less than the COST OF ONE YEAR'S SUPPLY OF SACKS

SAVING IN LABOR--Bulk Method as compared with Sack Method

STATISTICS PROVE:

SACK METHOD
5 Handlings from Separator to Mill--Cost per ton - - $2.00

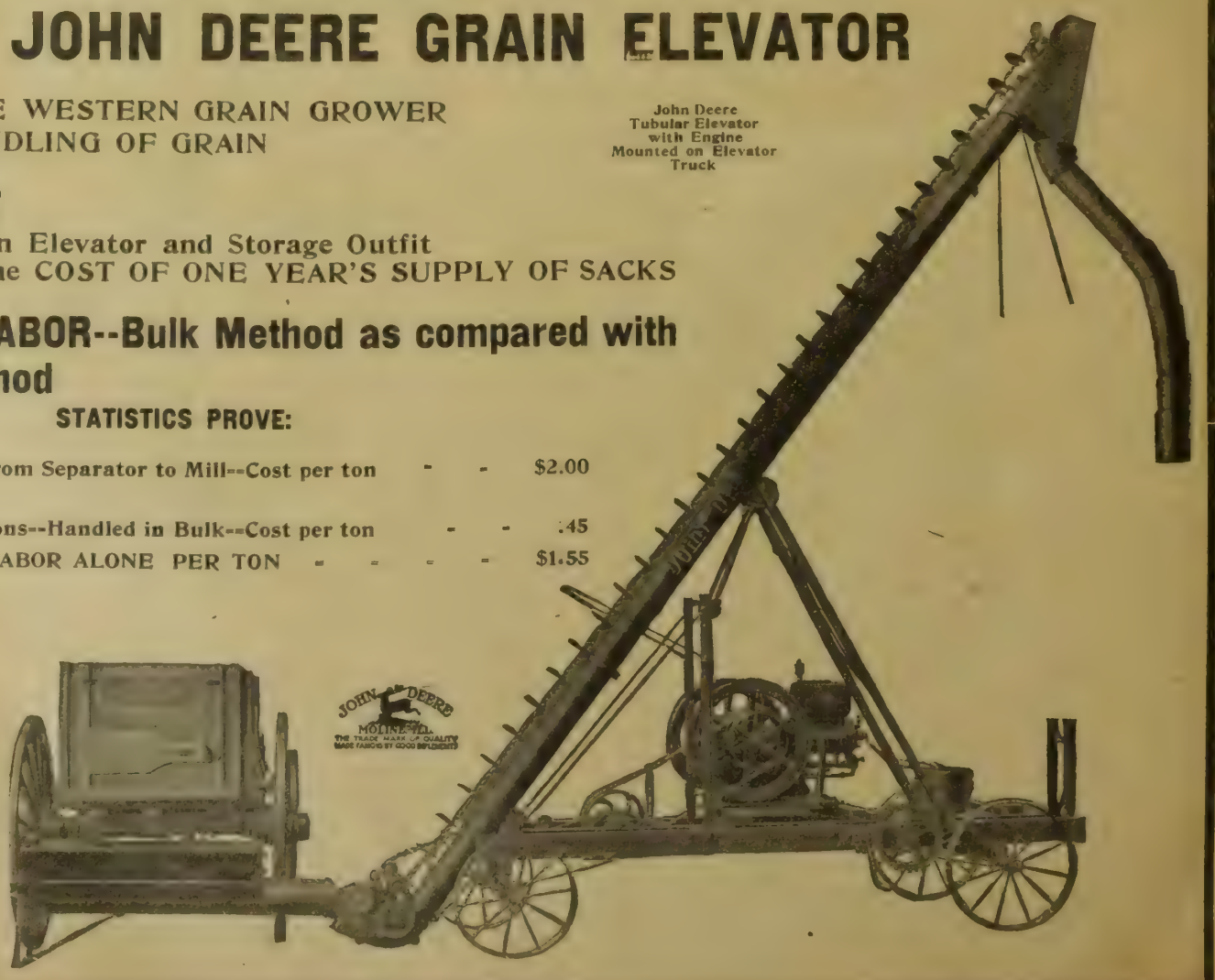
BULK METHOD
Same Operations--Handled in Bulk--Cost per ton - - .45

SAVING IN LABOR ALONE PER TON - - - - $1.55

Less Help Required at Harvest Time

Sold By
John Deere, Dealers

Send for Special Information to
John Deere Plow Co.
San Francisco



CALIFORNIA FARM PRODUCTS BIGGEST IN HISTORY.

(Continued from first page.)

biggest acreage of recent years seems assured and the Government will buy it all at the established price unless higher prices prevail.

SUGAR BEETS.

Normally, sugar beet tonnage would have exceeded barley tonnage this season if manufacturers and growers could have agreed on contract prices in time to justify planting. The dry winter was an additional deterrent and both acreage and yield were less than the year previous. Better contracts have been offered this fall, and here again ability to know, before planting, approximately what price the crop will bring is leading to plans for beet raising in place of beans, etc., where feasible.

COTTON.

Estimated farm value of the 1917 cotton crop was more than double that of the previous year, due not only to more than 50 per cent increase in acreage but also to nearly that much increase in price per pound. This year's estimated production shows a 50 per cent increase over last year, and the average value per pound a trifle better than last. Long-staple varieties chiefly were tried out in scattered localities throughout the Sacramento and San Joaquin valleys, and cotton culture seems to have found a firm home already in the San Joaquin. Imperial Valley raises practically all of the California cotton.

RICE.

With a fixed price to the growers for rice, the average yield per acre practically as big as it has ever been, and the acreage increased more than 50 per cent over the previous year, this crop has continued its upward flight in importance among California field crops. Too little water early in the season caused some loss and too much rain during harvest caused a little more; but this crop is the banner one for optimism and the acreage will likely be enormously increased next year. The prices for the next crop, however, are not assured, and growers will have to look out for importations from the Orient. Milling capacity in California has been greatly increased and growers are showing greater tendency to get together with millers for mutual consideration of problems. A new earlier maturing variety has been tried out this season with gratifying results.

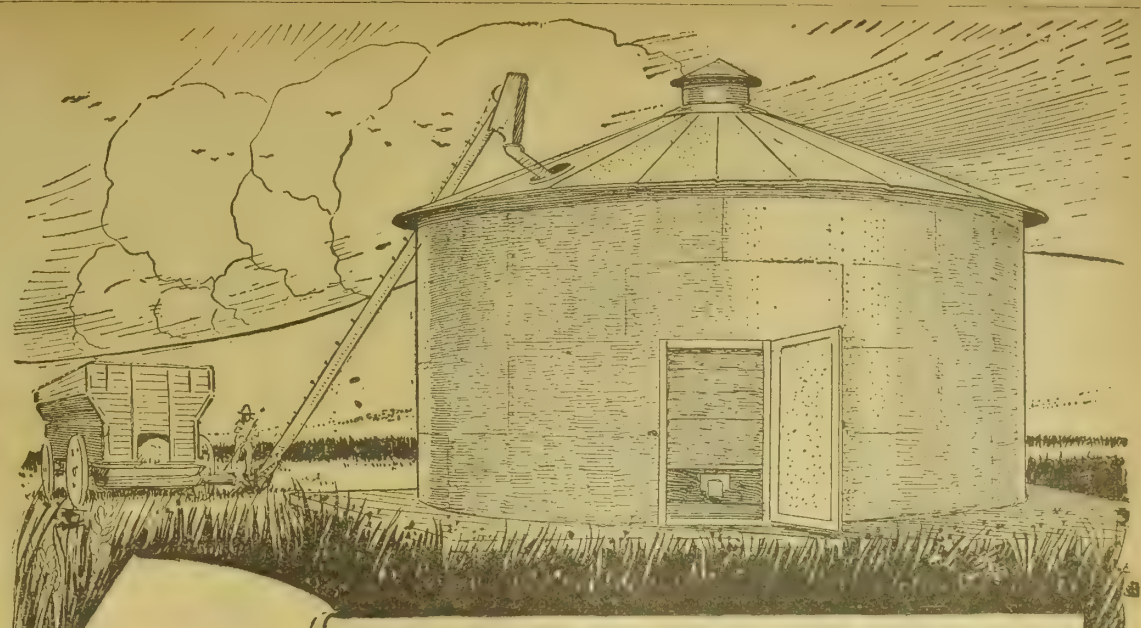
GRAIN SORGHUMS.

The appeal of the Government for growers to raise grain sorghums was heeded apparently to a greater extent than the exhortations to raise more hogs. This was true also in the six States leading in grain sorghum production, and today the market for these grains shows a little less life than their running-mate, barley. This may be partly due to the effort to market quickly the late crop, which got wet. If so, the market should recover when this is out of the way.

INDIAN CORN.

While our Indian corn prices are still determined by the price of Eastern corn laid down here, and while we do not feel the need of raising corn for hog feed there is a great increase of acreage and production in the San Joaquin-Sacramento Delta to about 25,000 acres, which is about one-third of all in the State this season. The entire California acreage and crop were only a little greater than in the previous year, but our own mills furnish a ready market for all that is grown here, provided it is handled in ways that make it of good milling quality. Probably considerable normal Indian corn acreage was this year planted to grain sorghums on account of last winter's dry weather.

In 1916 California produced 43,664 bales of cotton, and in 1917 58,974 bales. It is known that the production of 1918 will be more than 100,000 bales, valued at approximately $14,500,000.



Bulk Handling Costs Less

There were 16 tons of grain lost in a recent shipment of 2,500 tons of sacked grain from Vallejo to Stockton.

Mould, rats, gophers—leaking sacks—were the direct causes of that enormous loss.

The California milling concern that made the shipment handled its next shipment of 2,500 tons of grain over the same route—in bulk.

Out of 2,500 tons—only one-half of one ton of grain was lost. A saving of fifteen and a half tons! With grain at $2.20 a hundred that saving was considerable. In addition the entire cost of the sacks was saved.

Save the entire cost of Sacks.

By using sacks your crops are at the mercy of rats, gophers, bad sacks, thieves and rain. You pay for extra help during threshing time.

It is needless. Calco Metal Grain Bins eliminate extra labor and make your grain vermin, fire and weather-proof. The Calco Bin cuts out the high cost of sacks. One Calco Grain Bin will last a great many seasons—sacks must be bought each year.

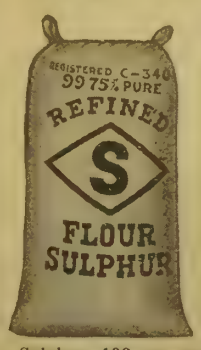
Write for the booklet, "Calco Grain Bins." It's free, and worth your careful reading. It will open a way to you to save and sell more of your grain. Write for it today.

California Corrugated Culvert Co.

417 Leroy St., Los Angeles 406 Parker St., Berkeley

don't use sacks

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDEW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH.

Try our new brand of VENTILATED Sublimed Sulphur, 100 per cent pure, for making Paste—(Atomic Sulphur) and for Dusting.

For Lime Sulphur Solution, use our DIAMOND S Brand Refined Flour Sulphur. We can furnish you this sulphur at such low price that it will pay you to mix your own solution.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre of our Diamond "S" Brand Powdered Sulphur.

It has been proven that sulphur has increased various crops up to 350 per cent.

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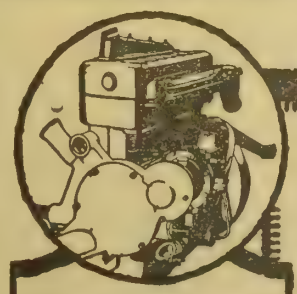
We are equipped to make immediate shipment. Send for illustrated booklet, price list and samples and please state for what purpose you use the sulphur, quantity needed and date of shipment preferred. Tel. Kearny 871.



Correct Lubrication for the "L"-Head Type Engine

This, the "L"-Head type of automobile engine, like all *internal combustion engines*, requires an oil that holds its lubricating qualities at cylinder heat, burns clean in the combustion chambers and goes out with exhaust. ZEROLENE fills these requirements perfectly, *because it is correctly refined from selected California asphalt-base crude*

"Proven Entirely Satifactory"

Only perfect satisfaction can account for the use of ZEROLENE by the majority of automobile owners.

Leading coast distributors also testify that it is "a most satisfactory motor oil."

They know from the records of their service departments—and we know from exhaustive tests—that Zerolene, correctly refined from selected California asphalt-base crude, gives perfect lubrication with least carbon deposit. Get our lubrication chart showing the correct consistency for your car.

At dealers everywhere and Standard Oil Service Stations.

STANDARD OIL COMPANY (California)

ZEROLENE

The Standard Oil for Motor Cars

Power on the Farm

FARMERS' MUTUAL FIRE INSURANCE.

The $1,500 fire insurance for five years on beans and barley has cost me about the same as commercial insurance would for three months," said R. H. Frazer of Stanislaus county, speaking of the Farmers' Mutual Fire Insurance Co. of Turlock. So the writer sought Secretary John A. Orr of the insurance company and was told about this organization more in detail. It is one of fifteen or twenty such mutuals organized under the special State law for this purpose. The idea is to furnish insurance to farmers at actual cost. The only costs, aside from fire losses, are for office expenses, the salaries of two officers, and commissions for the seventeen farmers who act as agents.

This farmers' mutual insurance company was organized twelve years ago with 50 members and about $50.-000 insurance in effect. Today it has 2500 members and $2,500,000 insurance in effect. A rate per $100 is charged for premiums which does not quite cover losses and expenses. Then whenever funds get low assessments are made. The present premium rate for a five-year policy is 35 cents per $100 insurance on lath and plastered dwellings and their contents, 50 cents per $100 on all other buildings, with vehicles, except autos, and $1 per $100 on feed, grain, beans, etc.; but standing grain is not insured. The biggest loss ever encountered was last year, about $6,000 total. About $5,000 losses had been paid this year up to December. Only five assessments have been made—the first was 25 cents per $100, the second the same, the third 50 cents, the fourth 25 cents, and the fifth was 21 cents on first class, 30 cents on second class, and 60 cents on third class.

HAY "GRINDER" WITH BIG APPETITE.

Chopping mixed barley and vetch hay results in cattle and sheep eating it up clean with not half of one per cent loss, as experienced by Emery Gates of Stanislaus county. His 26-inch Smalley cutter, with grinding attachment and blower, puts about 40 tons per nine-hour day into the 26x40-foot silo, keeping eight or nine men and a 45-horsepower Caterpillar working to the limit. Three or four wagons were used, according to distance of hauling, which averaged about one-quarter mile. Two pitchers kept busy in the field; the driver of each wagon and a helper were "nearly worked to death" to pitch hay off as fast as the machine took it, one man fed directly into the machine and one man tended the engine. No man was needed in the silo, for the finely chopped dry feed packed itself so thoroughly that it did not settle over four feet in three weeks.

LESS POWER ON RIDING PLOW.

A wheel plow with the driver riding pulls as easy as a walking plow, if adjusted properly. Turning a furrow slice constantly forces a plow downward and sidewise. A landside to counteract the side pressure presents a great area for friction against the dirt. It, with the share, exerts great pressure and friction against the bottom of the furrow. Now if the pressure and friction downward and sidewise can be transferred to wheels, we have much smaller bearing surfaces which can be lubricated. Thus the friction is so reduced that a man may ride the plow and still cause less draft than a walking plow turning the same dirt. This can be illustrated by locking the wheels of a wagon. The wheels must then slide a foot for every foot the wagon moves, and you cant' lubricate the sliding surfaces.

An American tractor plowing and harrowing recently attracted wide attention near Montevideo, Uruguay, as reported by the U. S. Consul.

HIGH OR LOW SPEED ENGINE.

To the Editor: Which tractor will be in best condition at the end of two years—one that runs two and a half miles per hour on high and whose engine runs 500 r. p. m., or one that runs four miles per hour on high and whose engine runs 900 r. p. m.?—A. L., Marysville.

An engine properly designed to run 900 r. p. m. on tractor work would probably be in as good shape as the other if automatically governed and run at plow speed while plowing; but since most plows are built for a two and a quarter to two and a half mile speed, your high-speed motor would have to run on low or intermediate gear in plowing. Since this is the greatest part of tractor work, we would want the most direct drive at that speed. On general principles, the fast engine on heavy sustained work goes to pieces soonest.

Its in the TRACK

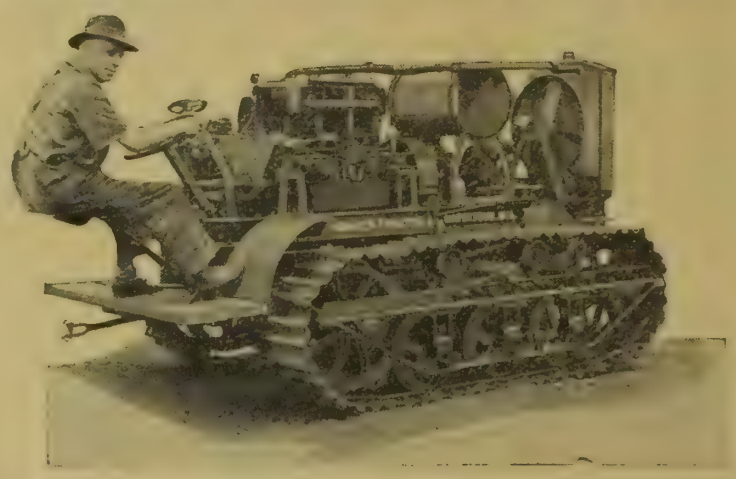
MONARCH

Indorsed by the BANKS

—Tracklaying Tractors—

The Tractor you will eventually buy because of its—

Great Simplicity
Wonderful Power
Long Life and Our
Excellent Renewal Part Service



The Monarch has a motor, transmission and power plant similar to any other strictly high-grade tractor—but, MONARCH TRACKS, like MONARCH SERVICE, stand alone. A broad, flat surface on a chilled track sprocket comes squarely against a similar surface on the MANGANESE TRACK to drive the MONARCH, thus eliminating the rub, the cause of grinding wear and short life in the ordinary track-laying tractor.

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715 Seventh Street
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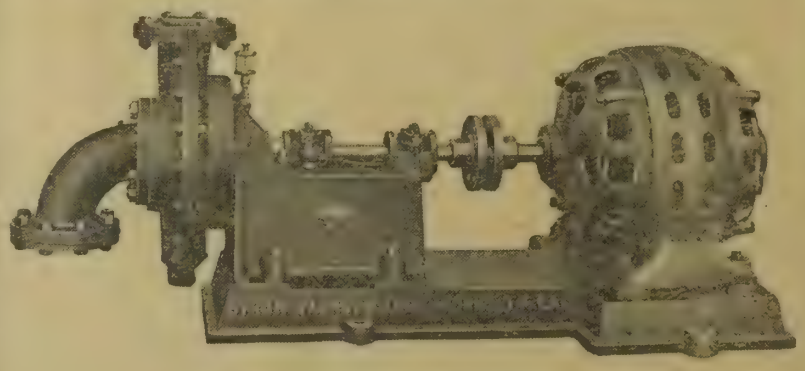
UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



Write us your conditions.
New Catalog No. 60-A for the asking.

BYRON JACKSON IRON WORKS, Inc.

LOS ANGELES SAN FRANCISCO VISALIA

Turns In Its Own Length

The flexibility and the ease with which it can be handled is a big feature of the

Knapp Tractor DISC Plow

It follows the tractor—in short circles and sharp turns. A demon for hard work. Send for illustrated folder.

H. G. KNAPP & SON

1022 S. 1st St., - San Jose, Cal.

POWER NOTES.

Permission to issue $400,000 of receiver's certificates is asked from the State Railroad Commission by Receiver William F. Fowler of the Sacramento Valley West Side Canal Co. The petition states that the company now is irrigating 16,000 acres of general crops and 27,000 acres of rice. The $400,000 is to be used to complete the system and add some pumps, so an additional 15,000 acres of rice may be irrigated in 1919.

The "Denver Tractor Club" is a new organization of tractor and implement dealers of Colorado.

Motor trucks are being used to haul cotton in Imperial Valley on big bodies direct from the fields to gins.

To make rural parcels post rates compete with freight rates by use of army motor trucks, is the plan explained to the U. S. House of Representatives postoffice committee by Assistant Postmaster General Blakelee in asking $8,000,000 for rural service next year.

To counteract the effect of water in distillate used for tractor fuel, Aubury Collier of Solano county says a cheap, easy, effective way is to put half a pint of denatured alcohol in the tank every week.

WHAT SIZED CULVERT PIPE?

To the Editor: What size pipe should one have for irrigation where a bridge is built over a ditch? The party doing the work states a 36-inch pipe is necessary to carry the water.—E. J. W., San Francisco.

Since the pipe is to be used as a culvert, we would recommend a corrugated culvert, surely covered with several inches of dirt. A 36-inch pipe with a drop of half a foot in a thousand, will carry 5,500 gallons per minute. A fourteen-inch pipe would carry about 600 gallons per minute.

HORTICULTURAL JOTTINGS.

Harry Stabler has been reappointed Horticultural Commissioner of Sutter county.

The Sacramento Valley has 27,573 acres of prunes. Butte county leads the valley with 5942 acres and we understand a considerable further planting is contemplated this season.

The amount of apples held in cold storage in the United States on December 1 is represented as (reduced to boxes) 13,289,913 boxes, according to the U. S. Bureau of Markets report.

The Fig Growers' Institute is to be held at Fresno, January 3 and 4. The sessions are instructive and include addresses from commercially successful fig growers. This is a reminder.

Pruning demonstrations are being held at various orchards in Sonoma county under the auspices of the Farm Bureau and in co-operation with the County Horticultural Commissioner.

Stanislaus county this year produced 22,998 tons of cling peaches (Phillips and Tuscan), 12,556 tons of drying peaches (Muir and Lovell) and 2268 tons of Elbertas for shipping.

The book, "California Fruits," seventh edition, is out of print. No more copies will be sent out until a new edition is printed, which will not be before next fall. Possibly book stores may have some in stock.

A vine-pruning demonstration was recently conducted at the W. B. Trewhitt vineyard, north of Hanford, under the auspices of the Kings County Farm Bureau. Professor F. Flossfeder of the University of California was the demonstrator and lively interest was shown in the work by attending vineyardists.

A complaint against existing freight rates on citrus fruits is to be filed with the Interstate Commerce Commission, according to A. M. Mortensen, traffic manager of the California Fruit Growers' Exchange. The increase made last June by the U. S. Railroad Administration adds an estimated total of $6,386,386 to the annual freight bill of the citrus fruit growers of the State.

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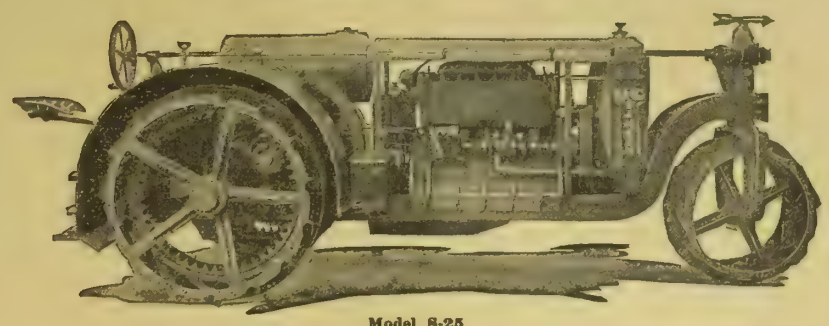

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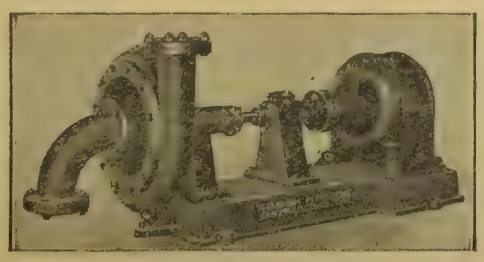

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How an Apple Differs From a Hog

[Written for Pacific Rural Press by Albert F. Etter, Ettersburg.]

That you may have the pleasure of tasting the best apple in the world, I am sending you one of my Wagner seedlings. This is not an absolutely new variety, for I have fruited it for the last five years. Its only possible rival in the world is a R. I. Greening seedling I have here, but specimens of this are not available at this writing. This high rating of one's own wares might seem bold to many, but to one who knows the facts it is necessary to do so to publish the truth and give credit where credit is due. Not that I desire credit, but that the people interested in these things may know that the world moves.

IT MAY BE CALLED "ALL-GOLD."

This new Wagner is an "all-gold" variety. Possibly some day "All-gold" may be its name. It is clear golden in color, faultless in form, of fine size, does not scab, produces only one specimen in a place instead of two to six, bears a full crop every season, does not drop from the tree and the structure and texture of the wood growth is as elastic as spring steel. The whole texture and structure of the fruit suggests culture and refinement. The seeds are small and the core structure refined and not prominent. The flesh is non-fibrous, crisp and juicy. When the flesh mellows up it does not become mealy and dry, but remains very juicy, with a tenderness that melts in one's mouth like ice cream.

WHY AN APPLE MAY BE ALL FAT.

This type of an apple is a vehicle on the way of what I would term "progressive refinement." By way of illustration, I will say: A lecturer on hog breeding once said: "The ideal of some breeders in the past had been to produce a hog without bones or muscles—just a well-rounded form covered with a thin skin, the whole hog a wobbling piece of fat."

This sort of ideal is not tolerable in animal breeding, but in plant life it is highly desirable, and is an ideal within reach. Our apple varieties of today are too near nature types, or, as the swine breeder would say of scrub hogs, "they have too many of the characters that belong strictly to the wild hog." Some of us know what the dahlia was twenty-five years ago. An ardent experimenter in dahlias in that day, I predicted the future of the dahlia by systematic work. I believed then, too, as I believe now, that we have scarcely begun to improve the apple, and systematic work through a few generations of seedlings under ideal conditions will produce varieties that will justify my optimism.

HOW THE NEWTOWN MAY BE IMPROVED.

A second variety I am sending you to sample and illustrate is a seedling of a variety (possibly only a seedling tree it was), but one would have to strain it a point or two to call it more than a commonplace cider apple. Only because I had super-ideal conditions to expect worthy results was I tempted to grow seedlings from this near-nature type. But I chanced it, and in 38 seedlings I scored just one of any value whatever. Thirty-seven worthless ones, most of these being little more than wild forms, but the thirty-eighth was one of those prodigies that come through hybridization and luxury of nutrition — a breaking-away type into refinement that may mean a glorious prepotency for great things in the future or, on the other hand, atavism may be so strong that it may be worthless for breeding stock.

As a variety it seems of decided merit. On the father's side it shows the earmarks of Newtown origin. The parent tree grew alongside a Newtown tree. The fruit is clear yellow, and in shape very full oblate. The flesh is tender, juicy and melting and the flavor sprightly acid, being easily in the class with the Newtown and far more refined. The fruit is very free of scab, and the tree a strong grower and a heavy and regular bearer. This is the first notice either this or the preceding variety has had in print.

ANOTHER NEW NEWTOWN.

A third variety is a Newtown seedling of typical Newtown type in every character. It is better in form and more uniform in size and a better size than Newtown. It bears 100 per cent better than Newtown and shows no tendency to scab or to grow in clusters like the parent, but the exterior finish of the parent is slightly superior to the seedling. The Newtown is slightly more crisp than the seedling, but it, on the other hand, surpasses it in substance, superior sweetness and high flavor, being a better keeper and shipper. It does not drop like the Newtown, but hangs to the tree exceptionally well. Its points for recognition would be superior productiveness, better and more uniform size, freedom from scab, ability to hang until perfectly matured without dropping from the tree and still with this full maturity be a wonderfully good shipper, as it bruises less easily than Newtown, in itself a remarkable shipping variety.

At the present time I do not wish to recommend this seedling as one that should supercede the Newtown, but inasmuch as a variety of its merit should come out of a lot of only seven seedlings, it would indicate that it should not be very hard to get something in the Newtown class far superior to the Newtown as we know it today, for every one of those seven seedlings proved out to be of Newtown type, and a reasonably good variety except one, it being a Newtown X Baldwin. This latter variety is a large apple of finest and truest form, with one odd character—the stem is so short as oftentimes to be even with the surface of the fruit. The quality of this latter variety is splendid, but it has some serious defects that count it out as a variety of value.

[Mr. Etters' specimens bear out his descriptions. Not only his results, but his close scrutiny of points of improvement in apples, should arouse our apple growers to closer judgment of their products.—Editor.]

BASEBALL AND FRUIT GROWING.

Harry Hooper's work is playing baseball; his recreation is running a large ranch he owns in Sutter county—and there we found a very busy man. Harry has 130 acres in fruit trees and vines and he took us into his dry yards, where many tons of Thompson Seedless raisins were in course of drying, and thence to a shed, where Harry Stabler and the writer found him packing pomegranates (October). He has 26 acres of pomegranates (interplanted with olives), four and five years old, and will be shipping 700 boxes from the young plantation this year. They are of the "Wonderful" variety and are shipped in four grades, the largest of nearly 4-inch caliper and of gorgeous coloring, and the New York market absorbs it readily at remunerative prices. Of his 25 acres of peaches—Tuscans and Phillips—there was no loss, but considerable injury had been experienced in the Thompson Seedless grapes. Adequate machinery is on the ranch for handling all the fruit and the raisin stemmer was at work when we were there, for there are nearly 100 acres of T. S. grapes on the ranch.

We have always figured that a good ball-player or an enthusiast in any other manly game has the qualities necessary to make a good farmer, in that he is level-headed, resourceful, and decided, and does not curse Providence for unpropitious happenings—weather or anything else. It has taken courage and backbone to "buck" this season in Northern California, and we feel that Harry Hooper is a worthy addition to the ranks of fruit growers.

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Olive Packing Plants

[Written for Pacific Rural Press.]

There are six large plants at Oroville for packing olives and we recently went over the Mount Ida Packing Co.'s plant, the buildings of which cover nearly three acres of ground adjacent to the railroad. Oroville and its vicinity are specially adapted to the production of a first-class olive. Thousands of acres of young trees will be coming into bearing in a few years and the markets for California ripe olives will doubtless be extended to meet the increased production of this valuable fruit. Nowhere in the State do olive trees make more sturdy growth than here or set better crops. We did not see scale in any orchard or evidence of it, the leaves and twigs being silvery green and fresh throughout.

MANUFACTURE.

After being graded and weighed out—for the grower is paid on grade—all those olives that are to be used for the ripe olive trade are turned into the concrete pickling vats, of which there are 1100, each one holding 1000 pounds of fruit. In place of the old system of stirring the fruit with paddles, it is moved and churned over by compressed air, just on the same system as petroleum is agitated and refined. This obviates the bruising of the fruit by contact with paddles and insures the whole of it being turned and moved. When the fruit is ready for canning, it is conveyed on a slow-moving "sorting belt" of webbing along the center of benches running the length of the room, on each side of which girls are seated who hand pick out any imperfect fruit or impurity. From here they are taken to the canners' bench, the full cans being carried in a steady stream through to the capping machine. Each can is poured full of hot brine just before capping, immediately after which they are placed in an oven or retort for sterilizing. This is the last operation except cooling, labeling and packing, when the finished product is ready for market.

As one of the side issues, this plant also prepares a Greek style olive which is packed in barrels in dry salt. There is a very large demand for the Greek and Italian olive in the United States, most of which has been so far served by importations. We liked the flavor of those turned out at Oroville, which are not bitter like the imported article. The oil mills are in the same building with the ageing room adjoining and the powerful presses are hydraulic and express all the oil it is possible to get at a single operation.

We were told that the Mount Ida grove (Gray & Wilson) is the most regular and consistent bearing grove in the State.

All of the help required at the packing establishment is provided by the town of Oroville and vicinity. A feature that strongly appeals to the visitor is a spacious, well-warmed and ventilated rest room for the women and girls employed. This room is paneled, both walls and ceiling, with fumed oak finish. Comfortable chairs and small tables are provided and we noticed some flowers to grace the board. This method of caring for employees leads to obtaining the best class of woman worker, whose sensibilities are not shocked by unpleasant surroundings. It adds to their self-respect and pride in the institution they serve. So long as the thing is not overdone, money laid out for the convenience and comfort of ranch hands also is going to be a distinct asset to the industry. Decency and privacy for our helpers can be provided without going to extremes and coddling them. And at very little expense, if we value good men and are willing to write off the interest on money so invested as a part of their wages. Many years ago the writer had several years' experience of the bunkhouse and knows whereof he speaks.

NURSERY NOTES

Diging of nursery stock has begun generally and anyone who has decided to plant this season should get their orders in for trees without delay.

C. W. Van Gelder of Acampo reports short stock of nursery trees, though the quality is good under the new standard. He claims that the peach root for plums, prunes and 'cots is the best on any but very heavy soil, and is in increasing demand. Mr Van Gelder thinks the demand will exceed the supply on deciduous fruit stock in his section though there is a good supply of almonds.

THE PROMISE OF MILL FEEDS

With the return of all-wheat bread to our tables following the relaxation of sustitute regulations, farmers may expect a somewhat increased supply of mill feeds. The amount will be further enlarged by the recently increased purchases of flour for export; also by the cancellation of the "milling extraction rule" which diverted into flour a considerable proportion of the wheat being ordinarily used for feed.

All of the developments combined are expected to increase the mill feed output fully one-fifth, and this extra feed should be available about the end of December. But the Food Administration warns against excessive optimism over the situation, as there will be a continued shortage of mill feeds as compared with pre-war years.

Consequently, either conservation or substitution will be necessary for some time to come, and the recommendation of Prof. Fitts of the dairy department of Oregon Agricultural College may prove of value to California dairymen. He says that a good substitute for mill feeds may be made by mixing barley and cottonseed meal. He says that the mixture costs more than mill feed, but its feeding value is a fifth greater.

Cottonseed meal is not very plentiful in this state; also it is liable to prove poisonous if fed in large quantities. So we suggest using coconut meal instead. Also add beet pulp if you can get it. A mixture of two pounds each of rolled barley, beet pulp and coconut meal for each cow is about the best and most economical supplement to use with alfalfa when you do not have silage. Try it, and like as not you won't care whether or not you can ever get mill feeds, except for calves, and young pigs, and for sows right at farrowing time.

CROP Production

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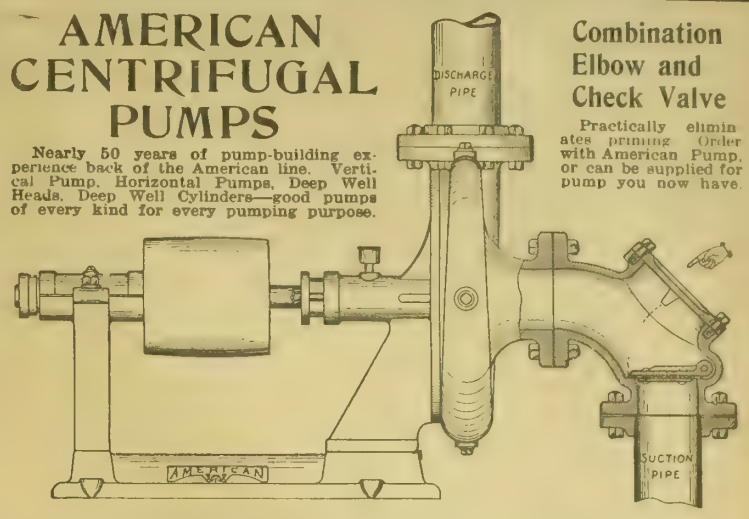

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MICA AXLE GREASE

Standardization in the Dairy Industry

Extracts from an address delivered before the California Creamery Operators' Association by J. M. Henderson, Jr., President of the Associated Dairymen of California.

The reason for the existence of the Milk Producers' Associations of California lies in the necessity of service to be performed for the producer and the consumer of dairy products by improving the conditions under which these products are produced, manufactured and marketed, through standardization of the products, elimination of waste, and by doing such other things as are necessary with respect to the cost of production, quality, more economic manufacture and better and more even distribution of these products, thus increasing the returns to the producer and lowering the cost to the consumer that the interests of both may be promoted.

The failure of the farmers' cooperative creameries in the past years has demonstrated that their associations were not properly organized. Many failures have been caused because the members were at liberty to send their milk to a competitor, while our association has bound its members by a tightly drawn agreement to market all of their dairy products through the association for a term of years.

The association recognizes that those who are now manufacturing and marketing dairy products are specialists and have had long years of experience. Therefore, we do not aim to destroy the structures they have built, but seek to absorb and remodel the many organizations in such a way that they will be working for the best interests of the dairymen. Without doubt there are more manufacturers and handlers of the dairymen's products than are needed, and many will necessarily be eliminated. Our association, however, desires to co-operate with the well-organized concerns and form them into one organization in order that they may work in one direction instead of many, as at present.

ELIMINATING USELESS EXPENSE.

Beginning with the delivery of the raw product from the farmer to the factory, our aim is to perform each function with the least labor, fuel and materials, keeping in mind at all times the necessity of maintaining a high standard of quality.

In many sections of the country the creamery men have assumed responsibility for gathering milk and cream, and many are sending their trucks over the same routes, thereby increasing the cost of handling. Our association will effect a big saving, as routes are being formed in such a way that there will be no duplicated effort.

One of the most important of our activities is the proper grading of the raw product, and the payment of different prices for the different grades. The keen competition of creameries for the dairymen's products has prevented them from doing this.

With a sufficient number of general utility plants in which all known dairy products can be manufactured, a uniform product can be had and maintained by adopting uniform methods and uniform composition of the products manufactured. Laboratories will be established and chemists employed to analyze samples from every churning, or every vat of cheese. This provides a check on uniformity in moisture, salt and color. There can be no question but that our product, under these conditions, can be made practically uniform every day in the year. The association, having these plants, can buy supplies and equipment in large quantities and thereby make big savings in cost of manufacture.

NEW MARKETING METHODS.

The greatest marketing problem is solved when an association like ours can have at its disposal a large quantity of high grade, uniform butter, cheese or other dairy products. A system of grading will have to be established based upon a commercial score, and all butter will be scored by Government inspectors. There is at present too much butter, cheese and other dairy products bought by the wholesalers as second grade but sold to retailers and consumers as first grade.

The activities of our marketing department will be directed very largely to a study of the domestic and foreign markets. These markets will be studied systematically and we will be assisted by the hearty co-operation of the U. S. Bureau of Markets, which reports daily from the important domestic markets. Also the Government is building a most wonderful merchant marine, and we are co-operating with the head of that department today in an effort to build up our foreign markets.

Our association will increase the sale of our dairy products at home by a campaign of advertising at a very nominal cost to individual members. Our purpose is to save the industry by bringing forcefully and continually to the public mind the value and necessity of its products as human food, and also to show the producers the necessity of staying in the business and increasing production to meet the demand of a world market.

GOVERNMENT ASSISTANCE.

You may be interested to know that a conference of all the dairy interests was recently called at Washington by the Food Administration for the purpose of considering ways and means of establishing a uniform basis on which to adjust prices for milk, regardless of whether it is to be used for market milk, condensary milk, butter or cheese, the idea being to use a uniform feed and labor formula and then allow the proper differentials entering into the cost of producing these various classes of milk.

The plan met with the approval of both the producing and manufacturing interests, as every one today realizes that this country is confronted with a shortage of all classes of dairy products and the only way to stimulate production is to return to the dairymen a sufficient amount to pay him the cost of production plus a reasonable profit—to eliminate waste in production, manufacture and distribution so that we may give these products to the consumer at the lowest possible price. This conference was made up of representatives of the producers' organizations in sixteen States, together with representatives of all classes of manufacturers of dairy products throughout the United States.

The Department of Agriculture has adopted a model form of articles of incorporation and by-laws for dairymen's co-operative associations. In its general plan it is almost identical with the one which we have adopted in California, and a contract similar to ours is a part of the approved forms used in organization work among the dairymen of the United States. The department is now ready to put out field men throughout the different States to develop this organization work.

Big Demand for Fats and Dairy Products to Continue

The supply of fats and dairy Products is inadequate to meet the world's needs.

It will continue inadequate until producers have had time to restore the balance between demand and supply.

This cannot occur this year.

The disproportion will be reduced next year.

But it probably will not be equalized until the 1920 stocks and crops have been garnered.

U. S. FOOD ADMINISTRATION.

It contains the signed statements of many ranchers who tell how they are becoming wealthy in the famous Santa Cruz Valley near Tucson, Arizona. About 80% of all products consumed in the valley are shipped in from California. The rich mining camps and the city of Tucson (25,000 population) pay fancy prices for all farm products Local farmers are getting rich. A very limited amount of land with water (suburban to Tucson) may be had at $150 an acre on long time terms. Best farming opportunity in America. Land selling fast.

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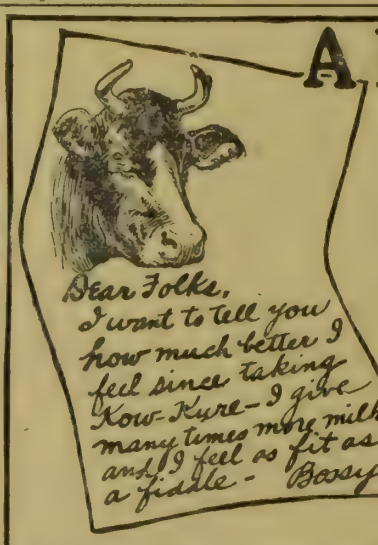


A Letter from Bossy

If a cow could speak she would talk about her health as people do—because cows suffer from ailments, little and big, the same as human beings. When a cow is sick, she needs medicine as much as a sick person does.

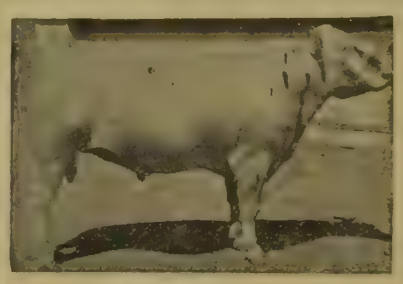
Mere rationing will not eliminate disease; medicinal treatment is necessary. The most common cow ailments, such as Abortion, Retained Afterbirth, Lost Appetite, Bunches, Scours, etc., result from a diseased condition of the digestive or genital organs. Any of these diseases and many others can be successfully treated or prevented by using Kow-Kure, the great cow medicine.

Kow-Kure is scientifically prepared for the treatment of cow diseases only. It puts the vital organs in condition to eliminate disease and function regularly. Prevent sickness by occasionally using Kow-Kure. Feed dealers and druggists sell it—60c. and $1.20 packages.

Free book, "THE HOME COW DOCTOR," sent on request.

Dairy Association Co., Lyndonville, Vermont

KOW-KURE



PRINCE BUTTER BOY WALKER
Senior and Reserve Grand Champion at Sacramento, 1917.

Holstein Friesian Cattle

Herd Sires:
Prince Butter Boy Walker
King Mead of Riverside
Yolo Valdessa Hengerveld

Young bulls by these sires and out of cows with records.

Write or Call

J. H. HARLAN CO., Woodland, Cal.

California Breeders have sold more than **$ 350,000.00** worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

CALIFORNIA BREEDERS SALES & PEDIGREE CO.
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Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

It has been known since the year 1900 as the complete milk substitute. Costs less than half as much as milk — prevents scours — promotes early maturity. Sold by dealers or direct from the maker.

Write for New Data See actual figures showing you how to increase your calf profits

COULSON CO. - - - Petaluma, Cal.

An additional value of $35 an acre has resulted from ensiling sugar-beet tops in Ventura county. Formerly the tops were sold in the field to cattle and sheep owners at about $2 an acre. The new utilization means a great saving in feed. The Farm Bureau in Ventura county is carrying on a silo campaign.

POLLED JERSEY CATTLE

Breeders' names, sale dates, Spillman's "Inheritance of the Polled Character in Cattle," and other information of

CHAS. S. HATFIELD, Secy.
Route 4, Box 51 Springfield, Ohio

How to Control Ear Ticks

[Written for Pacific Rural Press.]

The cattle fever tick has been pretty well driven out of this state, but we still have the ear tick—a blood-sucking parasite which infests the ears of cattle, horses, sheep, dogs and other animals and causes heavy losses.

Unlike the cattle fever tick, which attaches itself to the outside portions of cattle, the ear tick can not be eradicated or controlled by the ordinary methods of dipping. The remedy thoroughly tested by the Bureau of Animal Industry in field investigations consists of two parts by volume of ordinary commercial pine tar and one part by volume of cottonseed oil. This mixture is injected directly into the ears by means of a metal or hard rubber syringe.

In mixing the ingredients the cottonseed oil should be added to the pine tar and stirred until a uniformly smooth mixture is obtained. In cold weather the pine tar and cottonseed oil should be warmed, so they will mix readily and flow freely, but they should not be heated more than is necessary. The mixture will remain uniform for a long time without separation or deterioration.

This preparation when properly applied kills the ticks but does not injure the animals. Cottonseed oil is a fairly good solvent for ear wax and the mixture penetrates ordinary loose masses of ear wax and ticks, but it will not penetrate the hard masses, to break up which the use of an ear probe made of baling wire is suggested. The preparation recommended not only kills all ear ticks with which it comes in contact, but being of a sticky consistency it remains in the ears and protects the animals against reinfestation for about thirty days.

Animals in infested areas should be examined at frequent intervals and treatment applied as often as necessary to protect them against discomfort and losses caused by ear ticks. Herds grazing on infested ranges should be treated late in the fall or early in the winter to prevent winter and spring losses to poorly nourished range cattle. All animals in an infested herd should be treated whether or not they show infestation.

When animals are grossly infested and the ear canals are packed full of ticks the parasites are easily visible, but when the infestion is light or moderate the ticks may be overlooked. The parasites usually attach themselves in the deep folds of the ear or crawl into the ear canal and follow it inward sometimes as far as the ear drum. Animals badly infested usually shake their heads and repeatedly turn them from side to side, meanwhile inverting first one ear and then the other.

Most animals oppose the insertion of anything into their ears. The farmer who has only a few gentle farm animals to treat may tie them to a post or restrain them by other well-known methods, but in treating heards of wild range cattle or horses special equipment, such as dehorning chutes, branding chutes or other cattle chutes, may be used.

The subject is covered more fully in Farmers' Bulletin 980, "The Spinose Ear Tick and Methods of Treating Infested Animals," which may be obtained free of charge from the Division of Publications, Department of Agriculture, Washington, D. C.

TIME FOR DEHORNING CATTLE.

To the Editor: When is the best time to dehorn cattle? Should cows be dehorned before or after freshening? At what age should heifers be dehorned?—A. I., San Bernardino.

[Answered by Livestock Editor.]

Cattle may be dehorned at any time of the year, but it is risky to do it during the hot summer months on account of infection from flies. No matter when it is done, it is best to smear the spots over with pine tar to avoid infection. Some authorities claim that if a cow is dehorned soon after freshening it will cause her to shrink on her milk during the rest of that lactation period, but we have never noticed any difference if done after she has entirely recovered from the effects of calving. If the work is done when she is very heavy with calf, she may strain herself to such an extent that abortion will result. As a rule, it is best to dehorn a cow any time from two months after calving to a month before calving. The small horny buttons on calves should be killed with caustic potash in from three to five days after the calf is born, as after five days these buttons begin to attach themselves to the skull and it is then more difficult to stop their growth.

TRUEDALE Wins Again

At Los Angeles, for the fifth consecutive time, we won first on the get of our leading sire, TRUEDALE 367159 BY DOUBLE-DALE; also firsts in all other classes shown, six in all. All except one our own breeding.

At Sacramento this year we won nine firsts in all classes shown.

Pacheco Cattle Co.

Breeders of Shorthorns,

Hollister, = = Cal.

Hill Crest Stock Farm

KING LANCASTER.

Shorthorn Cattle

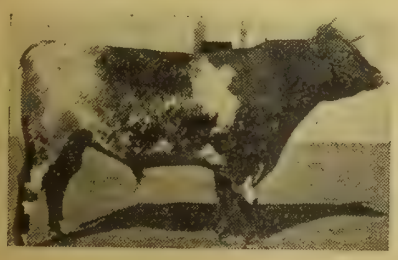
Shropshire and Merino Sheep

I have used more grand champion bulls in my range herd than any other California breeder has used in his foundation.

My offering of range-raised bulls for the coming season is exceptionally good.

T. S. GLIDE, Prop. - Davis, Cal.

INNISFAIL DAIRY SHORTHORNS



GLENSIDE ROYAL 408155,
Grand Champion, Sacramento, 1916-1918, and at P. P. I. E.

Won at Sacramento:
ALL Championships, Grand Championships, Reserve Championships.
22 OTHER PRIZES, INCLUDING 15 FIRSTS.

We offer for sale a few choice young bulls sired by Glenside Royal and out of large cows of good milk production.

Entire herd tuberculin tested.
Alexander & Kellogg, Suisun, Cal.
Farm on Grisly Island.
See us at the California International.

Herefords

LEADING HERD OF THE STATE.

My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of heifers —1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.

They will go quickly. Write or call at once.

Wm. Bemmerly, = Woodland, Cal.

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding
Suited for either the range grower or breeder

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road
We welcome inspection. Prices and pedigrees on application

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

CARRUTHERS FARMS

LIVE OAK, CALIFORNIA

Shorthorns and Berkshires

HOME OF THE CHAMPIONS

Ten splendid young Bulls for sale, also several heifers. We have on hand the best lot of young Berkshires we ever raised. Come and see them. Prices reasonable.

The Worlds Largest Herd of Registered
HEREFORDS

The home of MISS RIALTO 2ND, NEVER defeated Grand Champion. Over 900 breeding cows, representing choicest blood lines. Great Bulls in service. Look up our records at the BIG live stock shows.

THE HEREFORD CORP. OF WYOMING, Box 876, Cheyenne, Wyo.
Wm. Cox, Herdsman. Raymond S. Husted, Vice-Pres. Gen. Mgr.

Successful Auctions

LET ORD L. LEACHMAN CRY YOUR SALE

Sells Anything, Anywhere. Gets High Averages

1008 Eighth St., Main 431 Sacramento, Cal.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.
Three outstanding under-a-year bulls sired by Sir Type, a son of Cumberlands Type.
A few under-a-year heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY Perkins, Sacramento Co., Cal.

Livestock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The Toyon Farm Association of Los Gatos sold a registered Holstein bull to M. M. Soares Co. of Milpitas.

It is reported that the Western Condensing Co. has been incorporated in Humboldt county with a capital stock of $100,000.

At the meeting of the Creamery Operators' Association at Visalia, Dr. Roadhouse urged the formation of a Western Dairy Products Show

A. B. Humphrey of Grapewild Farms, Escalon, has purchased the high-class herd of registered Guernseys from Calla Grove Farm, Manteca.

Of the total milk produced by cows it is estimated that 5 per cent goes into butter, 3 per cent into condensed milk, 10 per cent into cheese and the balance into market milk, cream and ice cream.

called at our office a few days ago. Now that he has received his discharge, he is planning on getting back into the game again. During his absence his herd has been in the care of Gotshall & Magruder, Ripon.

At the recent Holstein sale at Portland 63 head sold for an average of $279.44. This average was satisfactory to the consignors, considering that the Pacific International Show had been called off and that the date for the sale had been changed.

L. W. Hutchins, who operates a large ranch south of Turlock, raises grade Holstein cows for sale. He keeps them until six or seven years old, then sells them according to test. If they do not come up to his standard, he sells them to the butcher.

Kenneth Abbott, formerly a prominent Holstein breeder of Milpitas, but more recently with Uncle Sam, and told how successful such organization had been in other parts of the country. A resolution was adopted urging the creation of a State Dairy Council and creating a fund to work for such an organization.

The Toyon Farm Association of Los Gatos reports the following recent Holstein records: Stanislaus Princess Pontiac, a three-year-old, 25.4 pounds butter in seven days; May Lilin Segis, junior three-year-old, 24.36 pounds; Finderne Jondine Pontiac, two-year-old, 22.8 pounds. The latter made 17.3 pounds as a junior two-year-old.

There are 353 cow testing associations in the United States, representing 9778 herds containing 168,348 cows. California ranks sixth with 16 associations, second with 653 herds, second with 19,814 cows, also first in the number of cows per herd with an average of 40.8, and first in the number of cows per association with 1238.3. The average number of cows per herd in the United States is 27.6 and the average number per association 476.9.

Cows from the Palo Alto Stock Farm are represented in three of the classes of ten leading Holstein cows in America for the year, including one second and one third. Nanette Aine Pauline completed on December 19 a seven-day test, making 36.28 pounds. Johanna Princess Mooie 2nd, a junior three-year-old, eight months after calving made 24.30 pounds butter and 484.4 pounds milk in seven days. This gives her the world's combined milk and butter record in this class. She will complete her yearly record in February and promises to make over 1100 pounds butter. Laura Meeka, on yearly test, to be completed in April, is going at a 1300-pound gait.

Beef Cattle.

H. M. Barngrover of Santa Clara sold three yearling Hereford heifers to George Small of Hollister.

H. M. Barngrover of Santa Clara bought 24 head of purebred Hereford weanlings of Clinck & Peters of Quincy.

J. A. Bunting of Mission San Jose tests his herd of Herefords for tuberculosis every year. The last test showed no reactors.

Stalder Bros. of Riverside purchased 30 head of high-grade Aberdeen-Angus cows at the Tagus Ranch sale. They were in calf by one of the best of the Tagus Ranch registered bulls.

T. T. Miller has moved his Shorthorns from Los Angeles to Hollister. He is making an extensive improvement and plans for one of the finest breeding establishments on the Coast.

The Wyoming Hereford Corporation, Cheyenne, Wyo., booked orders for 130 heifers and 5 bulls at the Los Angeles Liberty Fair. And yet some breeders say that it doesn't pay to make the shows.

Warren T. McCray, Orchard Lake Stock Farm, Kentland, Ind., has sold practically a million dollars' worth of Herefords, sired by Perfection Fairfax. Who says that it does not pay to stake a big pile on a good bull?

The annual report of the Shorthorn Association shows good progress for the year, as the amount received from registrations and transfers was $255,141.93, as compared with $170,970.46 for the preceding year.

An average of $1,566 on 50 Herefords was made at the International sale held at Chicago. The grand champion heifer, Madam Donald 2nd, topped the sale at $8,300, thus establishing a new record for American-bred females.

At the sale of Shorthorns held in connection with the International Livestock Exposition at Chicago, 43 head sold for an average of $2,307—29 females averaging $1,505 and 14 bulls averaging $4,012. The grand champion bull of the show, Lord Rhybon, topped the sale at $15,000.

Last week we stated that the Hereford bull purchased by H. M. Barngrover of Santa Clara was a grandson of Woodford, the noted bull owned by Col. Woodford of Kentucky. We should have stated that Woodford was owned by Col. Taylor.

In their last report on livestock conditions, Clay, Robinson & Co. advised cattlemen to keep plenty of young cattle on hand and expressed themselves as confident that there is going to be a tremendous demand for meat for many years. J. Ogden Armour predicts that prices will remain high for at least four years.

Swine and Swinemen.

Falfaldale Farm, Perris, has sold seven young Duroc gilts to R. H. Long, Ethenac.

A. B. Humphrey, Escalon, has sold a Berkshire herd header to Adohr Ranch, Van Nuys.

Maurice Rucker, the well-known swine breeder, has been engaged by Fred Hartsook of Lankershim to take charge of his ranch.

Llano Vista Ranch of Perris has sold the sensational young Hampshire boar, Liberty, to Conejo Ranch at Newbury Park for a reported consideration of $500.

A. B. Humphrey of Grapewild Farms, Escalon, has added to his Berkshire herd a son of Epocal, the much-talked-of English boar owned by the Gossard Breeding Estate, Martinsville, Ind.

W. B. Hewitt of Van Nuys sold three herd boars at the Liberty Fair, these going to George Junior Republic at Chino, American Hog Syndicate at Palo Alto and M. A. Webber, Daggett.

L. E. Putnam of Stanislaus county is feeding his damaged blackeye peas to his hogs. He considers one bushel of peas equal to two of barley fed whole. He doesn't think it necessary to cook them.

Peters, Lamson & Walker of Devore have booked an order for foundation stock to be shipped to H. F. Bahmeir, Farm Advisor of San Bernardino county, who is about to locate in the State Settlement Colony at Durham.

Berkshire breeders will be interested in the fine china dinner service valued at $300 which Hotel Whitcomb has donated to be given for the best Berkshire boar and three sows bred and owned by exhibitor and shown at the San Francisco show. This special prize should bring out a large class.

Anchorage Farm, Orland, sold a granddaughter of Star Leader to John Cornwell of Orland some time ago. She was entered in the under-six-months class at the Orland Fair and won second prize. Mr. Cornwell was so well pleased that he bought two bred sows from Anchorage Farm, ordered two more sow pigs and wanted to pick out a boar to go with them.

The Tulare County Duroc-Jersey Breeders' Association will hold its first consignment sale of purebred sows and gilts in the new sales pavilion, Tulare, January 15, at 10 o'clock. The offering will include the picks of the best herds in the

BREED For Production and TYPE

Our great Holstein herd contains such cows as Lauramelka, State record 4 year old, who will make on her present yearly official test over 1,300 lbs. butter, Nanette Aine Pauline who has just made 36.28 pounds in 7 days. Finderne Alexis a 38 lb. 3 year old, Johanna Princess Moore 2nd, who has just made the world's combined milk and butter record in the 8 months after calving class, and many others who are making Holstein history.

Our herd sire is King Pontiac Segis Korndyke, whose first seven sires have 492 A. R. O. daughters, four of them with records over 40 lbs. and 33 over 30 lbs.

King Pontiac Segis Korndyke has to date 24 daughters in milk, their records averaging over 20 lbs in 7 days as 2 year olds.

If you want the best at reasonable prices, write or call:

PALO ALTO STOCK FARM

M. H. Tichenor, Pres. = Palo Alto, Cal.

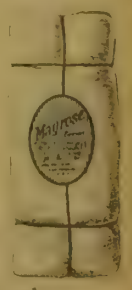
To Producers and Consumers of the California Grain-fed HOG:

It is just about two years ago since we first started our advertising campaign to

give the California Pig a chance

We were confident that California grain-fed pork is equal in quality to grain-fed pork produced anywhere else. From the hogs we received we selected the best from which to cut our

MAYROSE brand HAMS and BACON



We unhesitatingly urged you Consumers to buy these smoked meats, and we never ceased our efforts to encourage you Producers to raise better and still better hogs, second in quality to none. The results of this campaign have been most gratifying to Consumers, to Producers and to ourselves.

The California grain-fed hog has MADE GOOD—
Let us ALL keep up the good work!

WESTERN MEAT COMPANY
SAN FRANCISCO

county. The sows will represent the most popular strains and will be bred to some of the best boars in the State.

W. P. Andrews, breeder of "Andrews' Quality Durocs," Modesto, reports the following sales: March boars to Boothe & Sherwin, Ceres; D. Garzoli, Bolinas; Standard Lumber Co., Sonora, and E. R. Paige, Modesto. Bred gilts to H. P. Dwight, Merced; one to M. E. Kline, Modesto; two to Mrs. Daniel Boone, Modesto; four to H. Ortman, Modesto, and one each to William G. and C. O. Love, Danville.

Last week, in telling about the purchase of the Berkshire sow Riverby Princess by J. Francis O'Cononr of Castleview Farm, Santa Rosa, we said that she was champion at the National Swine Show, while we should have stated that she is champion of the world, having won this honor at the P.-P. I. E. Mr. O'Conner of Castleview Ranch, Santa Rosa, champion sow, Rookwood Lady 100th.

The Castleview Ranch of Santa Rosa recently sold to H. C. Muddox, the well-known banker of Sacramento, Grand Lady Mayhews, 1916 grand champion sow at the California State Fair. This great Berkshire sow was bred by A. B. Humphrey and told to A. W. Foster for $500 at public sale. Mr. Muddox is collecting a grand herd of Berkshires, having previously bought Ames Rival 102nd, junior reserve champion boar of the world, from the Frank A. Brush herd, also Rincon's Leader, junior yearling champion boar at the last State Fair.

Sheep.

The Glenn County Farm Bureau is conducting a campaign for an effective ordinance against sheep-killing dogs.

The sheepmen of the State are expected to organize the California Wool Growers' Association at a meeting to be held at the University Farm, Davis, January 20. It is intended to follow out the plan of organization of the California Cattlemen's Association. The State will be divided into five zones and a manager will be appointed in each district to keep the parent organization in touch with marketing and other business conditions. A campaign for membership is under way. It is estimated that to make the organization permanent it should include 75 per cent of the wool growers in each county.

More than three hundred representatives of mills and wool firms recently engaged in spirited bidding at a three days' auction of 15,000,000 pounds of wool commandeered by the Government last May and now to be released. It is understood that there will be another auction at about the end of the year, when 20,000,000 pounds will be turned back from the Government. The Government now holds 98 per cent of last year's crop, taken from the growers at a figure about 25 per cent above the world level of prices, as an incentive to production. Had the war continued this supply would hardly have been sufficient, but now the Government is in the market to sell over 300,000,000 pounds of wool and faces the problem of getting it back into the commercial trade without knocking the bottom out of the market.

LIVESTOCK DIRECTORY.

Rate in this directory 3c. per word each issue.

SWINE.

Poland-Chinas.

SOW BARGAINS—We are offering some exceptionally nice tried sows, bred and open gilts, at attractive prices. They are all sired by the undefeated and world's grand champion Superba and out of big type sows, which cost me $200 and over. Investigate before buying elsewhere. Rough's Greenfields, Arlington Station, Riverside, Cal.

THE BEST IN THE WEST—California Gertsdale and President's Equal are my herd sires. Fall and spring boars now ready to move—each one a corker. Dr. J. A. Crawshaw, Hanford, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, Cal.

40 SOWS and daughters of Big Bone Bob and I B A Wonder sows for sale. Price right. N K Horan, Lockeford, Cal.

McCARTY'S POLANDS—Cholera immune. Big, vigorous boars. The kind Kansas King sires. Price reasonable. "Money back if no like." Alex D. McCarty, 324 Insurance Exchange Building, San Francisco.

FOR SALE—Two fine young boars out of $300 sow, Queen of San Joaquin, by Smooth Jumbo, grandsons of Candy Kid and President. Price $75 each. If you don't like them return at my expense. C. A. Vaughan, Hanford, Cal.

GATEWOOD BRED SOW SALE—On January 28 we will sell forty big type sows and gilts bred to King's Big Bone Leader and Giant Bob. Chas. Gatewood & Son, Route J, Fresno, Cal.

BIG TYPE POLAND-CHINAS—Young serviceable boars and spring weanlings from my best sows and Blucher, an exceptionally good boar. P. E. Mitchell, Atwater, Cal

WEANLING PIGS, both sexes, Gerstdale Jones and Caldwell's Big Bob blood lines. Booking orders for spring. Forest View Ranch, Paradise, Cal.

ELDERSLY FARM—Big type Poland-Chinas with quality. Young stock from the breed's best big type sires for sale at reasonable prices. J. H. Ware, Live Oak, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

20 HEAD of Big Bone Bob, Grand Model and I B A Wonder stock for sale. J. W. Wakefield, Acampo, Cal.

HEWITT'S BIG TYPE POLAND-CHINAS—Bred sows and gilts. Hewitt & Hewitt, Dixon, Cal.

LAKE SIDE STOCK FARM—60 first-class gilts and a few boars from 6 to 8 months old. Geo. V. Beckman & Sons, Lodi, Cal.

POLAND-CHINA PIGS WITH RIBBONS. Prices right. Johnnie Glusing, Winton, Cal.

REAOAKS RANCH herd of registered Poland Chinas W J Hanna, Gilroy

POLAND-CHINA PIGS — Bernstein, Trewhitt, and Ross blood. B. M. Hargis, Tulare.

Berkshires.

CASTLEVIEW GIANT TYPE BERKSHIRES are the thrifty, typey, quick-growing kind that will make larger profits for you. Prizes and Championship honors are awarded—by the greatest judges in America—only to animals possessing the essential qualities for economical meat production, viz.: heavy bone, good feet, broad strong backs, large hams and easy feeding qualities. Our grand champion herd includes Riverby Princess, grand champion sow of the world; Rookwood Lady 100th, 1917 grand champion of America; Mayfield Laurel 15th, 1917 grand champion of California. Bred sows, bred gilts and fine weaned pigs for sale.
Castleview Ranch . Santa Rosa, Cal.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion, Star Leader. Anchorage Farm, Orland, Cal.

BERKSHIRES—GUERNSEYS
GRAPE WILD FARMS
A few fall boars left, by Royal Superbus; also a limited number of fall gilts. We have early spring pigs of both sexes, and we are breeding some top gilts for fall farrow. Prices upon application. A. B. Humphrey, Escalon, San Joaquin county, Cal.

$25.00—$35.00—$50.00
BARON DUKE 201ST
Omaha Grand National Champion.
BOAR PIGS: 3, 5, and 6 months old, from 650-pound prize-winning sows. We will sell nothing that we wouldn't use ourselves.
SANDERCOCK LAND CO.,
906 K St., Sacramento.
In charge of Natomas Land sales.

BERKSHIRE BOARS—Some exceptionally good young prospects, from weanlings to serviceable age. Write or call and see us. Our prices and class of stock will interest you. R. J. Merrill & Son, Morgan Hill, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

MAPLEWOODE RANCH, Calistoga, Cal., offer some fine Berkshire fall and spring pigs of both sexes. Prices consistent with quality and breeding.

CASTLEVIEW BERKSHIRES are the typey, modern, quick-growing kind, choicest blood lines. Prices reasonable. Castleview Ranch, Berkshires exclusively, Santa Rosa.

BERKSHIRES IN PERRIS—They make money for me. Write for catalogue and prices. F. L. Hall, Perris, Cal.

FOR REAL GOOD BERKSHIRES write Frank B Anderson, B 724W, Sacramento, Cal

BERKSHIRES—Fair Oaks Ranch, Willits, California

BERKSHIRES—Sired by Star Leader, the $1,500 boar. Kounias Registered Stock Farm, Modesto.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, Cal.

Chester Whites.

"BILLIKEN" CHESTER WHITES—How about the spring farrows? Are you going to use a good boar and produce some growthy, smooth pigs? If so, you need one of my yearling boars and I have but 3 left. Yearling gilts bred for March farrow. Have but 6 of these left for December delivery. A few fall weaned pigs. C. B. Cunningham, Mills, Cal.

Duroc-Jerseys.

DUROCS—Orion C. King blood. Very typey boars ready for service. Some gilts and boars 4 months, from 800-pound junior yearling sows, same blood. Something worth while. Prices reasonable. Also one junior yearling champion sow. Will be bred for second litter this week. Garden City Sanitarium, San Jose, Cal.

GREENWOOD DUROCS—My two herd boars carry blood of more recent California champions than any two boars in any other herd. Sows all blue ribbon winners or of blue ribbon parentage. Bred gilts; bred sows; boars. Attractive prices. H. C. Witherow, Live Oak, Cal.

DUROC-JERSEYS AT IRELAND—Home of Cherry Volunteer II. Grand Champion Boar at Riverside. Ireland's Orion Defender and Orion's King of Ireland are excellent sires in service. Booking orders for spring delivery. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles.

THE JOHNSON HERD of Duroc-Jerseys—Spring gilts and boars, sons and daughters of Johnson's Defender, the 1917 junior champion, for sale. Weaned boar pigs, $25. Frederick M. Johnson, Napa, Cal.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, Cal.

BARGAIN IN BOARS—Have two splended March 4 boars that I do not want to carry over, and will not kill; will sell for $50.00 each. W. P. Andrews, Rt. A, Modesto.

OPEN GILTS and two extra good service boars, one year old, grandsons of Taxpayer 13th. F. W. Gardiner, Rt. 4, Box 735, Sacramento.

START RIGHT—Registered Duroc-Jersey weanlings. Three for $35; satisfaction guaranteed. Red Rock Ranch, Glen Ellen, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

A FEW CHOICE BRED GILTS, spring boars and gilts of the best blood lines. H. P. Slocum & Sons, Willows.

WE ARE CONSIGNING to Tulare sale an Advancer sow bred to Chief Defender. McDowell & Kendall, Lemoore.

WEANLING PIGS for sale by a son of the grand champion of 1917. Jack Borge, Los Banos.

DUROC-JERSEYS—Weanlings of either sex ready for immediate delivery. H. E. Boudier, Napa.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

Hampshires.

MY HAMPSHIRES are money makers. Stock for sale. Buy now. L. A. Denker, Saugus, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

DAIRY CATTLE.

Holsteins.

STRAIGHT, deep-bodied sons of Finderne Soldene Valdessa (whose dam and sire's dam are both world's record holders) and of Segis Pontiac Acme, from 30-lb. dams. Toyon Farm Association, First National Bank Bldg., San Jose, Cal.

HIGH-CLASS HOLSTEINS—I have for sale some sons of Sir Veeman Korndyke Pontiac from A. R. O. dams. Write for particulars or come see them. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Yolo Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

FANCY GRADE HOLSTEIN COWS and heifers from herd testing 100 per cent. Animals qualified for certified dairies. The Lewis Company, San Jose.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls Reasonable prices.

GLORIETTA STOCK FARM, WOODLAND, CAL.—Registered Holsteins. Special offering of fine heifers and young bulls.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto.

CREAMCUP HERD — Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, B. 437, San Jose, Calif.

F. H. STENZEL, SAN LORENZO, CAL.—Breeder of Registered Holsteins. High test producers.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, Cal

HENGERVELD DE KOL BLOOD. High producers. T. B. King, Visalia.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle. McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E Freeman, Route B, Modesto, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

SUNNYBROOK RANCH, Willits, Cal. — Registered Holstein-Friesian bulls for sale

Jerseys.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal

YOUNG BULLS from Register of Merit cows. W. G. Gurnett, Orland, Cal.

FOR SALE—Young registered Jersey bull. Sire, Valet's Peter of L. Dam, Rebekah's Foxy Girl. O. J. Ames, Oakdale, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City.

CLAREMONT GUERNSEYS—Young bulls of serviceable age from A. R. dams. L. D. Smith, 333 Vicente Road, Berkeley.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco.

MILKING SHORTHORNS.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

FOR SALE—Guernsey bull, Raymonds St. Saviours Prince No. 41396. M. Dye, Visalia, Cal.

BEEF CATTLE.

SHORTHORNS — Carruthers Farms, Live Oak, Cal.

AM A SPECIALIST in registered beef cattle and familiar with the best herds in the country. If you need Shorthorns or Herefords, make use of my experience, save money and be satisfied. R. M. Dunlap, Hotel Land, Sacramento.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, Cal

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Cal. John Troup, Supt.

GEORGE CALLAHAN, Breeder of registered Herefords, Milton, Cal

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., props., Wells, Nevada Registered Hereford cattle. Breeding stock for sale.

REG. SHORTHORNS—Calves and yearlings for sale, both sexes, reds and roans. Choice Goods breeding. Fair Oaks Ranch, Willits, Cal.

JACK LONDON RANCH—Breeders of prize-winning beef Shorthorns. Glen Ellen, Cal. Eliza Shepard Supt

MISSION HEREFORD FARM—J A Bunting, Mission San Jose, Cal. Registered Herefords

HOPLAND STOCK FARM—Registered Shorthorns Prices on application Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto Cal

SIMON NEWMAN CO., breeders of Registered Herefords, Newman Cal

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

KAUPKE BROS., WOODLAND, CAL. — Breeders, importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets, Hanford, Cal

CALLA GROVE FARM, MANTECA, CAL.—Breeders and importers of Hampshire sheep

FOR SALE—Nine hundred high bred lambs J. A. Youngreen, Orland, Cal.

HORSES AND MULES.

FOR SALE—Fine young Jack from imported stock. Raised right. C. E. Ruggles, Esparto, Cal.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. T. Dwyer and W. S. Guilford, owners.

MULE-FOOT HOGS, large type; booking orders for spring litters These are the farmers' easy feeding, profit-producing kind. H. T. Bailey, Box 37, Lodi, California. "The Blue Gums."

CROLEY'S BALANCED DAIRY FEED—The cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo H. Croley Co., Inc., Eighth and Townsend streets, San Francisco, Cal.

FOR SALE—One Calf-Way milking machine, 3 units Will sell complete or without engine and pipe. Is in firstclass condition Only used two months. D. F. Conant, Rt. B, Box 231, Modesto, Cal.

HARTSOOK BIG TYPE POLANDS—A fine lot of young boars. Both bred and open gilts for sale Toggenburg goats and Holstein bulls ready for service Fred Hartsook, Lankershim, Cal

FIFTY HEAD of Angora goats for sale. Address F. W. Nason, Jamesburg, Monterey county, Cal

POLLED JERSEY breeder's names, etc. See adv. ... page.

Lambing Sheds Reduce Losses

[Written for Pacific Rural Press.]

EXPOSURE to cold, rain and winds carries off more lambs than any other cause. That is the decision reached by Prof. R. F. Miller of the University Farm, after an investigation of California sheep-raising conditions. He found that sometimes a two- and three-day storm would carry away from 10 to 15 per cent of the lambs in a flock.

This little lamb was born in a lambing shed. Notice how well he developed.

As these conditions are realized, the desirability of lambing sheds is seen, and they are now used and recommended by many sheepmen who formerly thought them impractical. The manager of one large ranch in Tehama county estimates that 40 to 50 per cent of his losses have been eliminated since he began using these sheds.

Probably there are some sections of the State where these sheds are not necessary, but where storms occur frequently and little natural protection is afforded some shelter will be found profitable.

There are many types of shelter, and prevailing conditions determine largely the most practical shed for a given locality. But in building any kind of a shed there are certain points that should be observed.

First—The shed must furnish ample room for the number of ewes sheltered. Crowding ewes that are lambing or about to lamb is certain to result in loss. A shed or barn 80x80 will accommodate about 600 ewes. By allowing ample room, the ewes that are lambing during the night will usually go quietly into a corner by themselves. The next morning, when the gate is opened, the ewes will slowly move out, and those having just lambed will often stay behind in the barn.

Second—The barns or shed should be provided with a number of individual pens (3x3) for an ewe with twins or with a weak lamb, and the barn should be so constructed to admit of further partitioning for ewes and lambs as required.

Third—During wet weather it is important to have the shed well bedded with straw or it will become very filthy. The sheep track in more or less mud, and when the fleeces are water soaked the bedding soon becomes wet.

Fourth—In addition to the shed, it is very helpful to be able to hold the ewes with young lambs in small numbers, or to keep each day's drop separate for a few days. The ideal arrangement is to have a number of 10- or 20-acre fields adjacent to the shed, which may be used for this purpose, although this is not always possible. After the ewes are turned out in the fields, it is not necessary to bring them back to the barn at night. From these small fields the ewes are worked together into bands of 200. When the lambs are two or three weeks old they are docked and marked, and then usually the ewes are put into bands of 600 until their lambs are weaned.

When barn room is limited the ewes are sometimes worked in relays, taking out the ones that are about to lamb by inspecting their bags and marking them in a chute and then separating them by means of a dodge gate. This is a precarious undertaking, however, and heavily pregnant ewes cannot be handled too carefully. When this method is followed it would be more practical to breed the bands so as to come in at intervals of three or four weeks.

Handling the ewes very quietly is most important and the services of a good night man are almost invaluable. There are many details to look after and as every ewe is somewhat "different" the best of judgment is needed for successful lambing.

If you are thinking of building a lambing shed, write to the College of Agriculture, Berkeley, for a copy of Circular 188, "Lambing Sheds," by Prof. Miller. It covers the subject more fully, gives suggestions for building suitable lambing sheds, and includes both photographs and plans. It's a dandy.

WINTER PASTURAGE FOR COWS.

To the Editor: We are feeding 12 cows and have no silo. We wish to fence our alfalfa in small lots, so that the cows can feed off each lot in about a week's time and the ground will not be trampled too much. What disadvantages are there, if any, in this method?—C. L. E., Elk Grove.

[Answered by Livestock Editor.]

The disadvantages of the pasturing method you outline are so insignificant as compared with the advantages that they are not worth taking into consideration. Injury to the stand of alfalfa can be overcome by cultivating each field after pasturing it. Such a method seems to do the stand good, for the cows distribute the manure evenly and the cultivating not only works the manure in, but loosens up the soil.

A still further improvement on this method is to disk each field one way with the disks set straight and seed in about forty pounds of barley to the acre. This barley will grow while the alfalfa is dormant and can be pastured down several times before the alfalfa begins to grow again in the Spring. If you have several fields you can rotate the cows from one field to another and by the time they have pastured each field once, the barley in the first field will be up and ready for them again. In the spring you can let this barley grow up with the first cutting of alfalfa, and not only will this give you a heavier cut but it will tend to keep the fox-tail out and will improve the quality.

COW HAS WOODEN TONGUE.

To the Editor: I have a cow that froths at the month and her tongue is swoolen so badly that she cannot eat. What can I do for her?—W. L. T., Tulare.

[Answered by Livestock Editor.]

First of all, examine the mouth carefully, as some foreign body may be lodged in the tongue or somewhere in the month, or a sharp, split or diseased tooth may cause the irritation. It is probable, however, that the animal is affected with a condition known as wooden tongue, which is lumpy jaw affecting the tongue instead of the jaw. It is due to a mold known as "ray fungus" which lodges in the tongue. The treatment consists in making several slits along the upper surface of the tongue with a sharp knife and painting them with iodine; also, give the animal daily, three drams of iodide of potash in her feed. If this treatment causes loss of appetite, watery eyes, or scurfy skin, discontinue for a few days and then begin again with smaller doses.

THE YATES KIND

Big Type Poland Chinas

Prize Winners Money Makers

Won at Orland Fair:

ALL GRAND CHAMPIONSHIPS
SENIOR CHAMPIONSHIPS

5 FIRSTS AND 6 OTHER PRIZES

FOR SALE:

GILTS, BRED FOR SPRING

Farrow to Grand Champion Boar, Long Jumbo, Yates Big Orphan, and Long's Hadley. Boars farrowed in March and to above sires.

Pigs—Tops from fall litters sired by Long Jumbo, Superbus Wonder, and Long Chief out of sows of Big Orphan, Defender, and A Wonder breeding. This stock will surely please you.

WRITE OR CALL.

R. J. YATES Orland, Cal.

January 15, 1919

30 Head of Pure Bred Duroc-Jerseys and Sow Gilts

The Tulare County Duroc-Jersey Breeders' Association will hold its first consignment sale of purebred sows and gilts in the sales pavilion in Tulare, Cal., JANUARY 15, 1919, commencing at 10 o'clock.

These sows and gilts are the choice of our herds and are of the most popular strains. They have been bred to some of the best boars of the State, representing the following noted blood lines: Defender, Orion Cherry King, Cherry Chief, Model Wonder, Burk's Good Enough, Crimson Wonder and California Defender.

Catalogs will be ready about January 1, 1919. Get your name on the mailing list now. Remember the date, JANUARY 15, 1919.

Write R. C. Sturgeon or Allen Thompson, Tulare, Cal., for catalogs.

CONSIGNORS:

S. A. Williamson, Visalia.
R. E. Clifford, Strathmore.
R. C. Sturgeon, Tulare.
Joe. N. Chinowth, Visalia.
J. L. McDowell, Lemoore.
Henry Cummins, Visalia.
Allen Thompson, Tulare.

Geo. A. Bell, Auctioneer.

Grand Champion Herd of Hampshires

FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.

Best families.

Finest individuality and clean-cut markings.

Call or write.

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

Kings County Jack Ranch

The largest Jack and Mule farm on the Coast. The best selection. Can show you the heaviest, biggest boned animals you ever saw.

1100 to 1400 lbs. in weight.

Prices right.

Special Offer: 50 Young Mules

JOHN BURRELL, HANFORD, CAL.

ASK YOUR DEALER FOR

El Dorado Cocoanut Oil Cake

for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address

EL DORADO OIL WORKS,

433 California Street, San Francisco

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

CASTLEVIEW
GIANT TYPE
BERKSHIRES

Our Grand Champion Herd
Includes
Riverby Princess
Grand Champion Sow of the World
Rookwood Lady 100th
1917 Omaha National Grand Champion
Mayfield Laurel 15th
1917 California Grand Champion

For Sale Now
BRED SOWS
BRED GILTS

Splendid Weaned Pigs, Both Sexes, Sired by Baron Duke 201st, Mayfield Rookwood and Iowana Rival Majestic.

Safe to Order by Mail

We Guarantee Perfect Satisfaction or Refund Purchase Price

Castleview Ranch
SANTA ROSA

Grand Champion
BERKSHIRES

AMES RIVAL 70TH

We have in our herd the Grand Champion Boar, Grand Champion Sow and First Prize Senior Herd at State Fair.
Forty-three litters this year averaged ten to the litter. Let us supply you with foundation sows and boars to head your herd.

JAMES MILLS CO.
Hamilton City : : California

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

Conejo Ranch, Newbury Park, has sold 60 head of Duroc sows and gilts to Diamond Bar Ranch, Spadro. The sale included the complete Conejo herd of show sows. There were also three boars in the purchase, including California's Great Wonder, grand champion at Sacramento.

San Francisco Show Notes

Some breeders felt that the directors of the California International Livestock Show made a mistake in postponing the show until February 8. They thought that it ought to have been held sooner, but that the directors exercised wise judgment is now self-evident. The influenza epidemic has not yet run its course, and shows which have been held recently have had small exhibits and even smaller crowds. It is expected that conditions will be normal before the new date, and the entries that are pouring in indicate that a much larger and better lot of livestock will be seen than if the show had been held on the original date.

Several intending exhibitors have inquired about the switching charges at San Francisco, and Manager Joseph E. Painter gives the following information:

On all stock originating on the Southern Pacific lines there will be no switching charge made by them, but there will be a switching and hauling charge made by the Ocean Shore Railroad to the show grounds of $5 per car.

Where the stock originates on the Santa Fe Railroad, there will be an additional $2.50 switching charge made by the Southern Pacific, which railroad will have to haul the cars of stock between the Santa Fe terminal and the Ocean Shore switch.

In case the stock originates on the Northwestern Pacific and comes across the bay from Sausalito, an additional $3.25 charge will be made by the State Belt Line for delivery to the Southern Pacific, but in order to obviate this the stock may be switched over to the Santa Fe and hauled around the bay and thus save this $3.25 charge.

There will therefore be the charge of $5 in the majority of cases. In the case of the Santa Fe the total charge will be $7.50 and if a car is handled by the three roads there will be a maximum charge of $10.75.

The tariffs governing shipping rates have nothing to do with the switching charges within the city limits; therefore the one-way rate to the show and return free on all stock shipped for exhibition purposes does not apply to the return switching charges as at present. Mr. Painter is taking the matter up with the various railroads and is endeavoring to have the return switching charges omitted. We will report on this later.

DON'T RUSH HOGS TO MARKET.

The California Swine Breeders' Association asks that wide publicity be given the following announcement just sent out by them:

"This is to call your attention to the fact that, in agreement with the Food Administration, the packers of this State have agreed to pay within one cent of the Chicago prices for hogs. The minimum for Chicago for January has been set at $17.50 for average packers' droves over 150 pounds weight. This means, then, that the minimum for California for January will be $16.50. We want to call your attention, however, to the fact that the California buyers, for the present, can apply this minimum only to hogs averaging between 150 and 250 pounds; in other words, the demand for heavy carcasses, hogs weighing 250 pounds or more, has dropped until killers are having difficulty in disposing of them.

"Also, due to the influenza epidemic, none of the packers, particularly in San Francisco, are able to kill more than one-half as many hogs as they normally do. There will be no reduction in price if the quality continues as at the present time, but until health conditions among their employees are normal it would be advisable to correspond with the packer to whom your hogs might go, before shipping them, in order to find out whether or not they can be handled. This will avoid delay, confusion and some loss."

Make Hogs Pay

Our Anchorage Farm Berkshires are money-makers. They are strong in the blood of our world's reserve champion, Star Leader, and have size, type, quality, vigor, and easy-feeding qualities—everything necessary for the ideal profit-producing hog.

Bred Gilts Will Start You Right

Don't let anything on earth stop you from getting some of the wonderful gilts we are now offering—granddaughters of Rival's Champion, and bred to Anchorage Leader 2nd, an outstanding son of Star Leader. This is the blood you need to insure your success.

Gilts with good bone, well sprung ribs, strong backs, heavy hams. Right in every way and all ready to go ahead and make money for you.

It's a crime to offer them at $75 each, but we are going to do it to introduce our stock in new localities. They are worth much more.

Order Early—Avoid Disappointment

Don't put it off, for these gilts will go quickly. Get yours right now and begin to reap a golden harvest. If you want further information, send for free illustrated booklet.

Anchorage Farm

P. O. Box 163A = Orland, Cal.

MONTELENA HERD
of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions

Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.

We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

Calistoga **A. L. TUBBS CO.** California

OAK KNOLL FARM
LAKEPORT CALIFORNIA
We have sold all our young boars and are now booking orders for March delivery
Highlander, the $1,000 Grand Champion Boar, heads our herd of
CHESTER WHITES
SAN FRANCISCO OFFICE, 601 BALBOA BLDG.

HAUSER'S DIGESTER TANKAGE
Gives Greatest VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood. Pomona.]

NEW YEAR'S POULTRY WORK.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

Before commencing on the new year, we ought to take a retrospective view of the last, or old year. Find out where we have missed it and promise ourselves to never again make the same mistake. One of the farmer's greatest mistakes, in California, is in neglecting to provide proper housing for a flock of chickens. If the women of the family insist on keeping chickens, he allows them some old open shed, where the wind whistles around and the rain beats in, then the chickens take cold, followed by roup and all the feed and care that has been given is so much thrown away. Given decent shelter, which for poultry consists in a rain-tight roof, and three wind and rain-proof sides, a small flock of poultry will hold their own in regard to health, out on range; then whatever is fed to them will be returned in eggs. But with poor shelter feed is almost of no use except to keep up the organism of the fowl.

Then, too, the farmer should find out which of the standard breeds he and his family like best, not what somebody else tells him is best, and having a good shelter, he should begin to grow into his favorite breed by purchasing at least a male bird to improve the flock he has. There is not anything looks worse than a farmer having a decent automobile, and a garage for it, a well painted house and stable, and then a flock of mongrel chickens scratching around. They simply don't fit in. On a prosperous farm things should harmonize and they can be made to do so at very little cost, both of money and labor.

It has been proven at nearly all egg laying contests, that standard bred hens lay more eggs with less mongrel. Some even go so far as to claim a $6.00 annual lay of eggs and charge the hen with a board bill of $2.00 leaving the neat sum of $4.00 for the housing and the first investment, care, etc., of the fowls.

LIBERTY FAIR POULTRY DISPLAY.

At the Liberty Fair I saw the best display of Bronze turkeys it was ever my lot to see in any show—some magnificent breeders—and in poultry there were almost all the standard breeds. Some very fine White Orpingtons, which, being an old Orpington breeder, made me wish I was in the game again. Wyandottes, too, have improved so much the last few years that it was a pleasure to look them over. I spent the whole day in the poultry department and feasted my eyes on all the birds. Then, too, I had a few Bantams in. You know when old fanciers get past caring for the heavy breeds, they go to the other extreme and take up with Bantams. Anyway, mine brought home the bacon, so, of course, like a kid with a Christmas horn. I've been tooting ever since. Three blues, three reds, a green, a yellow and a white ribbon was a pretty good haul for one exhibit. Rhode Island Reds were very well represented, but ducks and geese were a small exhibit. The real annual show for Los Angeles comes off in January and I will take more time to visit that and will tell you all about it later.

STANDARD BRED FOWLS—AMERICAN CLASS.

Commencing with the class called "American Class," we have all Wyandottes irrespective of color; Rhode Island Reds and Buckeyes; Rocks of all colors including the old Dominiques and the Javas. Taking them again in turn the standard weight of Wyandottes is for cock, 8½ pounds; hen, 6½ pounds; cockerel, 7½ pounds and pullet, 5½ pounds. Anything over that is superfluous fat, except in occasional specimens that make big bone; under weight the specimen is not up to standard, unless it is in poor condition and can take on weight without being what is called fat.

Weight of Rocks: cocks, 9½ pounds; hen, 7½ pounds; cockerel, 8 pounds and pullet, 6 pounds. And the same rule applies to Rocks as Wyandottes concerning over and underweight. There are always some large, fine specimens that run over and yet are not fat, because they have been fed for bone when young.

JAVAS.

Weight of cock for Javas, 9½ pounds; hen, 7½ pounds; cockerel, 8 pounds, and pullet, 6 pounds.

DOMINIQUES.

These are the old fashioned Plymouth Rocks and are a smaller bird than our modern improved Rocks. Weight of cock is 7 pounds; hen, 5 pounds; cockerel, 6 pounds, and pullet, 4 pounds.

Rhode Island Reds: Weight for cock, 8½ pounds; hen, 6½ pounds; cockerel, 7½ pounds, and pullet, 5 pounds.

BUCKEYES.

Cock, 9 pounds; hen, 6 pounds; cockerel, 8 pounds, and pullet, 5 pounds. Characteristics of the American class. All of these varieties have clean legs, that means no feathers or stubs on them; yellow in color; all breeds have red earlobes and all these breeds in the American class, without exception, lay a colored egg, a little varied in shade, especially in Rocks, but they never quite come white, though I have seen some very pale in color; so remember, all American classes lay colored eggs and all have red earlobes, stand well up on clean, stout legs and are the poor man's business hen in general. All have the dual quality of being good layers and also making good table fowl. The difference in breed or variety is merely a matter of choice.

BONES TOO BRITTLE.

To the Editor: I have every once in a while some Leghorn pullets that have both legs broken, sometimes two a day. They are in a big yard, 50 in a yard; there is no roosters or any other animal with them. It always gets my best layers. I even find them on the nest with both legs broken.—P. S., Oakley.

[Answered by Susan Swaysgood.]

Unless you are feeding some kind of grit that affects the bones, I would suspect the water of containing too much lime. Breakage in bones is always due to a brittle condition and it may be your hens are getting more mineral in grit, water or feed than the system will absorb rightly. Feed more green stuff and change your grit. I wish you would let us know how this pans out, for this is interesting to us, though not to you while you are having the loss. But there is where the trouble is—too much mineral.

$50.000.000 OF POULTRY PRODUCTS FOR 1918.

[Written for Pacific Rural Press by Geo. H. Croley.]

Poultry products as a whole actually increased in volume about 10 per cent during 1918, but owing to advance in prices the value will probably reach the sum of $50,000,000, as compared with $32,500,000 for 1917. This increased value was created by an advance of about 40 per cent in the price of eggs and about 60 per cent in poultry. Of this total volume, eggs make up about 65 to 75 per cent, and chickens about 22½ per cent, pigeons 3½ per cent, and turkeys, geese, ducks, etc., about 4 per cent.

Large flocks have been reduced in size as well as in number, but thousands of small flocks have been established in sections or neighborhoods where formerly poultry was produced in small numbers or not at all, thus becoming producers instead of buyers in the large distributing centers, as reflected in the market reports of receipts and sales.

This scattering of the field of production is responsible for much of the increase, for the reason that the ever present supply of fresh eggs and desirable table poultry encouraged consumption. In some localities as much as five to ten times as many dollars' worth of poultry products were consumed during 1918 as in any previous year.

Prospects for the poultry industry as a whole were never better.

EGG MEN OPTIMISTIC.

Manager J. H. Barber of the Poultry Producers' Association is very hopeful of high prices for eggs all through next year and particularly during the next two months. With a view to marketing their eggs in the East, the Poultry Producers have established an agency in New York.

Poultry Breeders' Directory

Rate in this directory 3c. per word each issue.

GIANT BRONZE TURKEYS—Gold Nugget Strain. Prove their superiority by winning Gold Special Sweepstakes for best turkeys at the following great shows: Arizona State Fair, 1916; Texas State Fair, 1917; California State Fair, 1917-1918; Los Angeles Show, 1917-1918; Pacific Coast Land and Industrial Exposition, Oakland, 1918. An unequaled record. Large turkeys can be raised at practically the same cost as small ones. Toms for sale that will increase size and improve any flock. I am the originator of the Gold Nugget Strain. J. Will Blackman, 607 East Third St., Los Angeles, Cal.

HALF BOOKED on chicks to April, last year's prices. Our 200-290 egg Brown Buff, White Leghorns; Barred, White Rocks, Reds; Anconas; Minorcas; Wyandottes; Orpingtons; Ducks clearing customers $5 each yearly. Many repeat orders. 10,000 capacity Hatcheries full now. Valuable 1919 circular ready. Few pullets, cockerels, hens. J. Beeson, Pasadena, Cal.

BABY CHICKS—We specialize this season on money-making White Leghorns—hatching from stock with high records that are unimpeachable. Also Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons, and White Wyandottes. Especially interesting circular with price list ready January 1st. B. W. Archibald, Soquel, Santa Cruz Co., Cal.

EASTERN BRED Mammoth Bronze Turkeys. Being sure my birds will give the usual satisfaction, I guarantee them to be as I represent. If not, return at once C. O. D. R. M. Dodge, Stafford Farm, R. D. 2, Box 129, Bakersfield, Cal.

BABY CHICKS—Ready in January. Order early and get the date you want. White and Brown Leghorns, Black Minorcas, R. I. Reds, Barred Rocks. Safe delivery guaranteed. Write for circular. Stubbe Poultry Ranch and Hatchery, Palo Alto, Calif.

WE ARE READY to book orders for baby chicks from seven different breeds. Stock well mated up and well cross-mated. Advance orders receive best attention. Santa Clara Valley Hatchery, Lincoln Ave., San Jose, Cal. Joseph A. Bihn, Prop.

ATKINSON'S PEERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels $5 and up. 200 pullets trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard St., San Jose, Cal.

BRONZE TURKEYS—Young toms and hens for sale; also yearling hens. Order breeding toms now and have them shipped when wanted. Eggs in season. Albert M. Hart, Clements, Cal.

BABY CHICKS—Hatched from our own stock in our own hatchery. Hens are of S. C. White Leghorn utility stock, bred for commercial laying. H. A. George, Route 2, Box 29, Petaluma.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 390, Los Gatos, Cal.

MAMMOTH BRONZE show and breeding deliveries. White and Brown Leghorns, Rhode Island Reds, Barred Rocks. E. W. Ohlen, Campbell, Cal.

BABY CHICKS—Booking orders for spring toms. Big, heavy-boned, good color. Eastern blood. $10 and $15. H. G. Stevenson, Jr., Winters, Cal.

BABY CHICKS (White Leghorns) shipped on approval before remitting. No weak ones charged for. Schellville Hatchery, Schellville, Cal.

MAMMOTH BRONZE TURKEY TOMS and hens for sale. Order now before prices advance. Also Collie dogs for herding. John G. Mee, St. Helena, Cal.

FOR SALE—MAMMOTH BRONZE TURKEYS—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, R. 2, B. 144D, Pomona, Cal.

WHITE WYANDOTTES—Purebred, vigorous breeding cockerels and hens for sale. B. W. Stawetski, Route B, San Jose, Cal.

FOR SALE—Golden Bronze turkeys. Big boned breeding toms of America's best strain. Eggs in season. M. M. Relman, Planada, Cal.

DON'T FAIL to order now if you want early chicks from our Hoganized S. C. White Leghorns. Tujunan Poultry Farm, Ceres, Cal.

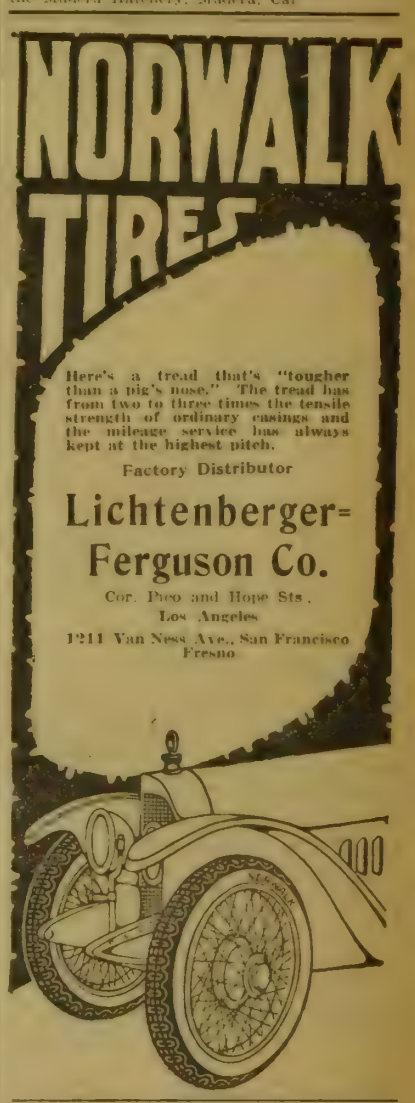
CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

WHITE LEGHORN BABY CHIX from heavy laying (Hoganized) stock. $15 per 100. We guarantee safe arrival. The Pioneer Hatchery, 108 Sixth street, Petaluma, Cal.

EASTMAN'S BRED-TO-LAY Hoganized and trapnested Barred Plymouth Rocks, January chicks. Eggs, Cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MODEL POULTRY FARM—White Leghorn specialists. Our fifteenth year. Baby chix and hatching eggs for sale. Also first-class breeding cockerels. Our prices are right. W. C. Smith, Prop., Corning, Cal.

PLACE ORDERS EARLY for chicks with the Madera Hatchery, Madera, Cal.



Chickens Sick?—Use Germozone
Roup, colds, bowel troubles, sore-head limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library. GEO. H. LEE CO., Dept. 428 OMAHA, NEB.

You Can Make a Handsome Income **BY TRAPPING**

Raw furs are extremely high now and the demand was never greater. Just think, even Skunks have sold this fall for over $9.75 each, and we know trappers who caught 19 Skunks in one night.

Wonderful Chance for Boys and Middle Aged Men

There's a splendid chance for you to make money by trapping; it's pleasant work. Don't worry if you've had no previous experience. Our beautiful 36-page book, "Trapping for Profit," tells all about trapping and handling of furs so that even the beginner can have wonderful success trapping and get the highest market price for his catch.

The book and our price list are yours for a postcard; they're absolutely free.

E. R. SKINNER & CO., (Dept. B) 1121 Front St., Sacramento, Cal.

The Rainy Season is at hand

Inspect Your Roofs Now

Take no chances. If they show indications of leaking, have them repaired before it is too late. Losses that are irreplaceable may occur from defective roofs.

Pioneer Roofing

is inexpensive, yet it makes an efficient, weather-resisting covering for every building. Its long life and attractive appearance make it a favorite with careful buyers everywhere.

Ask Your Dealer for

PIONEER

the original and reliable ready roofing.

It is your guarantee of quality and satisfaction.

—For—

BARNS

SHEDS

SILOS

RESIDENCES

WAREHOUSES

Pioneer Paper Co.

MANUFACTURERS

247-251 S. Los Angeles St.

LOS ANGELES - CALIF.

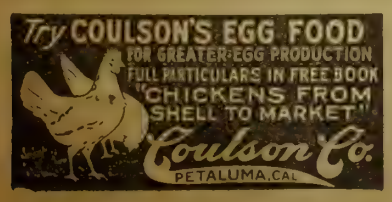
Cash for Raw Furs!

If you don't send for our price list we are both losers, because you want our high prices and we need your raw furs.

L. BRIEFNER & SONS

(Est. 1861)

154 West 25th St., New York City.



BOTH SIDES CLAIM VICTORY.

In a recent issue we printed an item under "Poultry Notes" to the effect that in the case of the Poultry Producers of Central California vs. J. R. Bell, tried before Judge Woods in the Alameda Superior Court, that decision was given to the defendent.

Since printing this item we have received a letter from J. H. Barber, manager of the Poultry Association, stating that we were in error and calling our attention to the fact that judgment was rendered the plaintiff for $244, being for eggs sold by Bell before he sold out his poultry business.

Mr Barber writes: "I am sure you will be glad to publish the actual facts in the case, which are as follows: J. R. Bell was one of the original subscribers to the Poultry Producers' agreement, but refused to fulfill his agreement. We brought suit against him for specific performance of the contract, that is, to compel Mr. Bell to deliver his eggs to the Association as he had agreed to do. We also sued for damages as provided in the contract. Immediately after the suit was brought, Mr. Bell sold off his hens and went out of the poultry business and his attorney argued that on this account specific performance of the contract should not be granted because Mr. Bell no longer has any eggs to deliver. Naturally it would be useless to order him to deliver eggs that he has not got.

"But this does not affect the validity of the contract nor relieve Bell from his liability for damages as provided in the contract. The court therefore gave judgment against Bell in favor of the Poultry Producers for five cents a dozen on all eggs sold by Bell as long as he was in the business amounting to a total of $244."

This case has caused considerable interest to poultry men, as the question of validity of contracts was involved, and we have gone further into the matter to ascertain the facts.

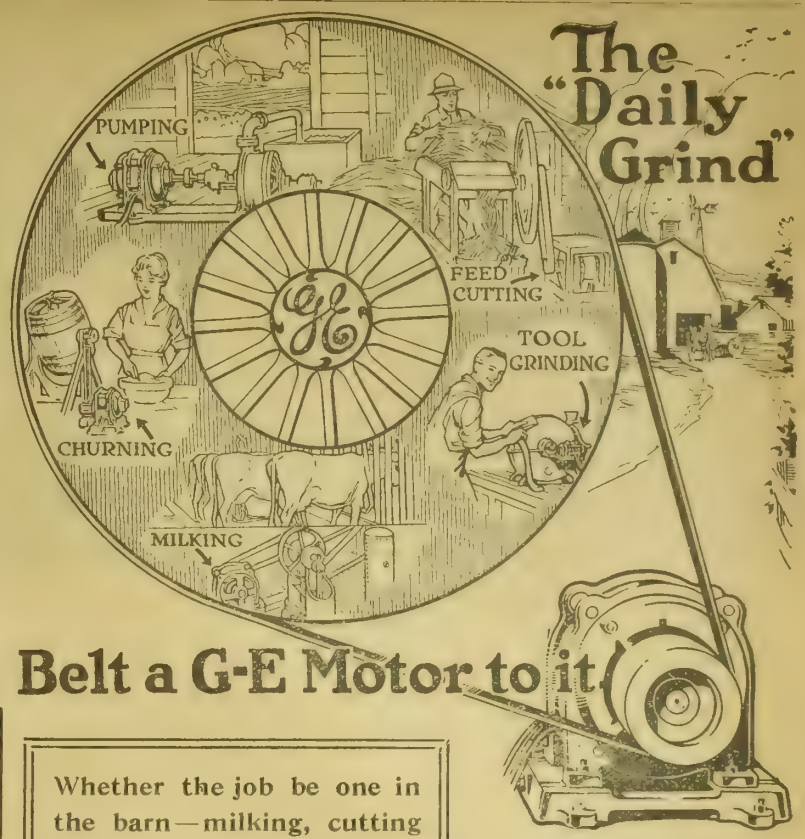
From a statement by C. W. Petersen, the attorney for Bell, he states that the question of damages was not at issue but that the case was tried upon the merits of holding Bell to the performance of contract signed with the Poultry Producers' Assn. Attorney Petersen claims that the defendant won on the questions involved outside the damages for eggs not delivered.

The following is the last paragraph of the judge's decision as quoted by Mr. Petersen:

"Defendant seems to concede that plaintiff is entitled to a judgment for two hundred and forty-four ($244) dollars damages for his failure to deliver eggs produced before he disposed of the poultry business, so it becomes unnecessary to examine the provision in the agreement providing for liquidated damages. The prayer for specific performance is denied, and plaintiff is awarded a judgment for two hundred and forty-four ($244) dollars damages."

PREVENTING DAMAGE TO EGGS IN TRANSIT.

The Bureau of Chemistry, through the Food Research Laboratory, has been assisting in reducing the damage to eggs in transit by giving practical demonstrations at shipping points in loading cars of eggs or mixed eggs and dressed poultry. Much of the damage is directly due to faulty methods of packing eggs in cases and stowing the cases in the car. Four meetings held recently in Iowa were attended by over 100 practical shippers who send cars weekly, at least, to Eastern markets and who expressed great interest in the methods which the department has worked out for the conservation of this valuable foodstuff. They and many others have found the department's folder, "How to Load Cars of Eggs," of assistance. Copies of this folder can be had by writing to the Bureau of Chemistry, United States Department of Agriculture, Washington, D. C.



Whether the job be one in the barn—milking, cutting the day's feed, pumping the water—or in the dairy—separating or churning—or wherever chores are everlastingly waiting to be done, there is a G-E FARM MOTOR that will do the work better and quicker. The labor released soon pays for the motor equipment.

Your near by Central Station or General Electric Agency will gladly help you.

General Electric Co.

General Office
Schenectady, N. Y.

Local Offices:
Corporation Bldg., Los Angeles
Rialto Bldg., San Francisco

Federal Farm Loans

Long Term *Low Rate*

All loans made on an amortization plan whereby the borrower repays the principal gradually with each interest payment.

Over three thousand satisfied borrowers in this district. It will pay you to investigate.

For information apply to the nearest **National Farm Loan Association** or write direct to

Federal Land Bank of Berkeley

Berkeley, Cal.

THE HOME CIRCLE

Oh Say, Can You?

O say, can you sing, from the start to the end,
What so proudly you stand for when orchestras play it;
When the whole congregation, in voices that blend,
Strike up the grand tune and then torture and slay it?
How valiant they shout when they're first starting out;
But "the dawn's early light" finds them floundering about.
'Tis "The Star Spangled Banner" they're trying to sing,
But they don't know the words of the precious, brave thing.

Hark, "the twilight's last gleaming" has some of them stopped,
But the valiant survivors press forward serenely
To "the ramparts we watched," when some others are dropped,
And the loss of the leaders is manifest keenly.
Then "the rocket's red glare" gives the bravest a scare,
And there's a few left to face "the bombs bursting in air";
'Tis a thin line of heroes that manage to save
The last of the verse, and "the home of the brave."

—Chicago Standard.

Careless Kitty Caramel.

Pretty little yellow Kitty Caramel was careless. Even her best friends could not deny it. She did not mean any harm; but she thought of so many interesting things to do, and just the very minute that she thought of any such thing she did it! That's the way she often fell into trouble.

Her mother, Tabitha Catchemquick, gave her a great deal of good advice. Tabitha Catchemquick was very wise. She had had experience, and she knew.

"Always look before you leap, my child," she said rather anxiously.

"Yes'm," politely responded Kitty Caramel.

But when she saw a butterfly alight on the piazza railing she leaped without looking beyond the railing. Over she went, and struck with a dreadful thump on the brick walk. It seemed to her she could never get her breath again.

"I'll be careful next time!" she gasped.

But next time it was something different.

"Always chew your food well, my daughter," said Tabitha Catchemquick, oh, very earnestly!

"Yes'm," obediently answered Kitty Caramel.

But when she had a fine big bite of sweet potato in her mouth, and saw Puggy, the dog, coming, she did not stop to chew it at all. "He'll get it!" she said to herself; and she swallowed it whole—or tried to. It stuck, and the poor kitkin choked until her little Mistress Dorothy's big brother Tom held her up by her tail and shook her until he "unchoked her," as Dorothy called the process. There may be better ways to unchoke a kitten, but that was the only way that big brother Tom knew. It was most unpleasant.

"I'll be careful next time!" she gurgled.

But next time it was something still different—oh, very, very different. It happened in this way:

One morning big brother Tom came rushing in from the post-office and shouted that he must catch the next train or something awful would happen to his business.

"Pack my suitcase while I telephone, will you, sister?" he called to Dorothy. "You konw what to put in. I'll be gone over night."

So Dorothy very proudly and carefully packed her big brother's suitcase. Kitty Caramel, also, was greatly interested, and seemed to want to help. Dorothy had just put in the last thing—Tom's buff bathrobe—and had gone for a pink for his buttonhole—when he came flying up the stairs.

"All ready, sister?" he called.

"All ready!" answered Dorothy.

Tom clapped down the lid, strapped it, gave Dorothy a kiss, and one-tenth of a second to put the pink in his buttonhole, and was off. He barely caught the train, in the station at the head of the street. As he dropped into a seat the train moved out.

"Close shave!" he puffed.

"Meow!"

What was that—and where?

"Meowwwww!!!" Then a faint scratching inside the suitcase!

In half a minute, or less, Tom had it open. Out popped a very big-eyed Kitty Caramel and lighted on Tom's hat. From there she jumped again, coming down neatly in the lap of a big, burly drummer, then slipping and scratching him. Her next leap took her to a stout lady's bonnet, and when she went the bonnet went with her, away under the seats!

Poor big brother Tom! With such a red face, he followed, and finally he caught her. Her little heart was going pit-a-pat, as if it were trying, itself, to get out; but finally Tom got her nerves partly settled, and she cuddled close to him on the seat.

The stout lady brought out a bottle of cream from her lunch-box, and the big burly drummer offered the top of his silver drinking-cup for a saucer. By the time Tom's station was reached she was a perfectly calm kitten. From the station he telephoned to Dorothy, so she would not worry.

At the hotel where he stayed that night the cook liked kittens. She took the best care of the small stowaway, and in the morning put up a nice luncheon for her to eat on the way home.

But how glad she was to be home again!

"Folks are extremely nice, mother," said she, in telling Tabitha Catchemquick all about it, "but I do not wish to take another journey, ever! I like home best. After this I am going to be a Very Careful Kitten."

"I am pleased to hear you say that, my daughter—very pleased!" purred Tabitha Catchemquick.

"Yes," went on Kitty Caramel, "when I was struggling to get out of that dreadful fuzzy bathrobe, which is just the color of me, I thought, 'Oh, how often my mother has told me never to go where I was not invited!"

"I am sure you never will again, my dear," purred Tabitha Catchemquick.—Minnie Leona Upton.

EVERY WOMAN CALLED.

The food supplies of the world have been steadily lessening—we hold it in our power to keep the wolf from the door of the world. This is a duty as wide as our humanity, and women, who are the guardians of the food resources, are called to serve in the work of war relief.

The new program in conservation calls for rigid acceptance and discipline, because it does not demand brief, dramatic sacrifices, but a steady saving of all foods and the giving up of everything beyond our definite needs.

"Without discussing the rights and wrongs of the principles of unionism," said Franklin K. Lane, "there is no question but what it is a frequently abused institution working many injustices through technicalities. Too many union men follow the logic of the painter who came to work late one morning.

"'Youre' late,' remarked the boss. 'How does that happen?'

"'Well,' answered the painter surlily, 'I stopped to get a hair cut.'

"'What do you mean getting a hair cut on my time?' demanded the boss.

"'Well, it grew on your time, didn't it?' demanded the painter truculently."

New Year's resolution—save more food and indigestion.

Applied Patriotism

Woman has made herself indispensable to the Nation's war activities. This is being demonstrated daily in many splendid ways. The telephone operator takes her place in the front ranks of our "national army" of women.

Back of the scenes, invisible, her war work is to make telephone communication possible. Through her the Chief of Staff in Washington speaks to the Cantonment Commandant in a far-off state. The touch of her fingers forges a chain of conversation from Shipping Board to shipyard, Quartermaster General to supply depot, merchant to manufacturer, city to country, office to home.

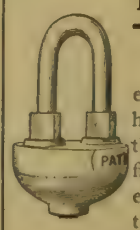
Without her this increasing complexity of military, business and civil life could not be kept smoothly working. Hers is patriotism applied. She is performing her part with enthusiasm and fidelity.

The increasing pressure of war work continually calls for more and more telephone operators, and young women in every community are answering the summons—cheerfully and thoughtfully shouldering the responsibilities of the telephone service upon which the Nation depends. Each one who answers the call helps speed up the winning of the war.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY,
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Dad's Good Resolution



That the New Year may be abundant in clean comfort and economy—one of continuous pleasure to mother and the entire household—I have resolved to purchase "The Simplest Thing in the World"—a "Premier" Burner, which makes a clean, hot gas fire, from coal oil, in cookstove or heater—that we may eliminate entirely drudgery and muss, the smoke, soot and fumes, that there may be indeed "no place like home."

I will write at once for circular " " and drawing, that I may decide whether to buy a burner alone for five dollars or a complete installation for nine eighty-five. While I know that one burner is sufficient for a heater or medium cookstove, I will mention the size of our firebox and style of stove that no mistake may be made. Lest I forget the name and address, will make notation on this, one of the best resolutions I ever made—

PREMIER BURNER CO., 246 So. Spring St., Los Angeles, Cal.

DAD.

End your wash day worries with COCOA NAPTHA SOAP the modern laundry soap

You can just as well avoid a lot of hard, tiresome rubbing and devote your time to pleasanter and more agreeable things.

No need to look forward with dread every week to wash day if you have Cocoa Naptha Soap on hand.

Your Dealer

Order some of this splendid soap from your dealer—a home product made by the Los Angeles Soap Company.

Replace Your Old-fashioned Plumbing Fixtures

The added convenience of modern plumbing fixtures will more than compensate you for the slight cost involved in replacing them for your present fixtures.

The attractive designs of Pacific Plumbing Fixtures will make you proud of your bathrooms.

Pacific Plumbing Fixtures are guaranteed forever against any defects in workmanship or materials, and although their quality is higher, cost no more than any other reputable brand.

Write for a free copy of The Book of Bathrooms. It is a 56 page book, brim full of ideas.

PACIFIC PLUMBING FIXTURES

For sale by all plumbers

Main Offices and Show Room
67 New Montgomery Street, San Francisco
Factories at Richmond and San Pablo, Cal.

CALIFORNIA FLOWERS AND VINES
By E. J. Wickson. $1.50 postpaid.
Pacific Rural Press, - San Francisco

RING OUT, WILD BELLS.

Ring out, wild bells, to the wild sky,
The flying cloud, the frosty light;
The year is dying in the night;
Ring out, wild bells, and let him die.

Ring out a slowly dying cause,
And ancient forms of party strife;
Ring in the nobler modes of life,
With sweeter manners, purer laws.

Ring out false pride in place and blood,
The civic slander and the spite;
Ring in the love of truth and right,
Ring in the common love of good.

Ring out old shapes of foul disease;
Ring out the narrowing lust of gold;
Ring out the thousand wars of old,
Ring in the thousand years of peace.
—Tennyson.

THE CHILDREN'S YEAR PROGRAM.

The report of Dr. Adelaide Brown on the recent drive for weighing and measuring children in this State is most interesting. A total of 53,000 children under six years of age were examined; of these, 29 per cent are below the average in height and weight, 31 per cent show abnormal tonsils and adenoids, and 6 per cent defective teeth, while there were found to be 47 per cent correctable defects in supposedly healthy children.

The object of this drive was to reduce the appalling infant mortality in the United States by correcting defects of childhood and to arouse mothers to understand the value of intelligent guidance.

The national committee urges two things that will help in this cause—first, the county health nurse; second, children health centers, where babies may be brought to be weighed and measured and proper care and diet outlined.

In this State 21 health centers have already been established, a number of counties have installed a visiting nurse and most of the counties have a campaign on for both.

LITTLE KITCHEN HELPS.

Every woman should plan to have as many conveniences in her kitchen as she can possibly afford. Many times it is neglect rather than the cost that causes a housekeeper to do without small articles that would be of great assistance.

Among these are a wire dipper to be used in lifting any article from hot water without taking up any of the liquid; a combination apple corer and slicer that, when pushed over the apple, cores and slices into twelve pieces at one time; a spatula, whose flexibility makes it extremely useful for turning over anything that is baking or frying; a set of skewers of varying length from three to eight inches long, with a hook to hang them up by; a set of four aluminum measuring spoons, ranging from a quarter of a teaspoon to a tablespoon; a perforated mixing spoon for beating batter to be made very light; a small rubber dish scraper. For marking fancy cookies, either a carved board covered with designs on which the dough is pressed, or a carved rolling pin. None of these articles are expensive and there are many more that will be of great help.

TO MAKE JAVELLE WATER.

For bleaching sink boards, molding boards or kitchen tables, there is nothing more satisfactory than javelle water. It can be made at home in quantities, put in bottles or jars and is always ready for use.

To make, take 1 can chloride of lime, 3 or 4 pounds of sal soda and pound fine, put into a large pail or kettle and cover with several quarts of water. Let come to a boil and boil well, then, when cool, pour off the water into the bottles.

If the sink is in bad condition, it may need more than one application to bleach it. The wood should be free from grease to get good results, as the water acts upon stains largely.

"Mamma," said the little boy, "now that the people know that the kaiser is going to hell when he dies, won't everybody try, extra hard, not to go there?"

more than a scrap of paper -the Ghirardelli label

The Ghirardelli label on the Ghirardelli can is *more* than a scrap of paper. It is a *dependable* assurance of Ghirardelli quality. It carries with it the *certainty* that you are getting the chocolate of highest purity and nutriment.

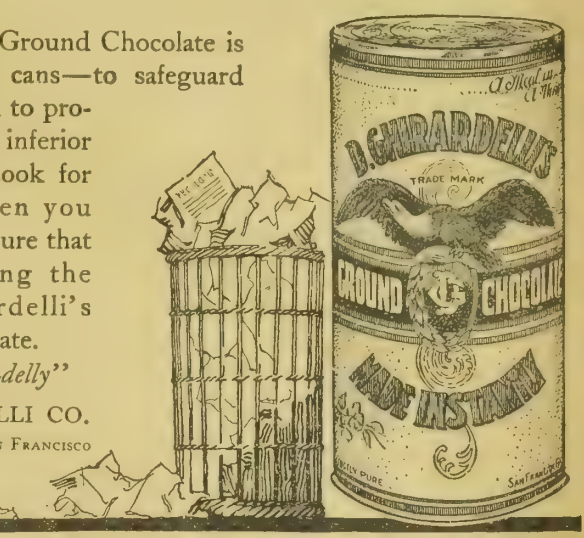
Always dependable —never disappoints!

At the store where you do your trading —in ½ lb., 1 lb. and 3 lb. cans.

Ghirardelli's Ground Chocolate is put up *only* in cans—to safeguard your health and to protect you against inferior substitutes. Look for the label. Then you will be doubly sure that you are getting the *original* Ghirardelli's Ground Chocolate.

"Say Gear-ar-delly"

D. GHIRARDELLI CO.
SINCE 1852 SAN FRANCISCO



Ghirardelli's Ground Chocolate

PERFECTION OIL HEATER

THE MARKET REPORTS

Where commodities are consigned on a commission basis, the only price obtainable is the San Francisco price, from which customary charges are deducted to ascertain actual price paid to producer. Lines of commodities sold on exchanges, as butter, eggs, cheese, grain, etc., are priced according to exchange figures, which are not the prices paid to grower. From these figures must be deducted the legal percentages permitted to be taken by wholesalers before remitting balance of sale price to shippers. Schedules of discounts governing these transactions may be obtained from the offices of the Food Administration or of various exchanges.

SAN FRANCISCO

San Francisco, December 24, 1918.

WHEAT.

ANNOUNCEMENT.

The following are the prices announced by the Federal Grain Corporation, which are still in effect:

Per bushel—
No. 1 hard....$2.20
No. 2 .... 2.17
No. 3 .... 2.13
No. 1 soft.... 2.18
No. 2 .... 2.15
No. 3 .... 2.11
Club or Sonora, No. 1.... 2.16
do, No. 2.... 2.13
do, No. 3.... 2.09

Recleaned for seed, per ctl.—
California Bluestem ....$4.15@4.25
Early Baart .... 4.15@4.25

BARLEY.

The California Brewers' Protective Association scoffs at the belief that much of the accumulated stock of barley in this State can be disposed of by shipping abroad. It calls attention to the fact that local breweries had been the principal consumers of barley and also to the inconsistency of the action which permits shipping of barley for foreign breweries while the breweries at home are kept closed. Very little interest is manifested in barley in the local exchange and the grain is weak in this market.

Choice feed, per ctl....$2.17½@2.22½

OATS.

There is practically no business in any of the grains at this season of the year. While some inquiry for red for seed strengthened that description, red feed is weaker.

Red feed, per ctl....$2.40@2.55
Red for seed .... 2.75@2.95
Black for seed .... 2.80@3.00
Recleaned Red or Black for seed 3.35@3.50

CORN.

There is no change in the corn situation. The demand seems to be at a standstill and no sales are reported.

Egyptian, choice ....$2.75@3.00
Milo .... 2.70@2.75

HAY.

Receipts of hay for the past week were 775 tons, compared with 816 the previous week. Trade is extremely light, as is usual at this season of the year. The receipts have been more than ample to take care of all demands and, although a lower range of prices is quoted throughout, it might be said that prices are nominal, as there has been absolutely no trading. Consignments have been sold for what they bring, with few buyers in evidence. Considerable damaged hay, mostly alfalfa, arrived from the river and has been offered at figures that cannot be satisfactory to producers, but this hay must be disposed of as it arrives, as it is not in condition to keep any length of time.

Wheat, No. 1....$23.00@25.00
do, No. 2 .... 17.00@21.00
Choice tame oat.... 22.00@24.50
Wild oat .... 17.00@19.00
Barley .... 17.00@19.00
Alfalfa .... 15.00@19.00
Stock .... 15.00@18.00
Barley straw .... .50@ .80

FEEDSTUFFS.

The market for feedstuffs reflects the condition of the hay market. Most of the buyers are showing no interest and refuse to buy except for immediate needs at this season of the year. The market is dead, but no change in quotations is noted.

New alfalfa meal, per ton....$[illegible]
Coconut cake or meal.... 45.00@47.00
Whole yellow corn .... 77.00@80.00
Cracked corn .... 80.00@82.00
Linseed Oilcake Meal.... 77.00@78.00
Rolled barley .... 45.00@47.00
Rolled oats .... 55.00@57.00
Mill run .... 34.00@35.00
Fish meal, per 100 lbs.... 4.80@ 5.00

POTATOES, ONIONS, ETC.

The receipts of both potatoes and onions continues large, while the demand is normally low at this season of the year. It is believed that there may be more activity in potatoes about the 10th of January or shortly thereafter when a demand for seed potatoes should develop. The street reports a good trade during the past week in other vegetables with practically no change in prices from last week. Beans continues one of the most popular vegetables at this season, although tomatoes, celery and lettuce all moved well.

String beans ....12@15c
Lima beans .... 8@9c
Carrots, per sack ....85c@$1.00
Rhubarb, San Jose, per box....$1.00@1.25
Pumpkins ....75@90c
Cucumbers, hothouse, box of 30..$2.50@3.00
Los Angeles lugs....$3.00
Eggplant, per lb....8@12½c
Lettuce, per crate ....$1.50@2.00
Celery, bunch .... [illegible]@25c
do, crate ....$3.75@5.00
Tomatoes per crate—
Southern ....$2.50@3.00

Potatoes—
Fancy whites ....$2.00@2.15
Choice .... 1.85@1.90
Sweets, per sack .... 3.50@3.75

Onions—
Yellows .... 60@90c
Australian Browns ....60@90c
Garlic, new ....20@25c
Green corn, Alameda, per sack....None
Okra, per box....None

BEANS.

The holiday season is always quiet in the bean market. There is practically no demand and the entire list is weak. Limas is the only description on which quotations are changed and they are quoted 15 cents below last week's prices.

Bayos, per ctl ....$7.25@7.50
Blackeyes, new crop.... 5.50@5.75
Cranberry beans .... 7.75@8.00
Limas (south, recleaned), new crop $10.25
Pinks ....$6.65@6.75
Mexican Reds ....$6.75@7.00
Tepary beans .... 5.00@5.50
Garbanzos .... 8.50@9.00
Large whites, new crop.... 8.20@8.30
Small whites, new crop.... 9.10@9.25

POULTRY.

The entire poultry market is strong and prices have been well maintained throughout the week. The demand for nearly all descriptions has been good, although of course the principal demand has been for turkeys. Some of this stock sold as high as 50 cents on Monday, but that price was not maintained and was asked in only a few instances. On Tuesday there was an effort on the part of some dealers to clean up their stock before the Holiday, but where less than 45 cents was asked it was mostly for inferior stock. Several cars of eastern turkeys were on the market during the week and these served to stabilize the market and to keep quotations below the 50 cent mark.

Turkeys, live, young spring, lb....38@40c
do, old ....36@38c
do, dressed ....45@48c
Broilers, 1½ to 2 lbs....39@42c
do, 1¼ lbs....43c
do, ¾ to 1¼ lbs....43@45c
Fryers 35c
Hens, extra, per lb., colored....33@34c
do, Leghorn ....33@34c
Smooth young roosters, per lb. (3 lbs. and over) ....34@35c
Old roosters, colored, per lb....24c
Geese, young, per lb....34@35c
do, old, per lb....30@32c
Squabs, per lb....55@60c
Ducks ....33@35c
do, old ....30@33c
Belgian hares ....23@24c
Jack Rabbits ....$3.00@3.50

BUTTER.

On Monday, December 23, the Directors of the San Francisco Dairy Exchange recinded the resolution of October 10, effective October 14, whereby weekly quotations only were made on butter, and butter again became today subject to daily changes based on market conditions. As a result extra jumped at once to 67 cents. The plan to have weekly quotations on butter was adopted at the request of the Federal Food Administration in an effort to stabilize the price. It was not wholly a success and for some time past the quotations on the exchange had little relations to the actual cost of butter. Eastern quotations plus transportation charges are higher than the local exchange prices in the past and this has resulted in a scarcity of butter in this market. The new rules just adopted by the Food Administration, whereby the manufacturer cannot sell butter at an advance of more than 5 cents a pound over the cost of butter fat necessary to make a pound of butter, are expected to stabilize prices.

	Thu	Fri	Sat	Mon	Tu	Wed
Extra	64	64	64	64	67	..
Prime first	63½	63½	63½	63½	Nom.	
Firsts	58	58	58	Nom.	..	.

EGGS.

Eggs are strong and higher again this week as is usual at this time of the year. After the holiday season lower prices are looked for if eggs follow the traditional trend. While not a record price for extras, which sold at 89 cents on November 8, 81½ for pullets is the highest of the year. The previous high record for pullets was 80¼ on November 4.

	Thu	Fri	Sat.	Mon	Tu.	Wed.
Extra	80½	81	81	83½	84	..
Extra 1sts	81	Nom.	..	..	..	..
Firsts	Nominal.					
Extra pullets	78½	78½	79	82½	81½	..

CHEESE.

Trade has been brisk in cheese on the exchange this week. While Fancy California Flats dropped at the close, Oregon triplets continued strong throughout the week and closed at the top.

Fancy California flats, per lb....35c
Firsts 34c
Oregon triplets, fancy 40c
Monterey cheese ....26@29c

FRESH FRUITS.

Trade in fruits has been active throughout the week. Apples have been in demand and all prices were strongly maintained. Persimmons have gone well considering the fact that many are not acquainted with this fruit.

California apples ....$1.00@2.00
Northwest apples .... 2.00@3.75
Winter pears ....$2.00@[illegible]
Persimmons .... 1.00@1.50

CITRUS FRUIT.

There was no change in the citrus fruit market this week. The demand was excellent and last week's prices were maintained. Somewhat lower prices are looked for after the first of the year but no change is expected during the coming week.

Oranges, navels ....$3.00@5.00
Mandarins .... 1.50@1.75
Tangerines .... 2.50@3.00
Lemons, fancy .... 4.50@5.00
do, choice .... 4.00@4.50
do, standard .... 3.50@4.00
California limes 1.50
Grapefruit, new .... 2.25@3.00

HONEY.

The ban on the exportation of honey has been lifted and the growers are said to be hopeful that they will now be able to dispose of their stocks. According to the local dealers as yet the lifting of the ban has had no effect on the San Francisco market and no prices can be quoted.

DRIED FRUITS.

Dried fruit market is always quiet at this season and there is no change in the situation of last week noted by the dealers.

RICE.

Paddy rice, 1918 crop....$4.32
Clear No. 1, 1918 crop, at mill.... 7.00

LOS ANGELES

Los Angeles, December 24, 1918.

BUTTER.

A scarcity of good fresh butter continues in this market. Cold storage stocks have been reduced to 91,330 pounds, and much of this sweet butter, against 129,955 pounds this time last year. Receipts for the week were 265,400 pounds, against 310,300 pounds the same week last year. The Eastern markets are weaker and there is a growing consumption of butter substitutes. Yet in the face of the light supply of choice goods on the market the consumptive demand took all the receipts the past week and so strong was the demand that extras were sold up Monday to 63c on 'change, an advance of 1c since a week ago. The market is now 14c higher than this time last year.

We quote—
California fresh extra creamery....63c
do, prime first 61c
do, first 59c
Same time last year—
California fresh extra creamery....49c
do, prime first 47c
do, first 46c

Daily quotations—

1918—	Tu	Wed.	Thu.	Fri.	Sat.	Mon
Extra	62	62	62	62	62	63
1917—						
Extra	47	47	47	49	49	49

EGGS.

There were more fresh ranch eggs in the past week than for some time. Receipts for the week by rail were 634 cases, against 731 cases the same week last year. The supply for the week was 3170 cases, against 3655 cases the same week last year. The Eastern markets are also lower. Chicago went off 3c during the week and New York declined 21c. San Francisco, however, is sharply higher than a week ago. Hence the market here held steady and firm on fresh extras and pullets, but case count declined 3c. The demand for fresh eggs, however, was not strong, the difference in the price of fresh and storage eggs giving cold storage the call, they meeting with a strong demand throughout the week. There was withdrawn from cold storage during the week 4869 cases, reducing the holdings now down to 10,992 cases. At the present rate of consumption this supply will be exhausted by the end of January, and the question now with the trade is, Will the fresh receipts by that time take care of the demand? The cold storage holdings this time last year were 8043 cases, which is less than present stocks, but the fresh receipts a year ago were heavier than now.

Daily quotations—

1918—	Tu.	Wed.	Thu.	Fri.	Sat.	Mon
Extra	70	72	72	72	72	72
Case count	67	67	67	67	64	64
Pullets	66	66	66	66	66	66
1917—						
Extra	55	55	53½	52	49	49
Case count	51	51	51	47	47	47
Pullets	51	51	51	48	47	47

POULTRY.

A good Christmas demand was had the past week for everything. Receipts were not heavy, and what came in were easily absorbed at full quotations. Turkeys, owing to the season, showed most life, though they sold no higher, present quotations being considered strong enough.

The following prices were agreed upon last Friday, December 20, and hold good until the coming Friday:

Broilers, 1@1¼ lbs....40c
Broilers, 1½@1¾ lbs....45c
Fryers, 2@3 lbs. 35c
Roasters (soft bone), 3 lbs. and up....30c
Stags and old roosters, per lb....20c
Hens ....28@32c
Tom turkeys ....28@30c
Ducks ....22@28c
Geese 28c

VEGETABLES.

The market showed less life the past week. The near approach of the Christmas holidays showed itself in a number of ways. Potatoes were in good supply, slow sale and Idaho a shade lower. Brown onions, too, were slow sale and lower. More coming in than for some time and the market was fully 25c lower. White Globe scarce and sharply higher and demand fair. Cabbage dead, dull and much lower. Cauliflower came in quite freely and were lower, but demand was good at quotations. Sweet potatoes slow of sale and offerings heavy. Green peppers steady and what came in met with a very good demand. Peas steady and firm. Local celery in fair demand, but market lower. Fancy tomatoes were steady and firm and in good demand. Poor stock hard to sell. Squash and pumpkins steady but slow sale.

We quote from growers:
Peas, per lb.... 9@11c
Bell peppers, per lb....9@10c
Chile peppers, per lb....9@10c
Potatoes, northern, per cwt....$2.00@2.25
do, Idaho Russets, per cwt.... 1.90@2.00
Sweet potatoes, per cwt.... 1.75@2.25
Garlic, per lb....30c
Onions—
Australian Brown No. 2....$1.10@1.15
Australian Brown, per cwt.... 1.35@1.50
White Globe, per cwt.... 4.00@4.50
Cabbage, per 100 lbs.... .40@ .45
Celery, local, per crate.... 3.50@4.00
Tomatoes, No. 1, per lug.... 1.50@1.65
do, No. 2, lug.... .30@ .40
Cauliflower, standard crate .... .90@1.00
Hubbard squash, per cwt....$1.00
Banana squash, per cwt.... 1.00
Pumpkins, per cwt.... .75

FRUITS.

The market has now narrowed down to apples. Quite a number are coming in and meeting with a good demand. Prices are firm all around. Some fancy lots the past week brought a little more money. Japanese persimmons are now about all marketed from the country. A few are being had out of cold storage, but that is all. Hence the season may be considered over.

We quote from growers:
Apples—
King Davids, 4-tier ....$2.75@3.00
Black Twigs, 4-tier 3.00
Baldwins, 4-tier.... 2.50
Red Pearmains, 4-tier 1.75
White Pearmains, 4-tier.... 2.00
Yellow Newtown Pippins, 4-tier ....$1.75@2.00
Bellefleur, 4½-tier .... 1.60@1.75
do, 3½-tier .... 1.85@2.00
Bellefleur, 4½-tier .... 1.75@1.80
Jonathans, Northwestern pack 3.00@3.25
Winesap, loose per lb.... 6@6½c

WALNUTS.

The season is fast drawing to a close. No more No. 1 are to be had from first hands. Some culls are still coming in and are bringing readily 14c to 15c. The association's deliveries will soon be over. Their shipments the past week were only three cars.

F. o. b. California points—

	1918	1917
Fancy budded	33c	24c
Standard budded	32c	21c
No. 1 soft shell	31c	20c
No. 2 soft shell	28c	18½c

BEANS.

If anything, the market the past week was duller than ever, the near approach of the Christmas holidays causing dealers to hold back. Only a few lots needed for immediate consumption were taken. Prices, however, show no change.

We quote from growers—
Limas, per cwt $10.00
Large white, per cwt....$8.00@9.00
Small white, per cwt. 8.00
Pink per cwt 6.50
Tepary, per cwt 4.00
Blackeyes, per cwt.... 4.50

HAY

The past week was another dull one in this market. The receipts were not heavy, though ample for the demand. Dairy people were the purchasers. Horse hay was especially dull and prices weak.

We quote f. o. b. Los Angeles:
Barley hay, per ton ....$24.00@25.00
Oat hay, per ton .... 26.00@28.00
Alfalfa, northern per ton.... 21.00@22.00
Alfalfa, local per ton.... 22.00@24.00
Straw, per ton .... 9.00@10.00

COTTON.

The market the past week took on new life and advanced sharply. The announcement the early part of the week that there had been released 1,000,000 tons of ocean tonnage encouraged good export buying, and with a better demand for the actual cotton there was new speculative life in the market. The result was a sharp advance by Monday of the current week, when December closed in New York at 30.50c and January at 29.17c. Spot middling, 32.10c.

HIDES.

Wet Salted Hides—Per lb., taken off before May 1: Cows and steers, all weights, No. 1, free of grubs, 14@15c; bulls and stags, 12c; kip, 20c; veal and calf, 28c; damaged, 8@12c. Taken off after May 1 and before August 1: Steers and cows, 17@18c; bulls and stags, 13@14c; kips, 20@21c; calfskins, 32@38c. Taken off from August 1 to September 1, all weights: No. 1, 19c; No. 2, 17c; No. 3, 16c; bulls and stags, No. 1, 15c; No. 2, 13c; kips, No. 1, 21c; No. 2, 19c; calf, under 15 lbs., No. 1, 33c; No. 2, 31c.

Special Citrus Market Report

Los Angeles, December 23, 1918.

Good shipping weather in the East has permitted fruit to roll freely, and buyers have cleaned up all arrivals closely. Shipments for the week have dropped heavily from all districts and the usual after-holiday slump is not looked for. Tulare stock ranged from $1.50 to $7.50 per box on the auctions, averaging $5.50 to $6.50. Shipments 194 carloads during past week. Southern California shipments dropped to 208 carloads. Prices during the week averaged $2.75 to $4 f. o. b. shipping point. Lemon shipments have been the heaviest ever, and the demand for use in the epidemic is still insistent. Several cargoes of foreign lemons are coming. Florida oranges are moving well at $3.25 to $4 f. o. b.

California is now able to supply easily the entire demand for lemons in the United States, and if adequately protected against the low-priced labor of Italy and Spain, notably the former, will do so. There is an ample outlet in Germany and other northern European countries for Italy's lemon supplies and when peace is restored much of Italy's output may be diverted in that direction if restrictive legislation is enacted in favor of California lemon growers.

Special Livestock Market Report

San Francisco, December 26, 1918.

CATTLE—Cattle being marketed in sufficient numbers, but poor quality, especially of small lots consigned or sold for butchering in small customs slaughter houses, holds the price down on all grades. Some cattle coming from Oregon and Nevada. Early grass cattle looked for this season on account of early and frequent rains. Thirty carloads of cattle and calves were shipped for San Francisco December 23.

Hay-fed Steers—
No. 1, weighing 1000@1200 lbs..12¾@13c
do. weighing 1200@1400 lbs.....13@13½c
do. second quality..............11@11½c
do. thin ....9½@10c

Cows and heifers—
No. 1 ....9@10c
do. second quality...............8@8½c
do. common to thin..............6@6½c

Bulls and stags—
Good ....6@7c
Fair ....6@6½c
Thin ....4½@5½c

Calves—
Lightweight ....11@11½c
Medium ....10½@10¾c

SHEEP—Sheep are coming mostly out of feed lots and are fat. Lambs from Oregon and Nevada and yearlings from California not very plentiful arrivals; quality good, though rather heavy. Twenty-four carloads shipped December 23 for San Francisco.

Sheep—
Yearlings ....12@12½c
Lambs ....13½@14c
Wethers 11½lb12c
Ewes ....9@9¼c

HOGS—Hogs have been coming very freely; good quality and desirable weights. Note the classification of prices according to weights.

Hard, grain-fed, 100@150 lbs...........16c
do. do, 150@250.......................16½c
do. do, 250@300.......................16c
do. do, 300@400.......................15¾c

Los Angeles, December 24, 1918.

CATTLE—The past week was a very quiet one in this market. The nearness of the Christmas holidays caused killers to hold back and take fewer cattle, as the dressed meat trade was dull. Not only were there fewer cattle moving, but the tone of the market was weak.

Per cwt. f. o. b. Los Angeles—
Beef steers, 1000 to 1100 lbs....$9.00@12.00
Prime cows and heifers........ 8.00@ 9.00
Good cows and heifers.......... 7.00@ 7.50
Canners, per cwt............... 5.50@ 6.00
Calves, per cwt................ 8.50@10.00

HOGS—There were more hogs in the past week and the quality of the offerings was good. Demand fair and prices steady. Killers, while all wanting a fewer hogs, did more or less picking around and the better offerings had a bearish influence upon the market.

Per cwt. f. o. b. Los Angeles—
Heavy, averaging 275@350 lbs—$14.00@15.00
Mixed, 225@275 lbs........... 15.00@16.00
Light, 175@225 lbs........... 16.00@16.50

Rough docked 20 lbs., piggy sows 40 lbs. and stags 40 per cent.

SHEEP—The market the past week was quiet. Not many are coming in, and what are arriving are mainly of poor quality. The choice coming in met with a very good demand.

Per cwt. f. o. b. Los Angeles—
Prime wethers ....$9.00@10.00
Prime ewes .... 8.50@ 9.50
Yearlings .... 9.50@10.50
Lambs ....14.00@15.00

Portland, December 23, 1918.

CATTLE—Grass fed, on foot, gross weight: No 1 steers, weighing 950 to 1050 pounds alive, 12½@12¾c; 1050 to 1200 pounds, 12¾@13c; second quality, 11@11½c; thin steers, 9½lb10c. Cows and heifers: No. 1, 9@9½c; second quality, 8@8½c; common to thin, 6@6½c. Bulls and stags: Good, 6@6½c; fair, 5½@6½c; thin, 4½@5½c. Calves: Light weight, per lb., 11@11½c; medium, 10½@10¾c.

SHEEP—Per lb., gross weight: Wethers, 11½@12c; ewes, 9@9¼c; lambs, yearlings, 12@12½c; milk, 14@14½c.

HOGS—Hard, grain fed, weighing 100 to 150 lbs., 16c; 150 to 250 lbs., 16½c; 250 to 300 lbs., 16c; 300 to 400 lbs., 15¾c.

EASTERN MARKET.

Chicago, December 23, 1918.
(U. S. Bureau of Markets.)

HOGS—Receipts, 4000; market strong; bulk of sales, $17.30@17.65; butchers, $17.45@17.70; light, $16.70@17.50; packing, $16.65@17.45; throwouts, $15.50@16.50; pigs, good to choice, $13.50@15.00.

CATTLE—Receipts, 20,000; strong to 25c higher; calves, 25c lower. Beef cattle: Good to choice and prime, $15.00@19.50; common to medium, $9.00@9.15; butcher stock, cows and heifers, $7.25@14.00; canners and cutters, $6.65@7.25; stockers and feeders, good, choice and fancy, $10.25@13.50; inferior, common and medium, $7.25@10.25; veal calves, good and choice, $14.00@14.50.

SHEEP—Receipts, 12,000; market on killing classes strong, mostly 25c higher; feeders, strong; lambs, choice and prime, $14.85@15.00; medium and good, $13.50@13.85; culls, $9.50@12.00; ewes, choice and prime, $9.25@9.75; medium and good, $8.00@9.25; culls, $4.00@6.75.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending		San Francisco 1917	1918	Los Angeles 1917	1918
Jan.	2	34.50	50.40	35.25	50.16
"	9	39.41	51.08	36.90	50.00
"	16	35.83	52.33	37.00	50.50
"	23	36.91	52.50	35.00	52.00
"	30	38.48	53.00	38.87	51.83
Feb.	6	40.00	50.80	41.19	49.66
"	13	39.70	52.00	39.00	48.00
"	20	36.00	51.41	37.00	48.00
"	27	37.00	51.30	36.00	49.33
March	6	35.50	50.66	34.50	50.00
"	13	33.50	51.16	33.00	49.50
"	20	33.25	47.83	33.00	47.00
"	27	36.00	46.30	33.00	43.30
April	3	37.91	43.16	36.33	42.16
"	10	39.33	39.25	37.00	39.50
"	17	39.58	39.00	38.00	36.83
"	24	35.56	40.50	36.50	38.16
May	1	33.08	40.83	33.00	39.00
"	8	34.05	40.66	33.20	39.00
"	15	35.50	40.46	34.16	39.00
"	22	36.30	44.33	35.16	41.00
"	29	36.60	42.30	37.33	39.00
June	5	36.30	43.90	37.66	41.58
"	12	36.50	44.92	38.00	40.58
"	19	36.00	46.50	37.50	41.75
"	26	35.06	47.42	37.00	43.00
July	3	35.06	48.08	37.00	46.00
"	10	36.41	48.90	37.16	47.50
"	17	37.83	50.83	38.66	48.66
"	24	40.25	52.66	42.58	45.16
"	31	42.82	52.16	44.00	51.00
August	7	43.00	52.16	43.00	50.83
"	14	41.66	51.66	42.00	49.00
"	21	41.50	52.25	42.00	49.58
"	28	41.91	53.00	42.00	50.00
Sept.	4	42.10	53.00	41.33	50.00
"	11	42.00	54.90	41.00	50.33
"	18	45.00	57.80	43.00	51.67
"	25	45.00	61.33	45.50	56.17
October	2	44.90	64.75	45.91	58.00
"	9	44.00	64.50	46.33	59.33
"	16	46.25	62.50	47.00	60.00
"	23	45.41	61.75	46.50	60.00
"	30	43.50	60.50	44.83	59.50
Nov.	6	41.41	59.60	42.00	58.83
"	13	40.83	60.00	41.33	57.00
"	20	40.83	61.00	42.22	57.25
"	27	40.83	61.60	41.33	58.75
Dec.	4	41.70	62.60	42.00	60.00
"	11	44.50	63.00	44.60	60.16
"	18	46.00	63.50	46.00	61.01
"	26	50.20	64.60	48.66	62.16

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending		San Francisco 1917	1918	Los Angeles 1917	1918
Jan.	2	38.10	52.80	37.00	48.16
"	9	37.91	60.91	38.16	50.66
"	16	41.83	65.66	40.83	55.00
"	23	32.50	65.66	33.12	58.00
"	30	32.08	61.25	33.02	54.00
Feb.	6	34.99	58.50	34.70	51.66
"	13	33.30	44.40	31.66	44.83
"	20	33.01	44.75	30.75	40.83
"	27	29.00	42.40	27.66	39.58
March	6	24.75	36.83	24.91	35.00
"	13	25.96	37.91	26.08	38.00
"	20	25.66	40.66	25.91	39.63
"	27	27.16	39.50	28.00	40.00
April	3	28.58	38.91	29.25	38.33
"	10	29.66	37.58	30.41	36.33
"	17	32.33	39.16	32.08	36.83
"	24	32.91	40.50	32.83	39.66
May	1	32.00	41.66	31.83	39.33
"	8	33.75	40.08	32.00	37.00
"	15	34.20	39.16	32.50	38.83
"	22	33.40	40.50	34.00	39.00
"	29	33.80	38.66	33.50	37.41
June	5	33.20	40.80	34.66	38.83
"	12	31.16	41.00	33.00	33.75
"	19	31.41	43.33	33.10	33.00
"	26	30.16	44.32	32.16	39.08
July	3	31.90	44.91	34.25	41.75
"	10	33.50	48.30	36.00	45.00
"	17	33.66	47.66	34.41	45.50
"	24	35.25	47.91	36.91	45.16
"	31	38.00	48.83	40.16	46.56
August	7	42.58	49.50	37.08	46.58
"	14	41.41	52.08	42.25	48.00
"	21	43.33	56.33	42.25	50.17
"	28	53.50	59.20	43.50	53.00
Sept.	4	43.80	62.40	43.58	56.33
"	11	45.08	63.70	44.91	58.67
"	18	47.83	61.30	47.83	59.00
"	25	47.58	60.17	49.50	55.67
October	2	47.00	65.42	50.83	59.75
"	9	47.10	65.08	51.50	60.00
"	16	52.59	71.30	54.50	62.66
"	23	54.83	78.88	56.16	70.33
"	30	56.16	86.41	58.00	79.33
Nov.	6	57.41	87.90	57.80	78.00
"	13	56.25	86.00	55.16	78.00
"	20	56.25	77.25	54.36	72.00
"	27	56.52	79.80	55.16	72.33
Dec.	4	52.70	82.00	52.16	73.83
"	11	50.00	82.08	49.66	74.33
"	18	53.50	79.65	52.50	72.33
"	26	50.80	82.00	51.25	71.66

Truck Crop Notes

[Written by R. G. Risser, United States Truck Crop Specialist.]

ASPARAGUS.

The acreage of asparagus grown in the Imperial Valley for shipment in 1917, 1918 and 1919, respectively, is estimated as follows: 287 acres, 282 acres and 312 acres. The average yield for 1917 was 97 shipping crates, and 81 shipping crates for 1918, 25 pounds net weight. The heavy shipments normally run March 15 to April 15.

CANTALOUPES.

The growers have generally made excellent progress in preparing the land. Some experimental plantings have been made. More planting will be done this month, but most of the crop will be planted after the first of the year. Compilation of acreage data indicates there will probably be 13,000 acres planted. Contracts have not all been let, but 22 shippers are arranging the distribution of the crop. If the season is normal, shipments will be heavier than last year.

CELERY.

The quality is fine, but blanching is only medium. Some fields are about finished, others are just beginning. Yields are good. The shipments have been larger than expected. The total production is estimated to be not over 60 per cent of last season's.

CAULIFLOWER.

The cauliflower crop is late in maturing in spite of the favorable weather in the southern section. The growers are unable to explain the unexpected delay in the development of the shipping stock. Prices paid growers are high for this time of year. The cauliflower crop in the Colma district is still maturing slowly on account of cool weather.

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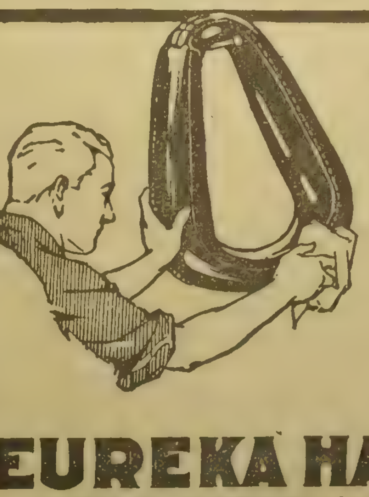

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